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DEGREE OF CLIENT MANIFEST ANXIETY AS A FUNCTION OF INTERACTION DISTANCE: AN INVESTIGATION OF THE FEMALE-FEMALE COUNSELING DYAD

by

Philip H. Knight

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 1979

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This dissertation is dedicated to Ella and Louis Etling, and Allen Konigsberg, who remain three significant people in my life.
ACKNOWLEDGEMENTS

While it is impossible to list the names of all the Educational Leadership faculty members and graduate students who have contributed so much to my education, I would like to thank them collectively. Without their encouragement and support, this dissertation may not have become a reality.

A special thanks must be extended to the members of my dissertation committee. Drs. Uldis Smidchens, Carol Sheffer, and Gene Booker have given of their time and energies to make this experience a rewarding one for me. To this end they have succeeded. I believe that the dissertation is, in large part, a product of their combined efforts.

One very special person must be mentioned here. Her assistance and, more importantly, her friendship have meant much to me over the past three years. Thank you, Nellie.

Finally, I would like to thank Dodie Harley for her invaluable suggestions in bringing together and for doing the final typing of the dissertation.

Philip H. Knight
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WESTERN MICHIGAN UNIVERSITY, ED.D., 1979
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>STATEMENT OF THE PROBLEM AND LITERATURE REVIEW</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
</tr>
<tr>
<td></td>
<td>Anxiety</td>
</tr>
<tr>
<td></td>
<td>Proxemic Behavior</td>
</tr>
<tr>
<td></td>
<td>Review of Selected Literature</td>
</tr>
<tr>
<td></td>
<td>Summary</td>
</tr>
<tr>
<td>II</td>
<td>METHOD</td>
</tr>
<tr>
<td></td>
<td>Subjects</td>
</tr>
<tr>
<td></td>
<td>Instrumentation</td>
</tr>
<tr>
<td></td>
<td>Setting</td>
</tr>
<tr>
<td></td>
<td>Procedures</td>
</tr>
<tr>
<td></td>
<td>Data Analysis</td>
</tr>
<tr>
<td>III</td>
<td>RESULTS</td>
</tr>
<tr>
<td></td>
<td>Major Hypothesis</td>
</tr>
<tr>
<td></td>
<td>Summary</td>
</tr>
<tr>
<td>IV</td>
<td>CONCLUSIONS AND IMPLICATIONS, RECOMMENDATIONS, AND SUMMARY</td>
</tr>
<tr>
<td></td>
<td>Conclusions and Implications</td>
</tr>
<tr>
<td></td>
<td>Recommendations</td>
</tr>
<tr>
<td></td>
<td>Summary</td>
</tr>
</tbody>
</table>
LIST OF TABLES

<table>
<thead>
<tr>
<th>TABLE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reported Percentages of Client Responses to General Information Questionnaire</td>
<td>28</td>
</tr>
<tr>
<td>2. Results of Analysis of Variance of Five Groups' Post-Scores on Self-Perception Inventory Anxiety Subscale</td>
<td>44</td>
</tr>
<tr>
<td>3. Means and Standard Deviations of Five Groups' Post-Scores on Self-Perception Inventory Anxiety Subscale</td>
<td>45</td>
</tr>
<tr>
<td>4. Comparison of 10 Possible Combinations of Treatment Pairs Using Protected Least Significant Difference Technique</td>
<td>46</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>FIGURE</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The nature of anxiety</td>
<td>10</td>
</tr>
<tr>
<td>2. The family of nonverbal behaviors comprising nonverbal communication</td>
<td>13</td>
</tr>
<tr>
<td>3. Flow chart of the general stages followed in carrying out the present study</td>
<td>34</td>
</tr>
<tr>
<td>4. General arrangement of the interview room used in the present study</td>
<td>38</td>
</tr>
<tr>
<td>5. Mean scores reported by subjects on post-score Self-Perception Inventory anxiety subscale in the five distance conditions</td>
<td>48</td>
</tr>
</tbody>
</table>
CHAPTER I
STATEMENT OF THE PROBLEM AND LITERATURE REVIEW

Introduction

The major goal of the counselor is to establish a counselor-client relationship characterized by mutual understanding and acceptance. This goal can only be realized when the counselor has a theoretical understanding and the ability to apply the necessary practical skills of communication (Rogers, 1961; Sweeney & Cottle, 1976; Thorne, 1950; Williamson, 1959; Wolberg, 1954). Stated from a different perspective, "counseling is a process of communication" (Hansen, 1978, p. 253).

Until the latter part of the 1940's, the academic community generally viewed communication as verbal behavior. It was not until the impact was felt from the classic texts Gesture and Environment (Efron, 1941) and Cybernetics (Wiener, 1948) that researchers from various disciplines, including counseling, began a scientific investigation of a different and equally important aspect of communication, that is, nonverbal communication (Knapp, 1972; Ruesch & Kees, 1956). Since then, a plethora of research articles and textbooks have been published on the subject (Gladstein, 1974; Harrison & Knapp, 1972; Wiener, Devoe, Rubinow, & Geller, 1972).
The study of nonverbal communication by counselors today is recognized as an essential part of a counselor's training. Harmon (1971) wrote:

There appears to be adequate research to support the idea that specific nonverbal acts have specific psychological meaning. The ability to interpret such acts will add to the counselor's repertoire of skills. Understanding nonverbal behavior is another way of "hearing" the feelings the client is expressing. (p. 191)

To further support this position, Gladstein (1974) commented:

Clinical opinion and data indicate the counselor/therapist must utilize NVC with his client/patient. It became quite apparent in developing this review that there is universal agreement by clinicians as to the importance of NVC in counseling/therapy. (p. 40)

Finally, in a recent research article on the topic of nonverbal communication, Sweeney and Cottle (1976) noted:

Further investigation into the nonverbal communication process should be high on the list of priorities for counseling psychologists. . . . When working with clients, the counselor needs to be expert in all phases of communication. The more improvement that training makes in nonverbal acuity, the more effective communication becomes in counseling. (p. 397)

Based upon a recognition of the importance for the counselor to gain an understanding of nonverbal communication and its effects on human behavior, this study investigated the relationship between one nonverbal variable, interaction distance (Linder, 1974), and the level of client-elicited anxiety during a simulated female counselor/female client intake interview. Thus, the hypothesis of the present study was:
There is a relationship between interaction distance and client-reported anxiety for the female-female counseling dyad.

In the course of investigating the above hypothesis, a more pragmatic question emerged: Is there an optimal interaction distance for the counselor-client dyad? Prior to this investigation, no information was available concerning the relationship between interaction distance and anxiety level for the female-female counseling dyad. However, Knight and Bair (1976) offered information on this relationship of variables for the male-male counseling dyad. Consequently, the results of the present study have offered additional knowledge to the nonverbal communication literature and have expanded the counselor's understanding of the role that nonverbal communication plays in the process of counseling.

The remainder of this chapter is composed of three sections. Section one provides a theoretical discussion of anxiety, the dependent variable measured in the study. The independent variable, proxemic behavior, is introduced and explored in section two. Finally, section three serves the purpose of investigating and reporting selected research studies which deal with both anxiety and the more specific proxemic variable under investigation, interaction distance.
Introduction

The term anxiety has its origin in the Latin word angere, meaning "to strangulate." The term first appeared in the psychological literature when Freud (1916) attempted to distinguish anxiety neurosis from neurasthenia, or nervous breakdown. Prior to Freud's first use of the term, it was associated with the philosophical writings of Spinoza, Pascal, and Kierkegaard (May, 1950). The philosophers "who dealt most explicitly with anxiety and fear were those whose primary concern was not with the formation of abstract intellectual systems, but rather with the existential conflicts and crises of immediate human beings" (May, 1950, p. 17).

Though the word has no universally acknowledged scientific definition, it has acquired the connotation of "an experience of varying blends of uncertainty, agitation and dread" (Eysenck, Arnold, & Meili, 1972, p. 67).

Since the latter half of the 1930's when the term anxiety gained currency in the psychological literature (May, 1950), social scientists have sought a universally accepted definition. Unfortunately, to date, such a definition has not come forth. Nevertheless, to the discipline of psychology and its related area of counseling, the investigation of the phenomenon of anxiety has become crucial. Spielberger (1966) noted:
Anxiety is found as a central explanatory concept in almost all contemporary theories of personality and it is regarded as a principle causative agent for such diverse consequences as insomnia, immoral and sinful acts, instances of creative self-expression, debilitating psychological and somatic symptoms and idiosyncratic mannerisms of endless variety. (p. 4)

Davison and Neale (1974) further commented on the importance of the concept of anxiety to the field of psychology:

There is, perhaps, no other single topic in abnormal psychology that is as important and controversial as anxiety. The emotional state is considered a symptom of almost all psychopathologies and in particular of neurotic disorders. Furthermore, anxiety plays an important role in the study of the psychology of normal people as well, for very few of us go through even a week of our lives without experiencing in it at least some measure what we would all agree is the emotion anxiety or fear. (p. 103)

The attendant problem for the field of psychology, therefore, has become one of agreeing upon a definition of anxiety. Psychologists have attempted to circumvent this problem by operationally defining anxiety in their research. Consequently, a multitude of operational definitions have been generated for scientific research purposes. Yet no comprehensive and widely accepted definition of anxiety has been developed (Chandler, 1969).

**Anxiety: Emotional state versus construct**

The reason why psychologists have not agreed upon a common definition of anxiety has stemmed in part from a dichotomous viewpoint about the very nature of the phenomenon.
called anxiety. One cadre of psychologists assumes anxiety to be an emotional state, while another assumes that anxiety serves solely as a theoretical construct. As an emotional state, anxiety could be viewed as "a palpable but transitory emotional state or condition characterized by feelings of tension and apprehension and heightened autonomic nervous system activity" (Spielberger, 1972, p. 24). As a construct, however, anxiety could only be inferred, that is, direct measurement would be impossible. Anxiety in this instance serves as a theoretical construct to explain and predict behavior. Without such a construct, many behavioral accounts could neither be explained nor predicted.

Theoretical views of anxiety

The majority of anxiety theorists subscribe to the general view that anxiety is an emotional state. Included among this list of theorists would be Drs. George Mandler, David Watson, Janet Taylor Spence, Kenneth Spence, Joseph Wolpe, Carroll Izard, Silvan Tomkins, Ray Ginker, Sr., and Robert Malmo. Beyond this general view of anxiety, each of these theorists proposes certain specific variations of interpretation regarding the nature of anxiety. For example, Mandler and Watson (1966), basing their interpretations on interruption theory (Mandler, 1964), perceived anxiety to be a result of the interruption of an individual's organized behavior correlated with a perceived lack of available
alternate behaviors.

Incorporating the Hull-Spence behavior theory (Spence, 1956), Spence and Spence (1966) postulated that anxiety is a personality characteristic which has both drive (D) and drive stimulus (S_D) factors that interact with an individual's habit hierarchy to affect performance.

Using classical learning theory as his framework, Wolpe (1966) viewed anxiety as "nothing but a conditioned emotional habit" (p. 179).

Izard and Tomkins (1966) drew upon Kierkegaard's (1849/1941) analysis that anxiety is related to man's freedom of choice, that is, the more freedom of choice a man has, the more anxiety he will experience. Based upon their classification of eight defined innate affects, they proposed that anxiety is a subcomponent of the innate affect "fear-terror."

Grinker (1959) proposed that anxiety is an affect in interpersonal communications that is experienced objectively by the subject and communicated by him to the observer. Grinker cited an earlier study (Korchin, Basowitz, Grinker, Hamburg, Persky, Sabshin, Heath, & Board, 1958) and concluded that the best way to produce anxiety was to impede communication, to block communication in a dyadic relationship" (p. 136).

Finally, Malmo (1966) viewed anxiety from a physiological orientation and defined anxiety as a deficiency in the individual's homeostatic mechanisms which blocks the normal
physiological habituation process.

Currently, only a minority of anxiety theorists subscribe to the view that anxiety is a construct. Most noted among these theorists is Spielberger (1966), who viewed anxiety as "a complex hypothetical construct for which the most meaningful and unambiguous empirical referent was a particular state or condition of the human organism" (p. 363). He further postulated that there exists not one, but rather two forms of anxiety. One form, termed trait anxiety, is defined as an individual's stable characteristic overall level of anxiety. State anxiety, the second form, is conceptualized as an individual's momentary or situational anxiety which varies in intensity across settings and over time.

**Common elements of anxiety**

Phillips, Martin, and Meyers (1972) have developed a list of five aspects of anxiety which are common to all of the contemporary theories on anxiety. The authors summarized:

1. Anxiety is manifested physiologically, phenomenologically, and behaviorally, and discrepancies between these indicators of anxiety may be at least partly attributed to defensiveness.

2. Anxiety has a two-part conceptual status, including what is referred to as "trait," "neurotic," or "chronic" anxiety, and what is called "state," "objective," or "situational" anxiety. Trait anxiety is dispositional in nature, is construed to be a proneness to be anxious, is primarily a
function of past experience, and has an internalized (i.e., intrapsychic) locus; while state anxiety is situational in nature, is directly a function of stressful conditions, and has a contemporary locus. Moreover, these two variables interact in a manner such that anxiety proneness influences the extent of the anxiety reaction.

3. Anxiety is elicited by psychological stress, and stress is reflected in threatened deprivation of an anticipated satisfaction. In addition, uncertainty associated with external (i.e., environmental) and internal (i.e., cognitive) factors is a key ingredient in whether an anxiety reaction to stressful conditions occurs.

4. Anxiety usually occurs as a response to stress in conjunction with other affects, defensiveness, other coping reactions, etc.

5. The consequences of anxiety are usually negative, interfering and debilitating in nature, although all consequences depend on the demands and requirements of situations. Therefore, the consequences are complex and interactional in nature—and, as a result, are sometimes facilitating, helpful, and enhancing to adaptation, performance, and adjustment. (p. 412)

The authors have pictorially represented the above information in a self-explanatory paradigm of the nature of anxiety. This pictorial representation has been reproduced in Figure 1.

**Anxiety defined in present study**

Based upon the use of the anxiety subscale of the Self-Perception Inventory (Martin, 1969), anxiety is operationally defined in the present study as a measurement of "psychomotor tension, restlessness, apprehension, and anticipatory fear
Influences personality development in ways leading to disposition to be anxious as a stable personality trait.

Continued exposure (especially in early years) to inconsistencies, severe restrictions, threats, and punishments from the interpersonal environment; frustration of dependency and other important needs, with coercive controls over hostility, aggression, etc.; enduring fears and conflicts.

Contemporary exposure to stressful conditions in the environment.

Psychological stress.

Other factors in the situation.

State, objective, or situational anxiety.

Trait, neurotic, or chronic anxiety.

Anxiety (in its trait or state form) manifested in phenomenological, physiological, and behavioral responses.

Other factors in the person.

The term *proxemics* was introduced into the nonverbal communication literature by anthropologist Edward T. Hall in 1963. Hall (1966) used the term to describe "the interrelated observations and theories of man's use of space as a specialized elaboration of culture" (p. 1). Based on this definition, Hall identified three areas of proxemics which could be studied. These three areas included fixed-feature space (immovable objects in the environment), semi-fixed space (movable objects in one's environment), and personal space (the protective invisible bubble around the individual).

More recently, Knapp (1972) presented an elaboration of Hall's definition of proxemics:

"[Proxemics is] the study of our use and perception of social and personal space. Under this heading, we find a body of work called small group ecology which concerns itself with how people use and respond to spatial relationships in formal and informal group settings. Such studies deal with seating arrangements, and spatial arrangements as related to leadership, communication flow, and the task at hand. The influence of architectural features on residential living units and even on communities is also of concern to those who study human proxemic behavior. On an even broader level, some attention has been given to spatial relationships in crowds, and densely populated situations. Our personal space orientation is sometimes studied in the context of conversational distance--and how it varies according to sex, status, roles,
cultural orientation, and so forth. The term "territoriality" is also frequently used in the study of proxemics to denote the human tendency to stake out personal territory—or untouchable space—much as wild animals and birds do. (p. 19)

Relationship of proxemic behavior to nonverbal communication

Proxemics is but one category of nonverbal behaviors subsumed under the more widely recognized generic term nonverbal communication. According to Knapp (1972), nonverbal communication—that is, the nonwritten and vocal utterances of human communication—is composed of the following seven categories of behavior: (1) kinesics or body motion; (2) physical characteristics, e.g., body hair, somatotype, skin color; (3) touching behavior; (4) paralanguage, e.g., pitch, pauses, laughs; (5) artifacts, e.g., use of cosmetics; (6) environment, e.g., lighting; and (7) proxemics. Figure 2 depicts the relationship between nonverbal communication and these seven categories of nonverbal behavior.

Interaction distance defined

The present study investigated one form of proxemic behavior, that is, interaction distance. The term interaction distance was defined as "the straight-line distance between two parties to a social interaction" (Linder, 1974, p. 1). Other terms, such as personal space (Sommer, 1959), dynamic space (Hall, 1963), body buffer zone (Horowitz,
Figure 2. The family of nonverbal behaviors comprising nonverbal communication.
Duff, & Stratton, 1964), could have been chosen for use in the present study. The term interaction distance was chosen specifically because it conveyed a clearer definition than the aforementioned terms.

**Interaction distance zones**

(Hall’s theory)

Drawing from the ethological work on animal territoriality (Hediger, 1950, 1955; Howard, 1920) and observations of inter- and intracultural differences in the utilization of space (Hall, 1955), Hall sought to determine if there existed an analogue to animal territoriality in humans. On this topic, Hall (1966) wrote:

Birds and mammals not only have territories which they occupy and defend against their own kind but they have a series of uniform distances which they maintain from each other. Hediger has classified these as flight distance, critical distance, and personal and social distance. Man, too, has a uniform way of handling distance from the fellows. With very few exceptions, flight distance and critical distance have been eliminated from human reactions. Personal distance and social distance, however, are obviously still present. (p. 113)

Premised on his findings in working with vocal shifts associated with distance variation, Hall proposed and described four distinct distance zones which classified the nature of personal space. Each of the four distance zones, in turn, had a close and far phase.

The first zone, termed the intimate zone, extends from complete contact of bodies, that is, zero inches to 18 inches
Behaviors which characterize this zone in American culture include intimate conversations, specific courtship deportment, and love-making.

The second zone, termed **personal zone**, extends from 1-1/2 feet to 4 feet (.45 m to 1.22 m). According to Hall (1966), in the personal zone "where people stand in relation to each other signals their relationships, or how they feel about each other" (p. 120).

The third zone, or **social zone**, extends from 4 feet to 12 feet (1.22 m to 3.66 m). Behaviors appropriate at this distance range from impersonal business transactions and casual social intercourse at the close phase to brief, disengaged conversations at the far phase.

The fourth zone described by Hall is the **public zone**. Behaviors become formalized and social involvement is severely curtailed. The far phase of this zone is established for important public figures, for example, statesmen, performers, and religious leaders.

**Proxemic behavior related to present study**

Using five interaction distances which fall within Hall's **personal zone**, the present study investigated the presence of a "distinct and identifiable proxemic notation" (Haase, 1970, p. 235) for the female-female dyad in a counseling interview room. Distances within the personal zone were
chosen because supportive information (Argyle & Dean, 1965; Haase & Tepper, 1972; Hall, 1966; Knight & Bair, 1976; Pierce, 1970) suggested that counseling and psychotherapy might be most appropriate within the limitations of these distances.

Review of Selected Literature

Evans and Howard's emerging theory of personal space

Within recent years, there has been an emerging Zeitgeist throughout the social sciences in the recognition that man exhibits territoriality. Based on the works of ethologists, several major contributors to the social sciences (Ardrey, 1961, 1966; Hall, 1966; Lyman & Scott, 1967; Roos, 1968; Scheflen & Ashcroft, 1976) have found that the concept of territoriality as applied to human behavior is useful in explaining specific human actions.

Evans and Howard (1973) proffered a theory of man's use of personal space which assumed that personal space "is a mediating, cognitive construct which allows the human organism to operate at acceptable stress levels and aids in the control of intraspecies aggression" (p. 340). Their theory is developed from the assumption that the more stressful a situation is, the greater will be the interaction distance between individuals.

To garner support for their position, Evans and Howard
cited several proxemic studies (Dosey & Meisels, 1969; Guardo & Meisels, 1971; Liepold, 1963) that investigated the relationship between stressful conditions and personal space. They concluded that when an individual was placed in a stressful situation, his or her interaction distance—that is, personal space—concomitantly increased.

In addition to research on the relationship between stress and personal space, Evans and Howard cited numerous proxemic studies (Hartnett, Bailey, & Gibson, 1970; Kuethe & Stricker, 1963; Leibman, 1970; Lett, Clark, & Altman, 1969; Willis, 1966) concerning the relationship of an individual's sex to the use of personal space. The data from these studies indicated that male-male dyads maintained greater personal distance than did female-female dyads and that heterosexual pairs tended to interact at closer personal distances than did same-sexed pairs.

Both major findings, that is, the nature of the relationship between stress and personal space and the relationship between sex of an individual and personal space requirements, lend credibility to Evans and Howard's theory of personal space. Both findings corroborate the predictions based upon ethological information on territoriality; that is, increased stress leads to increased personal territoriality and male-male dyads require greater personal space than female-female dyads.

The theory proposed by Evans and Howard played an
important role in the present study by providing a theoretical framework from which to operate. For example, it has been demonstrated (Dosey & Meisels, 1969; Guardo & Meisels, 1971; Liepold, 1963) that relationships exist between stress and personal space and between stress and anxiety (Phillips et al., 1972). Consequently, it was inferred that a relationship might exist between anxiety and personal space, that is, interaction distance. Evans and Howard's theory postulated such a relationship to exist.

Evans and Howard's theory also provided information about female-female dyadic distance in relation to male-male dyadic distance. According to the theory, female-female dyads should interact at closer distances than male-male dyads. Although this hypothesis was not formally tested because of lack of comparable data on male-male dyads under identical experimental conditions, the present study, when compared with the Knight and Bair (1976) study, provided some information regarding the accuracy of this theoretical assertion.

**Interaction distance in counseling environment**

The significance of interaction distance in the counseling or psychotherapeutic environment has been documented by several writers (Brammer & Shostrom, 1960; Deutsch, 1952; Hampe, 1965; Horowitz, 1965; Perls, 1973) over the past 3
decades. However, empirical studies on the topic have appeared only within the past 8 years.

In a study that investigated the relationship of sex and instructional set to interaction distance (Haase, 1970), a series of five 35-mm slides were presented to a group of 100 male and 100 female college students. Each slide portrayed a male and female model posed in armchairs that were arranged at a 45-degree angle to one another. The only difference between the five slides was that the chairs were at varied distances from one another. Distances chosen were based on Hall's (1966) distance zone schema. Slide 1 portrayed the models at 30 inches (.76 m) measured from the center of the chairs' seats. Slides 2-5 portrayed the models at distances of 39 inches, 50 inches, 66 inches, and 88 inches (.99 m, 1.27 m, 1.68 m, and 2.23 m), respectively. Haase found that the three closest distances—that is, 30 inches, 39 inches, and 50 inches (.76 m, .99 m, and 1.27 m)—were judged to be most appropriate for counseling. Evaluation was based upon the subject's responses to a set of semantic differential scales. Instructional set and sex had no differential effect on choice of interaction distance. These three distances fell within the ranges of Hall's personal and social zones.

Haase and Tepper (1972) investigated the influence that four nonverbal components (eye contact, trunk lean, body orientation, and distance) plus three levels of verbal
empathy have on empathic communication in the counseling setting. They asked 26 counselors to rate 48 videotaped interactions between a "counselor" and a "client" on a modified version of the Truax-Carkhuff empathy scale. The 48 interactions consisted of all combinations of factors, that is, two levels of eye contact (eye contact or no eye contact), two levels of trunk lean (forward-backward), two levels of body orientation (direct-indirect), two levels of distance (36 inches or 72 inches, .91 m or 1.83 m), and three levels of verbal empathy (high-low-medium). Their results indicated that optimal empathic communication depended upon a balance of the nonverbal components. The optimal combination of effects for empathic communication consisted of eye contact, forward trunk lean, a medium empathic message, and the 72-inch (1.83 m) distance. This distance fell within Hall's social zone.

Carr and Dabbs (1974) investigated the three effects of varying intimacy of topic, physical distance, and lighting on verbal and visual behavior in an interview setting. They found that when the 40 female subjects were asked which of the two interaction distances they preferred, that is, 18 inches or 8 feet (.46 m or 2.44 m), the subjects chose the nearer condition, 18 inches (.46 m). This distance represented the border measure between Hall's intimate and personal zones.

Employing a group of 15 male and 15 female freshmen,
Broekmann and Möller (1973) investigated preferred seating position and interaction distance in five situations: a counseling, a formal, a home, and two social situations. All subjects responded to a series of photographs that depicted a specific arrangement of chairs at varied distances. The subjects were then asked "where they would prefer sitting if they were to: (a) discuss their problems with a psychologist at a counseling bureau (counseling situation); (b) apply for a job (formal situation); (c) visit a friend of the same sex (social-general); (d) visit a friend of the opposite sex (social-specific); or (e) converse with a parent" (p. 505). Results indicated that in all instances the middle distance of 4.9 feet (1.49 m) was preferred over the other two distances of 3.3 feet (1 m) and 6.6 feet (2 m). The distance of 4.9 feet (1.49 m) fell in the close phase of Hall's social distance.

In a study investigating the effects of lighting and interpersonal distance during an analogue counseling situation, Dumont and Lecomte (1975) found that in order to maximize empathic communication, a combination of low light intensity (1 footcandle) and an interpersonal distance of 50 inches (1.27 m) was required. The second most effective situation was a combination of high lighting (200 footcandles) and an interpersonal distance of 30 inches (.76 m). The least effective situation was a combination of low lighting and a distance of 80 inches (2.03 m). Fifty inches (1.27 m)
fell at the fringe of Hall's near phase of the social zone. However, 30 inches (.76 m) fell in the personal zone of Hall's schema.

**Interaction distance and its relationship to anxiety in the counseling environment**

Of the plethora of studies on nonverbal communication, only three major studies have focused on the relationship between interaction distance and anxiety in the counseling setting or related setting.

Dinges and Oetting (1972), patterning their study after Haase's (1970), investigated anxiety associated with five interaction distances with either a personal counseling set or a noninstructional set. Sixty-six male and 66 female undergraduate volunteers viewed five photographs of a male and female seated in armchairs oriented at a 45-degree angle to each other. The only difference between the five photographs was the distance the armchairs were placed from one another. The five distances chosen were those chosen by Haase (1970), which included: (a) 30 inches, (b) 39 inches, (c) 50 inches, (d) 66 inches, and (e) 88 inches (.76 m, .99 m, 1.27 m, 1.68 m, and 2.23 m, respectively). Subjects were divided into two groups based on instructional set received. One group of 33 males and 33 females viewed the five photographs with no instructional set and reported how they felt if they were in each of the pictures. The other
group of 33 males and 33 females assumed the personal counseling set and reported how they felt if they had come to a counseling center for help with a personal-psychological problem. The Concept-Specific Anxiety Scale was the criterion measure employed. It was used to report situational rather than trait anxiety. Results of the study indicated that the 30-inch (0.76 m) and 88-inch (2.23 m) distances elicited significantly higher anxiety than did the intermediate distances of 39 inches, 50 inches, and 66 inches (0.99 m, 1.27 m, and 1.68 m). Thirty inches (0.76 m) and 88 inches (2.23 m) fell within Hall's personal and social zones, respectively. Further analysis of the data revealed that the personal counseling set group responded with greater anxiety at all distances, yet in the same curvilinear response pattern as that exhibited by the no instructional set group. Finally, females rated all interaction distances as being associated with higher anxiety levels than did males.

Lassen (1973) investigated the question of whether physical distance between the patient and the therapist affected the patient's reported anxiety level. Four psychiatric residents interviewed and tape-recorded five patients in each of three distance conditions: (a) 3 feet (0.91 m), (b) 6 feet (1.83 m), and (c) 9 feet (2.74 m). The sample of patients consisted of 31 males and 28 females. The interview room was furnished with a couch, a lamp table, and two medium-weight chairs. As distance varied, chair angle varied
also. For example, at 3 feet (.91 m), the two chairs were at right angles to each other; at 6 feet (1.83 m), 135 degrees; and at 9 feet (2.74 m), 150 degrees. Measures of anxiety included patient speech disturbances, rater-judged overt anxiety, and rater-judged content anxiety. All scorings of these measures were taken from the interview tape-recordings. Results from this study indicated that the further the patient sat from the therapist, the more anxiety he or she would exhibit. At the extreme distance of 9 feet (2.74 m), patients reported that they believed communication broke down. Finally, the data revealed a curvilinear relationship between anxiety measures and distance.

Knight and Bair (1976) investigated the relationship between degree of client comfort and interaction distance in a simulated counseling setting. Each of nine male counselors interviewed three male undergraduate subjects, one in each of three distance conditions: (a) 18 inches (.46 m), (b) 30 inches (.76 m), and (c) 48 inches (1.22 m). Distance measurement was taken from the front of one chair to the front of the second chair while in a face-to-face orientation. A Williamson-type intake interview of approximately 15 minutes' length was conducted with each subject. At the conclusion of the interview, each subject responded to four sets of semantic differential scales which measured client comfort. Inspection of the findings indicated that, for the male-male counseling dyad, client comfort was greatest at the 30-inch
distance (.76 m), which fell in Hall's personal zone. Beyond this distance, client comfort diminished in a curvilinear fashion, 18 inches (.46 m) being least comfortable and 48 inches (1.22 m) being slightly more comfortable than 18 inches (.46 m) but significantly less comfortable than 30 inches (.76 m).

Summary

This chapter attempted to synthesize the paucity of information concerning the relationship between anxiety and interaction distance. The drawbacks in attempting such an action were immense. Of the studies cited, seating arrangements, measurements of distances, and angle of orientation varied from one study to the next. In addition, measures of the dependent variable, that is, anxiety, were not well defined, if defined at all. To further complicate matters, in some cases the studies were more often carried out in vitro, while in others the studies were in situ. In sum, comparisons of results between the various studies were difficult.

To overcome several of these drawbacks, the present study established an operational definition of anxiety (Martin, 1969) and utilized Hall's theoretical distance schema. To provide interpretable information for the counselor, this study attempted to gather data from normal individuals seeing professional counselors in a simulated
counseling experience rather than from individuals reacting to a series of photographs or individuals who were hospitalized.

Finally, same-sexed counselors and clients were used in this study to prevent any interactive effects caused by the variable of sex. Furthermore, since women are the greatest consumers of counseling (Boulware & Holmes, 1970; Chesler, 1971; Howard & Howard, 1974) and little information was available concerning the relationship of anxiety and interaction distance for the female-female counseling dyad, it was appropriate to focus on the female gender.
CHAPTER II

METHOD

Subjects

Counselors were self-selected, paid volunteers. Each counselor was paid at the rate of $5.00 for a 1/2-hour session. All counselors possessed a minimum of a master's degree in either counselor education or clinical psychology and a minimum of 1 year's experience as a full-time, paid professional counselor. These minimal criteria were established to insure that each counselor possessed the requisite communication skills necessary in carrying out this study. All counselors were female.

Counselors were recruited through the University of Missouri Women's Center, which maintains a file of all female counselors who have been active in the various programs and workshops sponsored by the center. Recruitment consisted of compiling a list of 57 names of those female counselors on file at the center who met the established criteria and then, by random selection, telephoning each person until a pool of 35 individuals agreed to participate.

The total number of counselors involved in this study was 35. The age range was from 26 to 43 years, with an average age of 31 years. Of the 35 counselors, 4 were black and the remaining 31 were Caucasian.
Clients were self-selected, paid, undergraduate volunteers. Each client was paid at the rate of $2.00 for approximately a 1/2-hour session. All clients were female.

Descriptive data about the general characteristics of the client sample were collated from the general information questionnaire (see Appendix A) which was administered to each client during the study. Results are presented in Table 1.

Table 1
Reported Percentages of Client Responses to General Information Questionnaire

<table>
<thead>
<tr>
<th>Question</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Age of client</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-30</td>
<td>24</td>
<td>69</td>
</tr>
<tr>
<td>31-45</td>
<td>9</td>
<td>26</td>
</tr>
<tr>
<td>46-60</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>61 and over</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td>2) Academic level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>10</td>
<td>29</td>
</tr>
<tr>
<td>Sophomore</td>
<td>15</td>
<td>43</td>
</tr>
<tr>
<td>Junior</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Senior</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Graduate</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td>3) College affiliation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arts and sciences</td>
<td>10</td>
<td>29</td>
</tr>
<tr>
<td>Business administration</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td>Education</td>
<td>16</td>
<td>45</td>
</tr>
<tr>
<td>Evening college</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>100</td>
</tr>
<tr>
<td>4) Previous counseling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
<td>66</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>100</td>
</tr>
</tbody>
</table>

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These data revealed that the majority of clients were 15-30 years of age and were primarily lower-division college students. The data further indicated that the majority of clients were students in either the college of arts and sciences or the school of education and had had some previous counseling experience.

Clients were recruited from an undergraduate psychology course being taught at the University of Missouri during the summer academic session. Recruitment consisted of the experimenter requesting the psychology course instructor to post a sign-up sheet in the classroom where the course was being taught. The sign-up sheet briefly described the nature of the study (see Appendix B). The sheet was collected at the end of 1 week and, from a list of 47 student names, 35 were randomly selected to participate in the study.

Instrumentation

Self-Perception Inventory
anxiety subscale

The dependent variable measurement instrument used in this study was the 16-item anxiety subscale of the Self-Perception Inventory (SPI [Martin, 1969]). The anxiety subscale measured symptomatic (manifest) anxiety as reported by the client and is described by Martin (1969) as follows:

Psychomotor tension and agitation, restlessness, apprehension, and anticipatory fear attitudes are examined. The client with an overwhelming
anxiety level will tend to generalize this uneasi-ness to a number of situations; and, he should obtain a high score on this subscale. One's response pattern on the anxiety subscale should show significant changes from pre- to post-chemotherapeutic, environmental, and psychotherapeutic intervention. (p. 3)

Two modified versions of the SPI anxiety subscale (see Appendix C) were employed to measure client symptomatic anxiety before and after the presentation of the treatment effect. Each version consisted of the 16 true-false items which comprised the SPI anxiety subscale plus the same 16 additional true-false "buffer" items arbitrarily selected from the remaining 184 true-false items which make up the SPI. The only difference between the two versions administered was the order in which the true-false items were presented. It was reasoned that by incorporating "buffer" items and rearranging the sequence in which they appear, the subject would be less likely to recognize the same items which appeared on the pre- and post-versions of the instrument. Only the 16 items that make up the SPI anxiety subscale were scored. Item scoring consisted of counting the number of correct responses which, in turn, provided a raw score. Correct responses were determined by using an overlay template which was provided with the SPI manual.

The content validity (Cronbach, 1960) for the SPI anxiety subscale was examined through the process of having four clinical psychologists independently rate the appropriateness of each anxiety subscale item. Appropriateness was
determined by whether or not each item effectively measured patient or client symptomatic anxiety as defined by Martin (1969). The results indicated that all four clinicians were in agreement that the content of each of the 16 items was appropriate, that is, the items measured the variable they were assumed to measure (Marshall, 1977).

Test-retest reliability for a group of 25 subjects over a 14-day interval for the SPI anxiety subscale was reported to be .79 (Martin, 1967).

The construct validity (Cronbach & Meehl, 1955) of the SPI anxiety subscale was investigated by comparing it to the Taylor (1953) Manifest Anxiety Scale (MAS). In a study involving the administration of the SPI anxiety subscale and the MAS (Whitney, 1975), two groups of individuals were compared on their levels of symptomatic anxiety. One group consisted of 54 university students while the other group was composed of 66 psychiatric patients, each clinically diagnosed as schizophrenic. Based on the empirically established premise that diagnosed schizophrenics tend to exhibit higher levels of symptomatic anxiety than individuals from the general population (Bateson, Jackson, Haley, & Weakland, 1956; Weakland, 1960), it was hypothesized that the SPI anxiety subscale and the MAS should detect this difference between the two groups. As expected, both instruments indicated significantly higher levels of anxiety for the psychiatric patient group. Furthermore, the results of the study
indicated that the SPI anxiety subscale correlated .83 with the MAS. This was a significant finding in that the MAS is considered "the generic instrument in anxiety research" (Spielberger, 1972, p. 426). As a consequence of this finding, it could be assumed that the SPI anxiety subscale has construct validity.

**General information questionnaire**

A single-page questionnaire was attached to each post-test SPI subscale instrument (see Appendix A). The first item on the questionnaire pertained to the subject's age. The subject could respond to one of four age categories. The second question inquired about the subject's current student level: freshman, sophomore, junior, and so forth. The subject could respond to one of six categories. The third question asked the subject to indicate within which school or college of the university she was enrolled. Five categories were available. The final question concerned previous counseling experience. If the subject had ever been to a counselor—that is, career, academic, personal, etc.—she was asked to respond "yes" to this question.

**Setting**

The carpeted room used in this study was a single-entrance counseling interview room currently being used for behavioral research. The dimensions of the room were
10-1/4 feet by 12 feet (3.12 m x 3.65 m). The room was equipped with a one-way mirror which measured 30 inches by 6 feet (.76 m x 1.83 m). The ceiling was covered with acoustical tiles. Illumination was provided by two fluorescent light fixtures, each containing two 40-watt lamps. Both light fixtures were recessed into the ceiling and were covered with translucent plastic panels. The color of the walls and ceiling was pastel green.

Furnishings in the interview room consisted of two green cloth-covered Steelcase-brand padded armchairs, a desk chair with no arms, and a small wooden office table with a writing surface area that measured 22 inches wide and 30 inches long (.56 m x .76 m).

Procedures

This section presents a detailed narrative of the procedures involved in the present study. For ready reference, however, and for ease of understanding the sequence of events, the procedures narrative is initially presented in flow-chart form (see Figure 3).

The first stage of the investigation involved a two-step process. Step 1 consisted of randomly selecting and matching the 35 clients to the 35 counselors. Once this had been accomplished, a list of 35 counselor-client dyads was generated. Step 2 involved randomly selecting and matching each of the listed 35 counselor-client dyads to one of five
I. PREPARATION FOR THE STUDY

1) Recruit counselors —> 2) Recruit clients —> 3) Find appropriate interview room

II. STAGE 1: SELECTING DYADS FOR EACH OF THE TREATMENT CONDITIONS

4) Randomly select and match clients to counselors —> 5) Randomly select and match counselor-client dyads to treatment conditions

III. STAGE 2: ESTABLISHING A TIME SCHEDULE

6) Determine which dyads will be run on what days —> 7) Randomly select dyads to determine the sequence of running

IV. STAGE 3: SETTING UP THE INTERVIEW ROOM

8) Make certain room is in prearranged condition —> 9) Position armchairs in face-to-face orientation and adjust distance —> 10) Adjust curtains

V. STAGE 4: SPECIFIC AND GENERAL DIRECTIONS FOR THE COUNSELOR

11) Counselor arrives 30 minutes prior to client's arrival —> 12) Experimenter briefly states purpose of study

V. STAGE 4 (Continued)

13) Experimenter cautions counselor not to move anything in the interview room —> 14) Experimenter stresses importance of counselor's posture

Figure 3. Flow chart of the general stages followed in carrying out the present study.
V. STAGE 4 (Continued)

15) Counselor memorizes short introduction
16) Counselor escorts client into interview room
17) Client fills out green questionnaire at table

V. STAGE 4 (Continued)

18) Counselor and client assume preassigned seats
19) Counselor interviews client using a Williamson-type intake interview
20) Experimenter observes session

V. STAGE 4 (Continued)

21) After 15-minute interview client fills out gold questionnaire
22) Counselor collects questionnaire and escorts client out of room

VI. STAGE 5: CONCLUDING EXPERIMENT

23) Experimenter thanks and pays counselor and client
24) Experimenter arranges debriefing for counselor and client

VII. STAGE 6: DEBRIEFING COUNSELOR AND CLIENT

25) Experimenter debriefs all interested counselors and clients who participated in the experiment
26) Experiment terminated

Figure 3 (Continued)
treatment groups: the 20-inch (.51 m) interaction distance group, the 25-inch (.64 m) interaction distance group, the 30-inch (.76 m) interaction distance group, the 35-inch (.89 m) interaction distance group, or the 40-inch (1.01 m) interaction distance group. The process of matching dyads to treatment groups was done by assigning each dyad a two-digit number from 01 to 35. Next, employing a table of random numbers, the experimenter arbitrarily selected the first two-digit number from the table (e.g., 07), and placed dyad #7 in treatment group 1, the 20-inch interaction distance group. The next two-digit number was sequentially selected from the table and if that number was from 01 to 35, then the dyad with the number corresponding to the two-digit number was placed in treatment group 2, the 25-inch interaction distance group. This matching and placing procedure was repeated until there were two dyads in each treatment group. This procedure was followed until all treatment groups contained seven counselor-client dyads.

The second stage of the study involved setting up a time schedule with the counselor-client dyads. It was initially assumed that one dyad from each of the five groups could be run each day until the study was completed. However, two dyads were not available during their prearranged time and, consequently, the prearranged time schedule was only partially realized. The final scheduling consisted of running five dyads, one from each treatment group, per day.
for a period of 6 days. The sequencing of the various dyads as they were run each day was based on random selection. For example, on day 1, the first dyad to be run was the 25-inch (.64 m) interaction distance treatment and the fifth or last dyad to be run was the 35-inch (.89 m) interaction distance treatment, whereas on day 2 the first dyad to be run was the 30-inch (.76 m) interaction distance treatment and the fifth or last dyad to be run was the 25-inch (.64 m) interaction distance treatment. Three of the remaining five dyads were run on the seventh day and the final two dyads were run on the eighth day. They too were randomly assigned. The study began on a Monday and was concluded on the Wednesday of the following week. Sessions were not run on either Saturday or Sunday.

The third stage of the study was comprised of the experimenter setting up the interview room in a prearranged manner and arranging the armchairs in a prescribed face-to-face orientation (see Figure 4). The armchairs were placed at a specified measured distance from each other contingent upon which of the five treatments was to be studied. Measurement of distance between the armchairs was taken from the front edge of the counselor's armchair to the front edge of the client's chair; the counselor's chair remained stationary throughout the study.

The curtains covering the one-way mirror were adjusted in order that approximately a 6-inch gap (.15 m) was exposed.
Figure 4. General arrangement of the interview room used in the present study.
This arrangement provided the experimenter with a sufficient view of the interview room and minimized the effect of the mirror on the client.

The fourth stage was an instruction session for the counselor. The counselor arrived approximately 30 minutes before the client. The experimenter greeted the counselor and briefly stated that the purpose of the study was to investigate the effect of certain nonverbal behaviors on the counseling setting. In addition, the experimenter mentioned that the interview room was arranged in a prescribed manner and emphasized that nothing was to be moved. The experimenter further pointed out that if the counselor did not keep an upright posture with both feet remaining on the floor, then the behaviors being investigated might be contaminated. (To insure that these conditions were maintained, the experimenter observed from behind the one-way mirror.)

The counselor was then asked to memorize the following introduction, which was printed on a note card:

Hello, my name is _______. For the next 15 minutes, I am going to ask you a number of general questions regarding your background, your vocational goals, and your avocational interests. But first, I would like you to take a few minutes to fill out this questionnaire.

After the counselor memorized the introductory statement, the experimenter explained the sequence of events that was to be followed during the study.

The first thing the counselor would do was to escort
the client into the interview room and ask her to sit at the table. Subsequently, the counselor would give her introductory statement. When this was completed, the client was asked to fill out the green questionnaire that was presented to her. During the time the client was filling out the questionnaire, the counselor was to sit in a preassigned armchair. When the client completed the questionnaire, the counselor was to get up from her armchair, collect the questionnaire, and direct the client to the armchair directly across from the one she had been sitting in. The counselor would then return to her armchair and sit down.

The experimenter indicated to the counselor that she was to follow the Williamson-type intake interview format (Williamson, 1950) which the counselor was then handed (see Appendix D). After the counselor was allowed several minutes to review the interview format, the experimenter answered any questions which the counselor had about its content. The counselor was instructed to allow only 15 minutes for the interview and that during this period she was to take notes on the interview sheet provided. The counselor was then informed by the experimenter that at the end of the 15-minute interview she was to direct the client to the table to fill out the gold questionnaire. Once the questionnaire was filled out, the counselor would escort the client out of the interview room.

The fifth stage of the study involved thanking the
counselor and client for participating in the study, paying them their fees, and arranging a debriefing time with the counselor and client.

The sixth and final stage of the study was a debriefing session by the experimenter 2 weeks after the last dyad had been run. The debriefing period was designed for both the counselors and clients and involved the experimenter explaining the specific focus of the study. The session also gave those counselors and clients present an opportunity to ask questions and comment on the experience.

Data Analysis

The purpose of this study was to investigate the relationship between client-perceived anxiety and interaction distance. The dependent variable used in the investigation was the degree of client-reported symptomatic (manifest) anxiety as measured by the anxiety subscale of the SPI (Martin, 1969). The independent variable was interaction distance (Linder, 1974) as measured between the counselor and client in a seated dyadic interaction. There were five treatment levels of interaction distance used in this study: (1) treatment 1, 20-inch (.51 m) interaction distance; (2) treatment 2, 25-inch (.64 m) interaction distance; (3) treatment 3, 30-inch (.76 m) interaction distance; (4) treatment 4, 35-inch (.89 m) interaction distance; and (5) treatment 5, 40-inch (1.01 m) interaction distance. Therefore, the
experimental design used in this study was a 1 x 5 one-factor design.

Two separate fixed-effect analysis of variance operations were performed (Glass & Stanley, 1970). One analysis of variance (ANOVA) involved the analysis of the post-scores only. The second ANOVA involved an analysis of the post-scores minus the pre-scores. Only the post-score data were used for analysis in this study. The ANOVA of the post-scores minus the pre-scores plus an analysis of covariance (Glass & Stanley, 1970) using the pre-scores as the covariate were performed primarily to further lend support to the results obtained from the first ANOVA, that is, analysis of the post-scores.

The incorporation of the analysis of variance and the analysis of covariance techniques presupposed that homogeneity of variance existed, that is, the subject samples were selected from the same population of variances in the present study. Though equal n's were used in each treatment group, homogeneity of variance might still have posed some problem in the present investigation.

Based on the presence of a significant F value of the first ANOVA, the protected least significant differences t statistic (Carmer & Swanson, 1973) was employed on the post-score data. The formula is as follows:
The purpose of using the $t$ statistic was to determine which treatment pairs produced a difference in client-reported symptomatic anxiety.

A probability of $\alpha = .05$ for committing a Type I error was used to test each of the null hypotheses in this study.
CHAPTER III

RESULTS

Major Hypothesis

Using the fixed-effect analysis of variance model (Glass & Stanley, 1970), data analysis of the post-scores reveals a significant $F(4, 30) = 22.77 \ (p = .00)$ for the main effect of interaction distance. Table 2 presents the results of this analysis of variance. The means and standard deviations of the clients' post-score responses are shown in Table 3.

Table 2

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>4</td>
<td>323.60</td>
<td>80.90</td>
<td>22.77</td>
<td>.00</td>
</tr>
<tr>
<td>Within groups</td>
<td>30</td>
<td>106.57</td>
<td>3.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>430.17</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The significant $F$ value obtained by the analysis of variance of the clients' post-score responses lends support to the study's major hypothesis, namely, that there exists a relationship between interaction distance and client-reported anxiety for the female-female counseling dyad. Moreover, additional support comes from the second analysis.
Table 3
Means and Standard Deviations of Five Groups' Post-Scores on Self-Perception Inventory Anxiety Subscale

<table>
<thead>
<tr>
<th>Interaction distance group</th>
<th>n</th>
<th>$\bar{X}$</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 inches</td>
<td>7</td>
<td>13.43</td>
<td>1.40</td>
</tr>
<tr>
<td>25 inches</td>
<td>7</td>
<td>5.00</td>
<td>2.16</td>
</tr>
<tr>
<td>30 inches</td>
<td>7</td>
<td>7.71</td>
<td>1.50</td>
</tr>
<tr>
<td>35 inches</td>
<td>7</td>
<td>10.71</td>
<td>2.29</td>
</tr>
<tr>
<td>40 inches</td>
<td>7</td>
<td>12.00</td>
<td>1.91</td>
</tr>
</tbody>
</table>

$^a$Total $n = 35$.

of variance, that is, the post-scores minus the pre-scores, with an $F(4, 30) = 18.29 \ (p = .00)$; and the analysis of covariance, that is, the post-scores serving as the dependent variable and the pre-scores serving as the covariate, with an $F(4, 30) = 22.39 \ (p = .00)$. (See Appendix E.) In all three statistical operations, the $F$ values are of such magnitude that they appear to be a result of the treatment factor and not a result of a failure to meet the assumptions governing homogeneity of variance and normality of the distribution of each population (Glass & Stanley, 1970, pp. 370-372).

Comparison of post-scores of all treatment pairs through the use of the protected least significant difference technique (Carmer & Swanson, 1973) discloses that only 2 of the possible 10 treatment pair comparisons—namely, the 20-inch (.51 m) and the 40-inch (1.01 m) pair, and the
35-inch (.89 m) and the 40-inch (1.01 m) pair—are not significant at the \( \alpha = .05 \) level (see Table 4). The

Table 4

Comparison of 10 Possible Combinations of Treatment Pairs Using Protected Least Significant Difference Technique

<table>
<thead>
<tr>
<th>Treatment Pairs Compared</th>
<th>df</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 inches X 25 inches</td>
<td>30</td>
<td>8.34</td>
<td>.00</td>
</tr>
<tr>
<td>20 inches X 30 inches</td>
<td>30</td>
<td>5.65</td>
<td>.00</td>
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<tr>
<td>20 inches X 35 inches</td>
<td>30</td>
<td>2.68</td>
<td>.01</td>
</tr>
<tr>
<td>20 inches X 40 inches</td>
<td>30</td>
<td>1.41</td>
<td>.17</td>
</tr>
<tr>
<td>25 inches X 30 inches</td>
<td>30</td>
<td>-2.68</td>
<td>.01</td>
</tr>
<tr>
<td>25 inches X 35 inches</td>
<td>30</td>
<td>-5.65</td>
<td>.00</td>
</tr>
<tr>
<td>25 inches X 40 inches</td>
<td>30</td>
<td>-6.93</td>
<td>.00</td>
</tr>
<tr>
<td>30 inches X 35 inches</td>
<td>30</td>
<td>-2.97</td>
<td>.00</td>
</tr>
<tr>
<td>30 inches X 40 inches</td>
<td>30</td>
<td>-4.25</td>
<td>.00</td>
</tr>
<tr>
<td>35 inches X 40 inches</td>
<td>30</td>
<td>-1.28</td>
<td>.21</td>
</tr>
</tbody>
</table>

nonsignificance found in these two treatment-pair comparisons may be merely a consequence of the interaction distances selected. For instance, the 20-inch (.51 m) and the 40-inch (1.01 m) interaction distances are the extreme distances used in the present study and may reflect a situation in which two widely separated interaction distances elicit approximately the same recurring level of client anxiety. Furthermore, the 35-inch (.89 m) and the 40-inch (1.01 m) interaction distances are consecutive distances at the upper end of the interaction distance range and therefore may be too close to...
each other for adequate comparison.

Consequently, there remains compelling evidence to suggest the existence of an emerging pattern. For example, if the means of the five treatment groups (see Table 3) are plotted against their respective interaction distances as illustrated in Figure 5, a characteristic curvilinear pattern emerges as described by several studies (Dinges & Oetting, 1972; Knight & Bair, 1976; Lassen, 1973).

Summary

In this study, support was found for the existence of a relationship between interaction distance and client-reported anxiety for the female-female counseling dyad. This support not only comes from the analysis of variance of the post-scores but, additionally, from the analysis of variance involving the difference between the post- and pre-scores and the analysis of covariance involving the post-scores with the pre-scores serving as the covariate. Further, analysis of the post-score data comparing all combinations of treatment pairs (see Table 4) indicates that 8 of the 10 possible combinations are significant at the $\alpha = .05$ level. Recognizing this to be the case, there is sufficient evidence to suggest the existence of a curvilinear relationship between interaction distance and client-reported anxiety.

Overall, the data appear to warrant acceptance of the
Figure 5. Mean scores reported by subjects on post-score Self-Perception Inventory anxiety subscale in the five distance conditions.
major hypothesis of this study. However, the results must be interpreted in light of the manner in which the data were collected, that is, paid volunteers using a self-reporting paper-and-pencil procedure within a simulated counseling setting.
CHAPTER IV

CONCLUSIONS AND IMPLICATIONS, RECOMMENDATIONS, AND SUMMARY

Conclusions and Implications

If Hall (1959) is correct in his assumption that interaction distance can offend and even destroy interpersonal relations, then it becomes incumbent upon the professional counselor to gain an understanding of how to effectively use interaction distance within the therapeutic milieu.

The present investigation lends support to Hall's aforementioned assumption by demonstrating that there is a relationship between interaction distance and the debilitating phenomenon of anxiety. Further, the results of the present study suggest a practical application of how a female counselor can minimize (or maximize) the anxiety level felt by her client merely by adjusting the distance between herself and her client.

Curvilinear relationship between interaction distance and anxiety: presence of an optimal interaction distance

There are few studies in the nonverbal communication literature which have specifically focused on the relationship between interaction distance and anxiety within the
context of counseling or psychotherapy. However, inspection of these studies (Dinges & Oetting, 1972; Knight & Bair, 1976; Lassen, 1973) reveals one consistent finding; there appears to exist a curvilinear relationship between interaction distance and anxiety. Discovery of such a consistent finding across a variety of experimental situations—for example, in situ versus in vitro experimentation, use of heterogeneous versus homogeneous sex dyads, variations in measurement and choice of interaction distances used, angled seating versus face-to-face seating—strengthens the support for testing the present hypothesis, namely, there exists a relationship between interaction distance and anxiety.

Of the three studies cited, the results of the present investigation can best be compared with the findings of the Knight and Bair (1976) study. Reasons for this include the use of comparable experimental settings, that is, similar activities occurring within approximate counseling settings, and the incorporation of similar instrumentation to investigate the same form of anxiety. The only major differences between the two studies lie in the gender of the homogeneous dyads used and several of the distances selected.

If the findings of the present investigation are compared with those of the Knight and Bair study, the data suggest that there is a definable optimal interaction distance not only for the male-male dyad, but the female-female dyad as well. Further, the female-female dyad tends to
exhibit a closer interaction distance than the male-male dyad, that is, 25 inches (.64 m) compared with 30 inches (.76 m). This finding, namely, that the female-female dyad tends to interact at a closer distance than the male-male dyad, corroborates the findings of several other studies investigating the relationship between interaction distance (or personal space) and gender (Aiello & Jones, 1971; Horowitz, Duff, & Stratton, 1964; Lott & Sommer, 1967; Pellegrini & Empey, 1970).

Extreme caution must be exercised when translating the present study's results into practice. It should be recognized that the present study involved an initial counseling session only. After this initial session, "it seems that an appropriate mixture of physical interaction distances provides the greatest therapeutic influence" (Klainer, 1977, p. 93). Ergo, choice of distance is, in part, a factor of the "stage in the development of the counseling relationship" (Klainer, p. 93).

**Theoretical considerations**

The results of this investigation support Hall's (1964) notion that interaction distance serves as an adumbrative feature of communication. Moreover, the interaction distance found appropriate for the female-female dyad falls within Hall's hypothesized personal space, thus adding further support to Hall's (1966) theory of the presence of various
distance zones for given human behaviors.

In addition, the findings of the present investigation provide evidence to support Evans and Howard's (1973) theory of personal space in two important ways. First, according to the theory, a relationship between anxiety and personal space should exist. The presence of such a relationship was demonstrated to exist. Second, the theory postulated that the female-female dyad would maintain a smaller interaction distance than the male-male dyad. A comparison of the results of the present study with the results of the Knight and Bair (1976) study tentatively suggests that the female-female dyad does, indeed, maintain a smaller interaction distance when seated face to face in an initial counseling interview setting.

Overall, the results of the present study lend further support to both Hall's theory of distinct distance zones used by man, and Evans and Howard's theory of personal space.

Recommendations

The following recommendations are made for the dissemination and implementation of proxemic research in counseling:

(1) The use of the optimal interaction distance for the female-female dyad is encouraged. However, the practical use of any research finding which has not been replicated
should be weighed against the counselor's past experience.

(2) Counselor education instructors should encourage the student counselor to incorporate various proxemic variables and analyze the effectiveness of each one in the therapeutic setting.

(3) Authors of texts used in counselor education should devote more space to the topic of proxemic behavior.

(4) Students enrolled in counselor education programs should be encouraged to enroll in a communication arts and sciences and/or counselor education course devoted specifically to the study of nonverbal communication.

The following recommendations are suggested for future research on the topic of interaction distance:

(1) Replication of the present study as well as other studies dealing with interaction distance needs to be conducted. Only through the replication of these studies can a meaningful translation from research to practice occur.

(2) Research involving male counselor/female client and female counselor/male client dyads should be carried out and replicated.

(3) A systematic method for studying the influence of interaction distance during real counseling sessions needs to be developed.

(4) The use of videotape equipment should be incorporated in proxemic research to document and facilitate the exposure of extraneous variables which influence the
counseling encounter.

(5) Biofeedback equipment should be used more extensively in the study of proxemic behavior and its influence upon anxiety. To date, it has proven to be an effective and reliable approach (Romano & Cabianca, 1978).

(6) Both idiographic and longitudinal research dealing with the influence of interaction distance upon the counselor-client dyad needs to be conducted.

(7) To avoid disjointed research in the area of proxemics as applied to counseling, a systematic theory/theories must be advanced which will draw together the current research findings in the area and suggest future directions that research should take.

Summary

The purpose of this study was to investigate within the context of counseling the effect of one form of proxemic behavior, termed interaction distance (Linder, 1974), upon the client's reported level of anxiety.

Each of 35 paid professional female counselors saw 1 of 35 paid female clients in one of five treatment conditions: 20-inch (.51 m) interaction distance; 25-inch (.64 m) interaction distance; 30-inch (.76 m) interaction distance; 35-inch (.89 m) interaction distance; and 40-inch (1.01 m) interaction distance. Measurement of interaction distance was taken from the front of the counselor's chair to the
front of the client's chair. Chairs were positioned in a face-to-face orientation.

Counselor-client dyads were formed by randomly selecting and pairing one client to each counselor. Subsequently, each counselor-client dyad was randomly assigned to one of five treatment conditions. This process provided seven counselor-client dyads in each of the five treatment conditions.

Counselor-client dyads next participated in a structured 15-minute Williamson-type intake interview format. Prior to and immediately following each interview, the client reacted to a series of 32 questions on one of two modified versions of the Self-Perception Inventory anxiety subscale.

Data analyses consisted of the following: (1) an analysis of variance of the post-scores only; (2) an analysis of variance of the post-scores minus the pre-scores; (3) an analysis of covariance involving analysis of the post-scores with the pre-scores serving as the covariate; and (4) based upon finding a significant $F$ value for the first analysis of variance, the protected least significant difference technique was performed on the post-score data for all combinations of treatment pairs. The purpose of employing the protected least significant difference technique was to determine where differences existed between individual pairs of treatments.

Analysis of the data from the Self-Perception Inventory anxiety subscale post-scores demonstrated that interaction
distance influenced client's level of anxiety. Furthermore, the data revealed that the relationship between interaction distance and client anxiety was curvilinear in nature.

The results of the present investigation were discussed in relation to the curvilinear relationship demonstrated to exist between interaction distance and client-elicited anxiety. Possible existence of an optimal distance for the female counselor/female client dyad was also discussed. Recommendations dealt with the practical use of the results of the study and the need for further research in the area of proxemics.
APPENDIX A

GENERAL INFORMATION QUESTIONNAIRE
GENERAL INFORMATION QUESTIONNAIRE

Circle the response in each statement which best describes yourself at the present time.

1. My age is _______.
   15-30
   31-45
   46-60
   61-over

2. I am currently a _______.
   freshman
   sophomore
   junior
   senior
   graduate student
   other, e.g., special student

3. I am currently a student in the _______.
   college of arts and sciences
   school of business administration
   school of education
   evening college
   don't know

4. This is my first experience with any type of counseling.
   Yes
   No

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APPENDIX B

SIGN-UP SHEET FOR RESEARCH PARTICIPATION
Date of Research: Summer Session

Conditions: Female students only

SIGN-UP SHEET FOR RESEARCH PARTICIPATION

Professor Knight in the Education Department of UMSL is currently carrying out research in the area of counseling. The topic under investigation deals with one aspect of interpersonal communication in the counseling setting. If you are interested in participating in this research, please sign this sheet. You will be contacted by telephone within the next two weeks and notified when and where the study will be done. This study will take less than 1 hour of your time and you will be paid $2.00 for your effort.

Thank you.

<table>
<thead>
<tr>
<th>NAME</th>
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APPENDIX C

MODIFIED VERSIONS OF THE SELF-PERCEPTION INVENTORY ANXIETY SUBSCALE
Pretest
(color-coded green)

DIRECTIONS

This booklet contains a number of statements about what you think of yourself in relation to other people. You are to read each statement and then answer each one either TRUE or FALSE as they apply to you. A separate answer sheet is provided for you to mark your answers on. Do not skip any items, but answer each one. To maintain confidentiality, please do not put your name or other identifying information on the answer sheet. When you have finished, give the booklet to the counselor.
1. I am a relaxed person.
2. I have some faults, but they don't bother me.
3. I have trouble getting to sleep at night.
4. I consider myself to be a dedicated worker.
5. Often I have pains in the middle of my chest.
6. Most people are just naturally stubborn.
7. Often I feel "keyed up" and tense.
8. I hardly ever repeat my past mistakes.
9. Frequently, my eyelids will twitch for some reason or another.
10. People upset me a great deal.
11. I don't want to eat as much as I used to.
12. Group activities are usually a lot of fun.
13. I am a restless person.
14. My dealings with people are to the point, and I don't "beat around the bush."
15. Frequently, headaches bother me a lot.
16. I do not like some people.
17. I perspire more than the average person.
18. A major goal in my life is to have control over others.
19. It is difficult for me to sit still.
20. I would like to invent something.
21. I am a nervous person.
22. I like to do many things.

NEXT PAGE
23. My hands hardly ever shake or twitch.
24. Weak people get what they deserve.
25. My heart seems to beat faster than ever before.
26. I have never been unhappy.
27. Many times, my stomach will seem like there are butterflies in it.
28. My failures are not my fault.
29. Frequently, I feel uneasy about things.
30. I always tell the truth.
31. People usually get on my nerves.
32. Every man has his "slot" in life.
Posttest
(color-coded yellow)

DIRECTIONS

This booklet contains a number of statements about what you think of yourself in relation to other people. You are to read each statement carefully and then answer each statement as it applies to you with either a TRUE or FALSE. A separate sheet is provided for you to mark your answers on. Do not skip any items. To maintain confidentiality, please do not put your name on the answer sheet.
1. Frequently, headaches bother me a lot.
2. My dealings with people are to the point, and I don't "beat around the bush."
3. I am a restless person.
4. Group activities are usually a lot of fun.
5. I don't want to eat as much as I used to.
6. People upset me a great deal.
7. Frequently, my eyelids will twitch for some reason or another.
8. I hardly ever repeat my past mistakes.
9. Often I feel "keyed up" and tense.
10. Most people are just naturally stubborn.
11. Often I have pains in the middle of my chest.
12. I consider myself to be a dedicated worker.
13. I have trouble getting to sleep at night.
14. I have some faults, but they don't bother me.
15. I am a relaxed person.
16. Every man has his "slot" in life.
17. People usually get on my nerves.
18. I always tell the truth.
19. Frequently, I feel uneasy about things.
20. My failures are not my fault.
21. Many times, my stomach will seem like there are butterflies in it.
22. I have never been unhappy.
23. My heart seems to beat faster than ever before.
24. Weak people get what they deserve.
25. My hands hardly ever shake or twitch.
26. I like to do many things.
27. I am a nervous person.
28. I would like to invent something.
29. It is difficult for me to sit still.
30. A major goal in my life is to have control over others.
31. I perspire more than the average person.
32. I do not like some people.
APPENDIX D

INTAKE INTERVIEW

69
Name ________________________________

What is your major? ____________ Minor? ____________

Why did you choose your major field? ______________________

The following are 13 possible reasons why students come to college. Did you come to college (answer yes or no):

____ (1) To get a liberal education.
____ (2) To prepare for a vocation.
____ (3) For the prestige of a college degree.
____ (4) To be with old school friends.
____ (5) To make friends and helpful connections.
____ (6) For social enjoyment of college life.
____ (7) Because without a college degree there is less chance of getting a job.
____ (8) To please parents or friends, family tradition.
____ (9) To learn more of certain subjects.
____ (10) It was the thing to do.
____ (11) Foregone conclusion; I never questioned why.
____ (12) To enable me to make more money.
____ (13) To get a general education.

Other ________________________________

What type of training have you considered besides a university education?

____________________________________

70
Think of 3 jobs, in order of preference, which you would like to do. After each job, state your reasons for interest in these occupations:

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Reasons for interest</th>
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</thead>
<tbody>
<tr>
<td>1)</td>
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<td>2)</td>
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<tr>
<td>3)</td>
<td></td>
</tr>
</tbody>
</table>

If you were free of all restrictions (if you could do as you wish), what would you want to be doing 10 or 15 years from now?

It is possible to make a rough classification of occupations in terms of your general interests and abilities. In the following list, indicate your preference by stating that you like, dislike, or are indifferent to the occupation classification:

- Occupations involving business contacts with people, such as the various fields of selling, promotional work, politics, etc.
- Occupations involving business detail work, such as accountancy, business statistician, cashier, banker, stenographer, and office clerical work.
- Occupations involving social service activities, such as YWCA worker, personnel worker, social caseworker, counselor, welfare worker.
- Occupations requiring special artistic abilities, such as musician, actor, artist, interior decorator, designer, etc.
- Occupations involving technical or scientific work, such as engineer, chemist, surgeon, architect, research worker, inventor, physicist, toolmaker, etc.
- Occupations involving verbal or linguistic work, such as lawyer, newspaperman, author, advertising, professor, librarian, etc.
- Occupations involving executive responsibilities such as director, office manager, foreman, etc.
What is your present vocational choice? _______________________

What other possibilities have you considered? _______________________

When did you make your present choice? _______________________

Did you make this choice for any of the following reasons? (answer yes or no)

____ Family suggestion or tradition.
____ Friend's or teacher's advice.
____ The vocation of someone you respect or admire.
____ Suggested by study in school (pre-college).
____ Suggested by study in college.
____ A long personal interest in the work.
____ It is most profitable financially.
____ It is best suited to your abilities.
____ Chosen as being the most interesting intellectually.
____ Choice made on my own responsibility.

How certain are you that this occupation you have specified is the one you really want to prepare for? _______________________

How much information have you about the requirements of the vocation you are choosing? _______________________

What vocation do (or did) your parents want you to follow? _______________________

Why? _______________________

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Indicate leisure-time activities in which you engage frequently (answer yes or no):

A. Individual activities, either organized or unorganized

   (1) Tennis, golf, fishing, hunting, hiking, riding, swimming, ping-pong, boxing, handball, skating, bicycling, bowling, other

   (2) Movies, billiards, pool, listening to radio, stamp collecting, auto riding, woodworking, cooking, modeling, other

   (3) Reading, theater, concerts, art museums, lectures, dance recitals, other

B. Group activities, either organized or unorganized

   (1) All team sports, such as football, baseball, basketball, volleyball, hockey, other

   (2) Dancing, dates, bridge, poker, picnics, other

   (3) Dramatic clubs or organizations, music clubs or organizations, debating teams, discussion groups, political clubs, literary groups, other

   (4) Sorority, fraternity, other

   (5) Church groups, other

What extracurricular activities do you participate in at UMSL?

What types of books or articles interest you?

What magazines do you read most frequently?

Are you engaged in any outside work while attending UMSL?

What is the nature of this work?
APPENDIX E

SUPPORTIVE STATISTICAL DATA
Table A

Results of Analysis of Variance of Five Groups' Post-Scores Minus Pre-Scores on Self-Perception Inventory Anxiety Subscale

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>4</td>
<td>344.97</td>
<td>86.24</td>
<td>18.29</td>
<td>.00</td>
</tr>
<tr>
<td>Within groups</td>
<td>30</td>
<td>141.43</td>
<td>4.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
<td>486.40</td>
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</tr>
</tbody>
</table>

Table B

Means and Standard Deviations of Five Groups' Post-Scores Minus Pre-Scores on Self-Perception Inventory Anxiety Subscale

<table>
<thead>
<tr>
<th>Interaction distance group</th>
<th>n^a</th>
<th>X</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 inches</td>
<td>7</td>
<td>9.86</td>
<td>2.19</td>
</tr>
<tr>
<td>25 inches</td>
<td>7</td>
<td>0.86</td>
<td>2.48</td>
</tr>
<tr>
<td>30 inches</td>
<td>7</td>
<td>3.71</td>
<td>1.50</td>
</tr>
<tr>
<td>35 inches</td>
<td>7</td>
<td>5.71</td>
<td>2.50</td>
</tr>
<tr>
<td>40 inches</td>
<td>7</td>
<td>7.86</td>
<td>2.04</td>
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</table>

^aTotal n = 35.

Table C

Results of Analysis of Covariance of Five Groups' Post-Scores on Self-Perception Inventory Anxiety Subscale with Pre-Scores Acting as Covariate

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
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<tbody>
<tr>
<td>Between adjusted treatments</td>
<td>4</td>
<td>324.90</td>
<td>81.23</td>
<td>22.39</td>
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<tr>
<td>Error</td>
<td>29</td>
<td>105.24</td>
<td>3.63</td>
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<tr>
<td>Total</td>
<td>33</td>
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REFERENCES
REFERENCES


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