The Relationship Between Therapist Approach Postures, Avoidance Postures and Posture Sharing, and Subjects' Experience of Rapport

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THE RELATIONSHIP BETWEEN THERAPIST APPROACH POSTURES, AVOIDANCE POSTURES AND POSTURE SHARING, AND SUBJECTS' EXPERIENCE OF RAPPORT

by

Lawrence Carcelli

A dissertation submitted in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

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Logan, Utah

1985
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Larry Carcelli
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ABSTRACT

The Relationship Between Therapist Approach Postures, Avoidance Postures and Posture Sharing, and Subjects' Experience of Rapport

by

Lawrence A. Carcelli, Doctor of Philosophy
Utah State University, 1985

Major Professors: Dr. William Dobson and Dr. Richley Crapo
Department: Psychology

The relationship between approach, avoidance and congruent postures and the experience of rapport was investigated. Sixty undergraduate college students (30 male, 30 female) were interviewed by a therapist who displayed either approach postures, avoidance postures or who posture shared. The degree of rapport experienced by the 20 subjects in the three groups was compared. In addition, the subjects' behaviors were divided into four groups (n = 11, or 19) along two orthogonal dimensions (high and low congruency and immediacy) and the degree of rapport experienced by the four groups compared. No statistically significant results were found in either analysis. An attempt was made to control for three crucial external variables: the therapist's degree of eye-contact and smiling, and the verbal content of the interviews. Directions for future research were discussed with a focus on naturalistic study in the future.

A self report measure of rapport was developed called the Rapport
Experience Test (RET). The RET was designed to assess the successful communication of accurate empathy, unconditional positive regard and emotional congruence. Measures of internal consistency (Chronbach alpha) and test-retest reliability were obtained. These measures suggest that the RET may be a useful device for further research. Face validity was discussed.
CHAPTER I

INTRODUCTION

Rapport

The ability to communicate is an important factor in all human interactions. The importance of communication is especially obvious in interactions in which information about objective events or subjective states must be transmitted accurately from one person to another. This type of interaction is typical of the therapist-client relationship. Many psychotherapists suggest that the quality of this interaction is in large part responsible for the effectiveness of the therapeutic interaction (Egan, 1975; Gordon, 1969).

Of the many factors affecting the quality of psychotherapeutic interactions, rapport has been emphasized repeatedly by psychotherapists (Rogers, 1940; Wyatt, 1948; Egan, 1975; Kraines, 1948; and Wallen, 1956) and social workers (Lowrey, 1962) as one crucial factor in establishing effective psychotherapeutic interactions. Specifically, Kraines (1948) has suggested that rapport enhances psychotherapeutic effectiveness by facilitating the collection of complete and truthful data, and compliance with psychotherapeutic regimes.

Psychotherapists (Downs, Smeyak & Martin, 1980; and Egan, 1975) have emphasized the importance of establishing rapport as quickly as possible in an interview. For instance, Downs, Smeyak and Martin (1980) have stated that:
No time is more crucial to the success of an interview than the first few minutes. This is the time to build whatever relationships going to exist...Building rapport starts with the very first comments. Rapport involves building a degree of comfortableness together, of trust in another, and of basic goodwill that will permit nondefensive interaction (p.57).

These therapists suggest that first impressions are indeed very important and that much time can be wasted with confused, distrustful and sullen clients if rapport is not established from the beginning.

Definitions of rapport vary considerably. For instance, Wyatt (1948) described rapport as a composite of trust, respect and liking of the therapist. Kraines (1948) described rapport as liking and confidence. Thorne (1950) defined rapport as a harmonious relationship which occurs when people trust, have confidence in and esteem one another. Wallen (1956) described rapport as a harmonious, cooperative and friendly relationship. DiMatteo (1979) described rapport as caring and sensitivity, and finally Trout and Rosenfeld (1980) defined rapport as a comfortable harmonious and cooperative relationship.

One definition of rapport which seems to encompass all of the above is that of Carl Rogers (1940). He defined rapport as the "psychological atmosphere" in which "growthful change" occurred. In describing rapport Rogers stated:

There must be a warmth of relationship between the counsellor and counselee if any progress is to be made. There must be on the part of the counsellor a genuine interest in the individual, a degree of identification which is none the less real because it is understood and to some extent controlled. In the rapport situation, where he is accepted rather than criticized, the individual is free to see himself without defensiveness...(P.162)

Rogers felt that the "rapport situation" could only occur if the attitudes of accurate empathy, unconditional positive regard and
congruence were communicated. Rogers also hypothesized that communication of these three attitudes was the necessary and sufficient condition for growthful change to occur (Rogers, 1957). The experience of rapport as defined by Rogers (1940) was thought by him to be a crucial element of growthful change and psychotherapeutic effectiveness. If this viewpoint is valid then it seems evident that research that can suggest ways to enhance rapport and thus psychotherapeutic effectiveness would be of considerable value.

Nonverbal Behavior

Most of the research of psychotherapeutic interactions, including research involving rapport, has focused on the verbal aspects of the psychotherapeutic relationship. Far less research has focused on the nonverbal aspects of the relationship. This focus has been maintained even though studies have consistently shown that nonverbal behaviors are more salient to persons when making judgements about the qualities of relationships than verbal behavior. The greater salience of nonverbal rather than verbal behavioral cues was termed "video primacy" by DePaulo and Rosenthal (1979). The video primacy effect has been repeatedly supported by the results of research comparing the relative salience of verbal and nonverbal cues in interpersonal communication.

Shapiro (1966) instructed 34 male psychology students to judge the degree of pleasantness or unpleasantness of a ten minute, staged psychotherapeutic interview. The judges were exposed to either 1) audio, 2) video, 3) audio-video, or 4) transcript recordings of the interview.
In other words, judges exposed to audio recordings heard only paralinguistic and verbal content cues, judges exposed to the video recording saw only visual cues, judges exposed to transcripts saw only the verbal content cues while the judges that were exposed to the audio-video recordings saw and heard all of the cues. Shapiro assumed that the judges who were exposed to the audio-video recording would see and hear the widest range of cues and would be able to make the best judgments about pleasantness. By correlating the judgments of the subjects exposed to the audio, video or transcript recordings with the judgments of those exposed to the audio-video recordings, Shapiro was able to determine the relative salience of audio, visual and verbal content cues for making judgments about pleasantness. Shapiro found that the visual cues consistently accounted for twice the variance in judgments of pleasantness than either the paralinguistic or verbal content cues. The visual cues (video channel) accounted for 25%, the paralinguistic and verbal content cues (audio channel) for 16% and the content cues alone (verbal channel) for 1% of the unexplained variance in judgments of pleasantness.

The subjects in this study were randomly selected and assigned, the independent variables were properly implemented, the confederates were blind to the purpose of the research, and the dependent variable seemed to be appropriate for the sample used and behaviors observed. Generalizability of the results may be questioned in that the judges were male psychology students and perhaps more sensitive observers of human behavior than the population as a whole. In addition, judgments were not made of live interactions but of audio-video recordings. It
may be that different cues are salient when judgements are made from audio-video recordings than when they are made from live interactions. For instance, proxemic cues are missing in audio-video recordings but may be very important cues in interpersonal interactions.

A related series of studies refined Shapiro's methodology and obtained remarkably similar results. DePaulo and Rosenthal (1979) instructed 358 subjects (i.e., junior high, high school and college students) to assess the quality and congruence of affect expressed by an actor in 220 two second audio and/or video recordings. The audio recordings had either a clear sound track or a filtered sound track which allowed communiction of paralinguistic cues (e.g., tone of voice, pauses, exclamations, etc.) but rendered verbal content incomprehensible. The video recordings displayed either the head or the body of the actor. The actor depicted either criticalness or support, and either dominance or submissiveness in each scene. Each of the depictions was displayed through all four of the channels (i.e., filtered audio, unfiltered audio, filtered audio-visual, and unfiltered audio-visual). The four channels were contrasted to display either congruent or incongruent depictions (e.g., the video body channel depicted support and submissiveness while the audio unfiltered channel depicted criticalness and submissiveness). The design, therefore, contrasted four depictions of affect by four display channels by two levels of congruence.

The authors reported that both the judgments of affect and congruence were differentially affected by the channels in which they
were displayed. Twice as much of the variance in scores was accounted for by the facial display as by the body display and the body display accounted for twice as much of the variance in scores as the audio recordings of either type. In other words, facial cues were twice as salient as body cues, and body cues were twice as salient as audio cues for making judgements about the quality of affect and congruence in an interaction.

Mehrabian and Ferris (1967) also investigated the relative salience of visual, and verbal cues in assessing the expression of affect. The authors instructed subjects to rate photos of facial expressions and one word verbal recordings with a semantic differential scale designed to assess pleasantness. The authors then divided the photos and word recordings into three levels of pleasantness and paired them across the three levels in all possible combinations so that the neutral words might be paired with negative photos and positive photos with negative words, etc. The photo word pairs were then presented to a second group of subjects and an overall rating obtained with the same semantic differential. The authors found that facial expression of affect accounted for 41% of the variance in scores and vocal expression accounted for 19% of the variance in scores, again a 2:1 contrast in the salience of visual and verbal cues.

Bugental, Kaswan and Love (1970) presented videotaped recordings to parents and children in which an actor expressed either positive or negative evaluations of others either verbally, tonally or visually. The parents and children rated the friendliness of the actor on an open-ended questionnaire. Again both parents and children preferentially
relied on the visual cues to make their assessments by a 2:1 margin.

Finally, Haase and Tepper (1972) instructed 26 counsellors to rate the degree of empathy displayed by an actor nonverbally from a video recording and verbally from a printed transcript. The video recordings and transcripts had previously been designed to express low, medium and high levels of empathy so that the subjects' ratings could be compared with the actual ratings. The authors reported that the accuracy of the counsellors' judgments decreased by 64% when they were based solely on the transcripts. These results suggest that judgments about the quality of relationship are more accurate when the nonverbal cues are present than when they are absent.

The preceding series of studies have serious limitations in generalizing to live interactions. The treatment variables were all audio-video tapes or photographs depicting situations lasting two to ten seconds. It is questionable whether accurate judgments about the quality of relationships can be assessed from such short stimulus segments. In addition Haase and Tepper (1972) used an assessment device for the dependent measure which was inappropriate for the stimulus condition depicted. This will be further explained in the review of the literature.

Despite the design problems of these studies the consistency of the results suggest that there are differences in the saliency of different modes of communication. In all of the studies, visual cues obtained from viewing nonverbal behaviors were twice as salient as verbal cues obtained from listening to verbal behavior when making

Haase and Tepper (1972) concluded their study by stating that the differences in saliency of the different modes of communication had important implications for the training of therapists. Specifically, they stated:

More attention should be focused on nonverbal behaviors in training counsellors. To focus our training efforts on the verbal aspects of counseling may shortchange our trainees... The communication of empathy is a multichannel process, one in which channels are interdependent. To ignore those channels which indeed account for two-thirds of the variance in judged empathy reduces the richness of understanding the process. (Pg. 422-423)

This concern has been expressed by other therapists as well, and supported in their research findings. Rosenthal, Hall, DiMatteo, Rogers and Archer, (1979) have found that psychotherapists who are rated high in nonverbal sensitivity were more likely to be rated high by their supervisors. DiMatteo, Friedman and Taranta (1979) also found that these same therapists were also more likely to have more satisfied clients. These researchers concluded that training programs for therapists should more strongly emphasize training psychotherapists in nonverbal decoding (i.e., interpretation) and encoding (i.e., performance) skills. They suggested that better training in these skills would make for more effective therapists.

This introduction has identified two aspects of human interaction which impact the effectiveness of therapeutic intervention; the first is the importance of rapport in facilitating the openness and
cooperation of the client; the second is the importance of nonverbal behavior as a communication modality. Specifically, Rogers (1940, 1957) stated that rapport was experienced when one individual communicated to another individual the attitudes of unconditional positive regard, accurate empathy and congruence. He further stated that the experience of rapport would lead to growthful change in the client and enhance the psychotherapeutic effectiveness of the counsellor.

Second, research investigating the video primacy effect suggested that observations of behavior were more salient for making judgments about attitudes than listening to what was said (Shapiro, 1966; Depaulo & Rosenthal, 1979; Mehrabian & Ferris, 1967; and Bugental, et al. 1970). Furthermore, judgments of attitudes based on observations of behavior were more often correct than judgments based solely on listening to what was said (Haase & Tepper, 1972).

It appears that a useful focus of research would be identifying the critical aspects of nonverbal behavior that facilitate the communication of rapport. Several researchers (Mehrabian, 1968a; and Scheflen, 1967) have reported that a critical component of nonverbal behavior for communicating rapport or feelings akin to rapport is body posture. This aspect of nonverbal behavior is discussed further below.

Posture

Two hypotheses were found in the literature to explain how body postures were related to the experience of rapport. First, Albert Mehrabian (1968a) hypothesized that persons communicated the degree to which they liked another person by displaying approach behaviors(or
postures), and the degree to which they disliked the person by displaying avoidance behaviors (or postures). Approach behaviors were defined as behaviors which communicated a willingness to interact with another person, while avoidance behaviors were defined as behaviors which communicated a reticence to interact with another person. These behaviors are described in detail in the Definition of Terms section.

Second, Albert Scheflen (1963) suggested that the pleasantness of an interaction between two persons depended on the degree to which the interactants assumed the same sequence or structuring of communication. Scheflen called this kinesic calibration or congruency (Buchheimer, 1963; Charney, 1966) and suggested that it was evidenced by similarities in the interactants' body postures and movements. Furthermore, he suggested that the experience of rapport could be increased in an interaction by purposefully assuming the postures of the interactant. He called this technique posture sharing. Congruency and posture sharing are described in more detail in the Definition of Terms section.

Three studies have investigated the relationship between approach postures, congruency and the experience of rapport. LaFrance (1979) and LaFrance and Broadbent (1976) concluded that congruent postures facilitated the communication of rapport. However, in the only study found in the literature which directly compared the effects of approach postures and congruent postures on the communication of rapport, Trout and Rosenfeld (1980) concluded that approach postures were far more important that congruent postures for facilitating the communication of rapport.
A third hypothesis suggests how non-postural, nonverbal behaviors are related to the experience of rapport in an interaction. Condon and Ogston (1967, 1971) suggested that a forced oscillation or entrainment between the minute body motions of two interactants is the basis for the nonverbal communication of rapport. Since, this was a non-postural theory, and no clinical techniques were found in the literature to enhance entrainment, this hypothesis was not considered in the development of the present study.

One conclusion that may be drawn from the articles reviewed in the introduction is that a better understanding of how nonverbal behavior is related to the communication of rapport has great potential for improving the delivery of psychological services. Specifically, this research investigated the relationship between approach, avoidant and congruent postures and the experience of rapport.

**Definition of Terms**

1. **Approach postures.**

   Approach postures were defined by Mehrabian (1967) as forward body lean, direct body orientation and open leg and arm position. This will be the description of approach posture used in the present study.

2. **Avoidance postures.**

   Avoidance postures were defined by Mehrabian (1967) as backward body lean, indirect body orientation, and closed arm and leg position. This will be the description of avoidance posture used in the present study.
3. Congruence.

Congruence is a term used to describe the degree to which two persons postures are the same. When this term is used no implication of purposeful similarity in postures is made.

4. Posture Sharing.

Posture sharing entails purposefully imitating the body postures of another person. For instance, if a subject depicts approach postures by exhibiting forward body lean, direct body orientation, open arm position and open leg position, then the therapist would posture share by also depicting these postures.

5. Interviewer.

Subjects were interviewed by a trained graduate student in the present study. This graduate student was called the interviewer.

**Problem Statement**

Three defects exist which make the results of the reviewed body of research on the relationship between nonverbal behavior and rapport difficult to interpret, replicate and compare. First, the three studies that specifically examined the effects of posture on the communication of rapport (LaFrance & Broadbent, 1976; LaFrance, 1979; and D'Augelli, 1974) arrived at opposite conclusions. Second, only one study (Trout & Rosenfeld, 1980) directly contrasted the effects of the two postures (i.e., approach and congruent postures) which have been most often hypothesized to be responsible for the postural communication of rapport. It is a profound deficit in this body of literature that only one study has in any way compared the two most important hypotheses of
how rapport is communicated nonverbally. Third, although many studies exist investigating the effects of nonverbal behaviors on concepts related to rapport, such as warmth (Bayes, 1972; and Smith-Hanen, 1977), empathy (D'Augelli, 1974; and Haase & Tepper, 1972), and liking (Kleinke, Staneski & Berger 1975; and Mehrabian, 1967, 1968a), it appears that the results of this research are difficult to interpret, compare and replicate due to inadequacies in methodology. These studies are more closely examined in the Review of Literature section.

The problem is that the deficits in the reviewed body of research on the relationship between nonverbal behavior and rapport have prevented an adequate understanding of how rapport is communicated nonverbally. What is needed is research that: 1) directly investigates the relationship between therapist depiction of posture sharing, approach postures, and avoidance postures, and the clients' experience of rapport, 2) investigates the relationships between clients' experience of rapport and their postures, and 3) avoids the methodological inadequacies discussed in depth in the Review of the Literature.

This present research was pursued for three reasons. First, it was anticipated that the results of this research would better inform psychotherapists how to more quickly establish rapport during interviews. Second, it was anticipated that the results of this research would begin to integrate two areas of the literature which have not been adequately linked. Third, it was anticipated that an investigation into the relationships between persons' experience of
rapport and their postures could lead to an operational definition of rapport in behavioral terms which could be used in further research. The following procedures were employed to meet these needs.

1. A semantic differential was developed to assess the occurrence of rapport. Test-retest reliability and a Cronbach alpha measure of internal consistency were performed with the responses from the semantic differential. Evidence of face validity of the semantic differential was presented.

2. The relationship between approach postures, avoidance postures, and posture sharing and the experience of rapport was directly compared. This was accomplished by measuring the degree of rapport experienced by subjects when the therapist depicted these three postures.

3. The relationship between the subjects' experience of rapport and their postures was investigated by measuring the degree of rapport experienced by the subjects when they depicted congruent approach postures, incongruent approach postures, congruent avoidance postures and incongruent avoidance postures.

4. The external validity of the research was improved by investigating the relationships between posture and rapport in live ten minute treatment interactions.

5. Confounding of results by extraneous variables (i.e., eye contact and smiling) was lessened by maintaining equal occurrence of these behaviors across all three treatment conditions.

6. The degree to which the therapist successfully depicted approach, avoidant and congruent postures was assessed by recording the occurrence of these behaviors by the therapist in each interview.
7. To help determine whether there were statistically significant differences in the ratings of rapport by the subjects when either the therapist or clients depicted the various postures, inferential statistics were used to indicate the probability that differences in ratings of rapport between the different conditions varied by chance at a .05 alpha level.

**Design**

To help determine whether there was a relationship between the therapist's postures and the subjects' experience of rapport, a three group, post-test only design was used. In this design, the subjects were interviewed by a therapist who depicted either approach or avoidance postures, or posture shared. After the interview the subjects reported how they felt during the interview on a Rapport Experience Test (RET) that was designed to assess the degree of rapport they had experienced. The RET scores were then compared across groups to determine whether there were any statistically significant differences between the group scores on the RET.

To help determine whether there was a relationship between the subjects' postures and their experience of rapport this study used a post hoc causal-comparative design. The subjects' postures were rated as high or low in immediacy and/or high or low in congruency, as will be discussed in more detail later. The subjects' scores on the RET were then compared with the postures that they depicted to determine whether there were any statistically significant differences in the degree of
rapport they experienced as a function of the postures they exhibited. The following methodology section of the paper will explain the experimental procedure in greater detail.

**Theoretical Justification**

Research suggested that persons were more likely to report experiencing feelings of liking (Mehrabian, 1968a), empathy (Smith-Hanen, 1977), and warmth (Bayes, 1972), all aspects of rapport, when the other interactant depicted approach postures, rather than avoidance postures. Therefore, it was hypothesized that subjects would report greater feelings of rapport when a therapist depicted approach postures than when he depicted avoidance postures.

Research suggested that persons were more likely to experience rapport (Charney, 1966) when therapists' posture shared, rather than when they did not. Therefore, it was hypothesized that subjects would report experiencing greater feelings of rapport when the therapist's postures were congruent with the subjects' postures (i.e., when the therapist depicted approach postures and the subjects depicted approach postures, and when the therapist depicted avoidance postures and the subjects depicted avoidance postures), than when the therapist postures were incongruent with the subjects' postures (i.e., when the therapist depicted approach postures and the subjects depicted avoidance postures, and vice versa). No research was found that suggested how interactions between approach and avoidance postures, and congruent and incongruent postures would effect the experience of rapport.
These hypotheses were tested by gathering data about the degree of rapport experienced by subjects when they interacted with a therapist who depicted approach postures, avoidance postures or congruent posture. To test whether there were differences in the degree of rapport experienced by the subjects who interacted with a therapist depicting one of these three postures, and to test if these differences were statistically significant, it was assumed that there were no differences in the degree of rapport experienced by the subjects in these three different interactions (i.e., null hypotheses was assumed). If the subjects reported experiencing differing degrees of rapport, it was assumed that the differences were associated with differences in the postures depicted by the therapist.

Research has suggested that there is a positive relationship between persons reporting experiencing rapport and their depiction of approach postures, and a negative relationship between their experiencing of rapport and their depiction of avoidance postures (Mehrabian, 1968a; Kleinke, et al. 1975). Therefore, it was hypothesized that subjects would report experiencing greater degrees of rapport when they exhibited approach postures than when they exhibited avoidance postures.

Research has suggested that there is a positive relationship between the degree of rapport experienced by an individual with another person and the degree to which the posture of the individual is congruent with the other person (LaFrance, 1979; LaFrance & Broadbent, 1976). Therefore, it was hypothesized that subjects would report experiencing a greater degree of rapport when their postures were
congruent with those of the therapist than when they are not.

Research has suggested that there is a positive relationship between the degree of rapport experienced by an individual with another person, and the degree to which the individuals' approach postures are congruent with the other person (LaFrance, 1979). Therefore, it was hypothesized that subjects who exhibited approach postures which were also congruent with those of the therapist would report experiencing a greater degree of rapport than subjects who exhibited either approach postures, avoidance postures or congruent postures.

These hypotheses were tested by gathering data about the degree of rapport experienced by subjects when they exhibited approach postures, avoidance postures, approach postures which are also congruent, and avoidance postures which are also congruent. To test whether subjects who exhibit these four types of postures reported a statistically significant difference in degree of rapport experienced, it was assumed that they would not report experiencing different degrees of rapport. If there were differences it would be assumed that the differences were associated with the display of postures but not necessarily caused by them.

Null Hypotheses

The assumptions of no differences described above are stated in the form of null hypotheses as follows:

1. Subjects who interact with a therapist who depicts approach postures will not report experiencing a degree of rapport which is
significantly different statistically from subjects who interact with a therapist who depicts avoidance postures.

2. Subjects who interact with a therapist who depicts approach postures will not report experiencing a degree of rapport which is significantly different statistically from subjects who interact with a therapist who posture shares.

3. Subjects who interact with a therapist who depicts avoidance postures will not report experiencing a degree of rapport which is significantly different statistically from subjects who interact with a therapist who posture shares.

4. Subjects whose postures are congruent with the therapist's approach postures will not report experiencing a degree of rapport which is significantly different statistically from subjects whose postures are congruent with the therapists avoidance postures.

5. Subjects whose postures are congruent with the therapist's approach postures will not report experiencing a degree of rapport which is significantly different statistically from subjects whose postures are incongruent with the therapist's postures.

6. Subjects whose postures are congruent with the therapist's avoidance postures will not report experiencing a degree of rapport that is significantly different statistically from subjects whose postures are incongruent with the therapist's postures.
CHAPTER II

REVIEW OF THE LITERATURE

Proxemics

Edward Hall began an extensive examination of personal space in 1955. He defined personal space as the "area immediately surrounding the individual in which the majority of his interactions with others take place" (Little, 1965; p. 67). Hall (1968) hypothesized that one's personal space would expand or contract to allow or restrict interactions with other persons. For instance, if one did not wish to interact with others then one's personal space could expand to include an entire room. This could occur, for example, when the person was home alone taking a shower. One's personal space could contract in the same way, for example to compensate for a crowd on a bus. Hall suggested that when one's personal space was violated one would seek to maintain the boundaries by mental or physical means. For example, a person could shift to cognitive tasks such as fantasizing, thus ignoring the violators, or simply walk away.

Argyle and Dean (1965) and Mehrabian (1969) formulated hypotheses to explain how nonverbal behavior was manipulated to maintain an optimal interpersonal distance. These hypotheses assumed that a comfortable interpersonal distance was maintained through the use of nonverbal behaviors depending on the degree of intimacy that was desired with an interactant.
The Equilibrium Hypothesis.

The equilibrium hypothesis (Argyle & Dean, 1965) specified that an individual would experience anxiety if a relationship with another person were either too intimate or too distant. It further hypothesized that individuals would attempt to diminish their anxiety by altering the degree of intimacy in the relationship. Some of the things a person could do to alter the degree of intimacy was make or break eye contact, increase or decrease the intimacy of the content of conversation, lean forward or backward, move closer to or further away from the person and present an open or closed posture to the individual. For example, if anxiety were aroused because the topic of conversation suddenly became too intimate, then the anxious person would employ one of the preceding behaviors (perhaps breaking eye contact) to decrease the degree of intimacy in the relationship and decrease the anxiety.

The Immediacy Hypothesis.

The equilibrium hypothesis was expanded by Albert Mehrabian (1967) to what is referred to as the immediacy hypothesis. According to the immediacy hypothesis, an individual could infer another persons attitude toward oneself by observing their nonverbal behavior. If those behaviors were of the kind that usually elicit more intimacy, then it could be inferred that the other person wished to be more intimate because they liked you. This was called the immediacy hypothesis. Behaviors which inferred more liking were called approach behaviors (e.g., eye contact, forward lean, open body position, smiling and close
proximity), and those that inferred less liking were called avoidance behaviors (e.g., no eye contact, backward lean, closed body position, frowning and distance from the other).

Equilibrium and Immediacy
Hypotheses Research Findings.

The effects of approach and avoidance behaviors on ratings of interpersonal attraction have been investigated. Many of these studies tend to support the immediacy hypothesis. Mehrabian (1968a) took photographs of actors posing in approach and avoidance postures. In one experiment these postures were comprised of combinations of backward or forward lean, open or closed stance and relaxed or tense posture. Fifty-two college students were then shown the photos one at a time and instructed to imagine that they were facing the same person as shown in the photo. The subjects were told to rate on a Likert scale how much they thought the person liked them. Ratings of liking were significantly higher for those photos depicting forward lean and relaxed postures (i.e., approach postures). In a similar study, Mehrabian (1968b) had 50 college students rate the degree of liking, communicated by photos of actors depicting different degrees of relaxation, body orientation, eye contact and distance from the camera. The ratings of liking were significantly higher for those photos depicting eye contact, close proximity, open stance and relaxation.

McGinley, LeFevre and McGinley (1975) used a similar design to study the effect of approach postures on attitude change. Their hypothesis was that college students would report that their attitudes about various topics were more similar to actors depicting approach
postures than towards actors depicting avoidance postures. They presented slides of actors displaying open or closed stances to 96 college students. Along with the slides were short descriptions of the actors' attitudes towards subjects such as marijuana abuse. After each slide and description the students were asked to fill out a questionnaire that assessed their attitudes towards the same topics. The authors reported that the attitudes of the subjects as assessed on the questionnaire were more similar to the attitudes of the actors depicting open postures than towards actors depicting closed postures \((n=96, p<.05)\). The authors suggested that the subjects' attitudes were more similar to the attitudes of the actors depicting the open postures because these actors were seen as more likable and trustworthy, and thus their attitudes were more easily accepted.

A second group of studies used video segments as stimuli. Smith-Hanen (1977) video recorded eight, 30 second counsellor-client interactions. In each segment, an actor depicted one of eight possible combinations of open or closed arm position, and open or closed leg position, and active or passive movement. Forty college students were then shown the video segments and asked to rate the warmth and empathy of the counsellor. Ratings of warmth were higher in response to video segments depicting both open arm and leg positions \((p<.05)\).

In a similar study, Haase & Tepper (1972) video recorded 48, ten second staged interactions between counsellors and clients. The counsellors were actors who depicted 16 different combinations of eye contact, trunk lean, body orientation and distance from the client. Twenty-six counsellors with more than 1500 hours of experience were
Twenty-six counsellors with more than 1500 hours of experience were asked to judge the degree of empathy communicated by the counsellor in each of the segments. Eye contact, forward trunk lean and close proximity were all rated significantly more empathic by the counsellors.

One study videotaped three minute segments of standardized interviews with 16 college students (Bayes, 1972). The occurrence of approach behaviors (e.g., smiling) and other nonverbal and verbal behaviors (e.g., speech rate, references to self and other, head nods and body position) were recorded. Another thirty-six students were asked to view these tape recordings and rate the degree of warmth exhibited by the interviewed students. These ratings of warmth were then correlated with the behavioral measures. The results indicated that smiling was responsible for more than twice the variance in ratings of warmth as were the other behaviors.

The last series of experiments used live interactions as stimuli. Argyle and Dean (1965) asked 80 college students to participate in a "conversation" experiment. Each subject and a confederate were instructed to discuss a TAT card and make up a story about it in three minutes. The confederates had been instructed beforehand to maintain eye contact 100% of the time. The confederate and subject were then seated in a room either 10 inches, or 2 feet 6 inches apart and left to compose the story. The subjects returned the gaze 75% of the time in the far position and only 30% of the time in the close position. This difference was highly significant (p<.001). The authors hypothesized that 100% eye contact was uncomfortable in the close position because it was experienced by the subjects as too intimate or immediate. The
subjects averted their gaze more often in the close position to decrease the anxiety aroused by the too intense sense of immediacy. In the far position 100% eye contact was more comfortable because it was experienced as less immediate and thus subjects averted their gaze less often. These results support the immediacy hypothesis that persons manipulate their nonverbal behavior (in this instance eye contact) to maintain an optimal level of intimacy.

In another study involving eye contact, Klienke, Staneski and Berger (1975) had confederates interview 54 college students. During the interviews, the confederates either did or did not maintain eye contact. After the interview, the subjects reported their opinions about the interviewer on a semantic differential. They were later debriefed while sitting in the same room with the confederate. The subjects reported that the interviewers who maintained eye contact were significantly more attentive (p < .02). During the debriefing the subjects also sat significantly closer to the interviewers who maintained eye contact (p < .07). This was assumed to indicate a greater liking of those interviewers who maintained eye contact.

Mehrabian (1968a) attempted to demonstrate that persons infer the attitudes of others from their behaviors, and that these inferences affect how they behave towards others. He instructed 64 college students to read a series of descriptions of individuals printed on cards, one at a time, and then to act out their reactions to the individuals as described on the card as though the individuals were present before them. The subjects were instructed to imagine that a coat rack was the individual to whom they were reacting. The subjects'
distance from the coat rack was recorded as was their degree of relaxation and eye contact. Distances from the coat rack decreased and eye contact and relaxation increased when the descriptions were desirable. The opposite occurred when the descriptions were undesirable.

One of the few studies that disconfirmed the immediacy hypothesis was done by D'Augelli (1974). D'Augelli felt that previous research supporting the immediacy hypothesis had used treatment variables that were artificial and thus led to results that could not be generalized to naturally occurring situations. The frequency of smiling, forward lean, eye contact, and nodding was tabulated in 30 randomly selected counseling sessions. The author had the clients from the counseling sessions rate the counsellors on Truax and Carkhuff's (1967) clinical scales. D'Augelli then correlated the behavioral measures with the ratings of rapport. He found that forward lean occurred so seldom that he simply omitted it from the analysis. The remainder of the behaviors accounted for only 10% of the variance in ratings of empathy. D'Augelli replicated the experiment using group therapy sessions and obtained the same results. These results indicated that in naturally occurring situations, clients' ratings of empathy, one factor of rapport, were not related to the occurrence of approach behaviors. Therefore, if there was a correlation between ratings of rapport and approach postures, those behaviors were other than approach behaviors and were not measured in this study.
Analysis of Research Findings.

The first series of studies by Mehrabian (1968a, 1968b) and McGinley, LeFevre and McGinley (1975) suggested that ratings of liking and trust were higher for individuals who displayed approach behaviors. However, the generalizability of these results was questionable because the studies used photographs to depict the different postures in the treatment conditions. These photos did not allow for depiction of motion cues or contextual cues. It was questionable, therefore, whether these results could be generalized to naturally occurring situations which are dynamic in nature.

The second series of experiments used videotaped segments of behavior as the treatment stimuli. These video segments were 30 seconds (Smith-Hanen, 1977) and 10 seconds (Haase & Tepper, 1972) in length. Although motion cues were depicted in these experiments, it is doubtful that the quality of an interaction could be accurately assessed in such a short time span. Therefore, it was also questionable whether the responses to these treatment effects could be generalized to naturally occurring situations.

One study did partially circumvent this problem by using three minute video segments (Bayes, 1972). The results tended to support the immediacy hypothesis. It was, however, a correlational study which made questionable attributions of causality. The variance in scores may be accounted for by a variable, or variables other than the one with which the dependent measure was correlated. If these variables were controlled, the variance accounted for by the correlation may have been insignificant. In other words, it is possible that a third
been insignificant. In other words, it is possible that a third variable was responsible for the correlation between ratings of rapport and approach behaviors. In addition, body postures which were the focus of the present study were not found to be significantly correlated with ratings of warmth. Therefore, the results of this study to some degree contradict the results of the previous studies.

There is a further problem with research that uses videotapes as treatment stimuli. This is that ratings or judgements made from live interactions may differ from judgements made from videotapes of those interactions. Imada and Hakel (1977) instructed 72 female college students to observe either live or videotaped interviews. They found that subjects' judgments of affect differed depending on whether they observed live interviews or videotaped recordings of those interviews. No specifics were given as to what affective judgments were made. Imada and Hakel (1977) suggested that the differences were due to the greater emotional distance allowed by the videotapes, i.e., the subjects did not get as emotionally involved observing the videotaped interviews as they did observing the live interviews. This decreased involvement depressed their affective ratings. These results suggested that research results obtained from ratings or observations of videotapes may produce affective responses that cannot be generalized to live situations.

The last group of experiments used live interactions. Two of these studies (Argyle & Dean, 1965; and Kleinke, et al. 1975) used confederates instructed to make or break eye contact with subjects during a conversation. The results of the experiments were exactly as would be predicted by the equilibrium hypothesis. In the
Kleinke, Staneski and Berger (1975) study the subjects later sat closer to actors who maintained eye contact. These results suggested that the increased eye contact was interpreted as greater liking, which was reciprocated. In the Argyle and Dean (1965) study, subjects averted their eyes when seated close to the actor but maintained eye contact when seated further away. These results suggested that the subjects manipulated their nonverbal behavior (i.e., eye contact) to maintain a comfortable level of intimacy.

Mehrabian (1968a) had subjects respond to a coat rack as though it were a person. It is questionable whether individuals would have responded to live humans in the same way that they responded to the coat rack. It may be that the demand characteristics of the experiment forced the subjects to respond over-dramatically and stereotypically rather than naturally.

One study investigated naturally occurring situations and found little correlation between approach behaviors and ratings of empathy (D'Augelli, 1974). Only 10% of the variance in ratings were attributable to nonverbal behavior. These results contradict the findings of the previously reviewed studies.

Summary.

Several methodological problems were encountered in the research investigating the equilibrium and immediacy hypotheses. The problems made the research results difficult to interpret. The problems are as follows:
1. Results obtained from ratings of photographs may not be generalizable to dynamic situations.

2. Results obtained from ratings of short segments of behavior may not be generalizable to ongoing interactions.

3. Results obtained from ratings of artificial situations may not be generalizable to naturally occurring interactions.

4. Results obtained from ratings of videotapes may not be generalizable to live interactions.

5. The correlations obtained between approach behaviors and ratings of rapport may be attributable to an uncontrolled third variable.

**Contextual Theory**

Albert Scheflen (1963) suggested that the meaning or significance of any behavior existed only in relation to its context. In other words, direct eye contact and forward body lean could communicate entirely different meanings in a therapeutic encounter and in a boxing ring. Scheflen further asserted that because behavior occurred only in context, that the relationship between the behavior and its context must be studied, as well as the discrete behavior, to fully understand the meaning or significance of the behavior. Scheflen (1964) stated:

Behavioral scientists could go through rituals of counting and measuring and speculating about the meaning of an event and having judges vote on the most popular speculation. But the chance to determine experimentally the function of an element is lost if the system in which it functions is scrapped. (p. 319)

Scheflen devised a system with which to understand nonverbal behavior.
Kinesic Calibration.

Scheflen (1963, 1964, 1967) believed that nonverbal behavior served several functions other than just communicating affective states and mediating personal space. He suggested that nonverbal behavior helped regulate relationships by avoiding redundancy and lessening ambiguity in communication, acting as metacommunication and by helping to pace interactions. Scheflen believed that the critical elements of nonverbal behavior which communicated rapport were to be found in this regulative function and not in discrete episodes of behavior. Specifically, he suggested that a process of "kinesic calibration" occurred in which interactants eventually assumed the same sequence or structuring of communication (Scheflen, 1963). The degree of rapport experienced between two people depended on the degree of calibration attained.

Scheflen (1964) suggested that the structure of nonverbal communication was loosely analagous to verbal communication. Specifically, he stated that nonverbal communication was not simply a continuous stream of expressive events, but a series of structured "constellations of behavior" that were arranged heirarchically much as syllables are formed into word and words into sentences and sentences into paragraphs. Scheflen suggested that nonverbal behavior was so organized so that it could serve a regulatory social function. This social function indicated how a speaker was organizing the flow of information, thus giving meaning to the communication in the context of the interaction. For example, asking "How are you?" at the beginning of a conversation could have an entirely different meaning than asking
the same question at the end of a conversation. The difference in meaning was determined by the context of the remark as communicated by nonverbal "markers" which indicated whether the question was a courteous beginning to a flow of information (i.e. interaction) or the summation of a well considered stream of thought.

Scheflen (1964) described four markers. The first marker was called a "juncture." The juncture identified the completion of a thought, often a part of a sentence, and was signaled by a slight movement of the head, eyes or hands. The second marker was called a "point" and identified the completion of a series of junctures, typified by a complete sentence and was signaled by a change in head position. The third marker was called the "position" and identified the completion of a train of thought, analogous to a paragraph. The position was signalled by a change in body posture. The fourth marker was called the "presentation" and identified the completion of the communication, analogous to the end of an essay. The presentation was signaled by a change in body position. Returning to the previous example it is easy to see how the question "How are You?" would have a far different meaning in Scheflen's system if it were followed by a change in body position (e.g., hug) rather than by a hand gesture (e.g., handshake).

Kinesic Calibration Research Findings.

The best support for Scheflen's hypothesis of kinesic calibration is Scheflen's research itself (1963, 1964, 1967, 1975). Scheflen, filmed hundreds of hours of therapy sessions, transcribed the verbal and
nonverbal behaviors, and analyzed patterns in the data. Scheflen's analyses, however, were purely observational and were not scrutinized statistically. Several researchers have since borrowed Scheflen's methodology and have attempted to validate his theory statistically (Erickson, 1975; and Dittman & Llewellyn, 1968).

Erickson (1975) coded and analyzed the verbal and nonverbal behavior occurring during several hours of conversation between persons of the same and different races. He found that proxemic shifts (i.e. shifts in approach/avoidance behaviors) were not simply expressive of changes in affective states, but were the best predictors of new segments of data. In other words, proxemic shifts were the best predictors of changes in topic. Furthermore, he found that proxemic shifts occurred more often in interethnic conversations than in intraethnic conversations. This may have occurred because of the decreased topic stability of the interethnic conversations. He suggested that this occurred because the interactions were less predictable and thus less satisfying. In other words, conversation bogged down and the ensuing embarrassment necessitated a change of topic more often. Proxemic shifts accompanied these uncomfortable topic shifts 100% of the time according to Erickson's observations. Proxemic shifts accompanied the more pleasant topic changes 85% of the time as well. These proxemic shifts can be compared to Scheflen's "position" and "presentation" markers. These results suggest that behaviors, specifically approach behaviors, do not simply communicate affective states but also organize the dynamic aspects of communication.
Dittman and Llewellyn (1968) investigated the dynamic aspects of communication by recording the speech and body movement of 12 subjects during 15 hours of interviews. They attached transducers to the body so that body movement could be recorded along with sound. The authors found that movement was most likely to occur at the start of clauses. Increased body movement accompanied stress and juncture points 29% of the time. This rate of occurrence happened significantly more often than chance (p<.05).

In a similar study, Dittman and Llewellyn (1968) recorded the voices and head movements of 20 subjects for two minutes each. They found that head movement coincided with phonetic junctures (i.e., the first and smallest nonverbal organizational structures according to Scheflen (1967)) 25% to 38% of the time. The authors suggested that the head movements were used to regulate communication just as Scheflen had hypothesized.

The preceding studies seem to support Scheflen's (1963) contention that the behaviors of interactants are used to regulate communication, and tend to cluster around critical moments during a conversation. Charney (1966) and Buchheimer (1963) suggested that the clustering of behavior around critical moments in an interaction was evidence of congruence in the behaviors of the interactants, and that congruence in behaviors of interactants should be accompanied by an experience of rapport. This hypothesis has been investigated by several researchers.
Congruence and Posture Sharing.

Charney (1966) and Buchheimer (1963) noticed that the listener in an interaction often displayed the same behavior as the speaker. In other words, their postures and body motions were congruent. They further noticed that the more congruent the behaviors of the interactants were the greater the experience of rapport appeared to be during the interaction. Scheflen (1963) suggested that rapport was experienced when congruent behavior occurred because the interactants were sharing the same markers and communicating to each other an awareness of, and acceptance of the others' organization of behavior. Scheflen (1963) hypothesized that congruence, and acceptance of the others' organization of behavior was the basis of rapport and that the experience of rapport could be enhanced by purposefully increasing congruence in postures through posture sharing (posture sharing is performed by imitating the speaker's body postures). This was called the posture sharing hypothesis.

Congruency and Posture Sharing Research Findings.

Charney (1966) filmed 33 minutes of a therapy session. Charney then decoded the nonverbal behaviors and transcribed the vocalizations of the two interactants. He found that positive, interpersonally specific, context-bound verbalizations occurred more often when the interactants displayed similar postures and movements. In contrast, noncongruent postures were associated with negative, self-oriented nonspecific, nonreferenced vocalizations. It was assumed that positive, interpersonally specific, and contextually bound verbalizations were
more indicative of productive therapeutic sessions in which rapport was evident.

LaFrance and Broadbent (1976) observed twelve liberal arts classes on repeated occasions. They coded the postural configurations of the students and teachers. At the end of the observation periods, the students completed a bipolar scale that assessed the degree of rapport felt by the students with the teacher. Mirror congruent posture sharing (e.g., postures which are matched as though one were looking in a mirror) accounted for 21% of the variance in ratings of rapport. This was significant at $p < .005$. (The exact number of subjects was not reported. However, it can be estimated that the behaviors of between 100 and 180 subjects were observed.)

LaFrance (1979) was dissatisfied with the designs employed to test the posture sharing hypothesis for several reasons: 1) she suggested that much of the clinical evidence was anecdotal and not amenable to replication or analysis, 2) most of the research used correlational statistics which only suggested that relationships between variables had been found, not that one variable had caused another, (for instance, these studies could not determine whether posture sharing preceded or followed the establishment of rapport) and, 3) rapport and behavior were assessed by the same observers, therefore, the reported relationships between rapport and posture sharing could have been due to observer bias. To remedy these problems, LaFrance (1979) employed a cross-lag technique that would better suggest the direction of causality. The basic design entailed measuring two variables (i.e., posture sharing and rapport) at two separate time points. These four variables generated
six correlations (i.e. the correlation between measures of posture sharing and rapport at time one (rPS1,R1); rPS1,R2; PS2,R2; rPS2,R1; rPS1,PS2; and rPS2,R1). By comparing the correlations of the two cross-lagged correlations (e.g., rPS1,R2 and rPS2,R1) she was able to tell whether posture sharing or rapport was more likely to have come first.

Videotapes were made of 14 college classes (n=92) on two occasions separated by a span of five weeks (LaFrance, 1979). After videotaping, the students completed a 15 item bipolar scale assessing the degree of rapport they experienced with the teacher in the class. The frequency of posture sharing was assessed from the videotapes. Posture sharing (1) correlated with rapport (2) r=.63, while posture sharing (2) correlated with rapport (1) r=.44, suggesting that posture sharing or congruence occurred before rapport was established.

Only one study attempted to use an experimental design to establish the direction of causality (Trout & Rosenfeld, 1980). In this study the authors made six, forty-second videotape recordings of actors simulating therapy sessions. The "therapist" actor depicted a different nonverbal behavior in each of the six sessions. The different nonverbal behaviors consisted of congruence or noncongruence in behavior, and forward, upright or backward body postures. For example, in one session the "therapist" actor depicted body postures that were congruent with the "client" actor, but remained leaning forward the entire time. The authors had 60 subjects view the scenes and judge the degree of rapport in the interactions. The ratings of rapport were significantly higher for those scenes in which congruence (p<.05) and forward lean (p<.001)
were depicted. However, differences in the orientation of lean accounted for 78 times more of the variance in ratings of rapport than did differences in congruence. These results suggested that it is far more important to attend to approach behaviors when trying to develop rapport with a client than to congruent behaviors.

Analysis of Research Findings.

The Erickson (1975), and Dittman and Llewellyn (1968, 1969) studies tend to support Scheflen's hypothesis that changes in body posture are predictable and orderly. Furthermore, the studies suggested that the orderly changes in posture were related to orderly changes in verbal communication. However, these studies were correlational designs and could not determine whether the verbal or nonverbal behaviors were primarily responsible for the structuring of communication.

Several studies purportedly demonstrated that when the orderly changes in postures were congruent, rapport was increased. The Charney (1966) study purported that productive therapeutic sessions occurred more often when behavior was congruent. No statistical justification for these claims were made however.

Two correlational studies (LaFrance & Broadbent, 1976; and LaFrance, 1979) provided evidence that ratings of rapport were related to congruent postures. Furthermore, the LaFrance (1979) study used a cross-lag technique that suggested that congruent postures occurred before rapport was experienced. However, the cross-lag technique still does not rule out the possibility that a covariate was responsible for the occurrence of rapport.
The single study that did use an experimental design (Trout & Rosenfeld, 1980) concluded that both approach behaviors and posture sharing were useful in establishing rapport, but that congruence was far less of a factor than approach behaviors. The clinical significance of the results are difficult to understand however, because the concept of congruence is not equivalent to the process of posture sharing. In other words, congruence in postures means that the postures of two or more persons is the same at any one time. Posture sharing however, is a dynamic, ongoing process by which one person assumes the posture of the other interactant. The independent variable in the Trout and Rosenfeld study (1980) simply depicted a therapist in one congruent posture for 40 seconds but did not depict a therapist in a dynamic interchange of postures with the client. Therefore, the ratings of rapport by the observers were of an unnatural and static situation and the results of the study can only be generalized to therapeutic situations with great caution.

Another problem with the Trout and Rosenfeld (1980), LaFrance (1979) and the LaFrance & Broadbent (1976) studies was that they did not report whether they had controlled for extraneous behaviors. For example, Mehrabian and Ferris (1967) and DePaulo and Rosenthal (1979) suggested that facial cues were twice as salient as posture cues for making judgements about the quality of a relationship. Therefore it may be assumed that eye contact and smiling may have had powerful effects on the experiencing of rapport. If eye contact and smiling systematically varied with other behaviors such as forward lean, then perhaps the results may have been confounded by these behaviors.
Summary.

Several methodological problems were encountered in the research investigating the kinesic calibration, congruency and posture sharing hypotheses. The problems made the research results difficult to interpret. The problems are as follows:

1. The results of research which fail to control for important extraneous variables may be confounded if the extraneous variables systematically vary between treatment conditions.

2. The results obtained from research designs which fail to properly implement the independent variables may be uninterpretable.

3. Conclusions about the significance of results obtained from research which has not used inferential statistics or valid single subject designs is questionable.

Kinesics

Interactional Synchrony.

Ray Birdwhistell's (1963) basic assumption about the communication process is that the primary purpose of communication is not the transmittal of new information, but to give continuity and predictability to social systems. Birdwhistell stated:

It (communication) is a system of interaction with a structure independent of the behavior of its individual participants. One person does not "communicate to" another; he engages in it with him. A human being does not invent his system of communication. He may make additions to it, and he may vary the directions of it's formulations. He must learn it in order to be a member of society...communication provides the means of sustaining the patterned interpersonal relationships without which culture would be impossible. (Pg. 128-129)
Kinesics is the systematic study of those "patterned and learned" aspects of body motion which can be demonstrated to have communicational value. Birdwhistell attempted to identify the behavioral equivalents of verbal phonemes, morphemes and syllables. He called these equivalents, kines, kinemorphs and kinemorphic constructions. He said these units of behavior occurred in specific patterns which had communicational significance. These patterns can be appreciated, for example, when one attends to ones bodily sensations and movements while reading or thinking silently to oneself. The body seems to flow in unison with the flow of thoughts. These subtle kinesic movements are what Birdwhistell (1970) felt were the basis of nonverbal communication.

Birdwhistell did not suggest what elements of nonverbal behavior facilitated the communication of rapport. However, several researchers expanded on his work and reached their own hypotheses. Chapple (1970) hypothesized that when two persons interact, a forced oscillation or entrainment occurs between their minute body motions as previously described by Birdwhistell (1970). As the communication continues, the oscillations become more complex so that the individuals are entrained to larger and larger wave forms. It is assumed that these movements are the behavioral manifestations of underlying autonomic-somatic processes. Condon and Ogston (1967, 1971) have suggested that entrainment is the basis of the nonverbal communication of rapport. They have called the process by which two or more people become entrained to each other interactional synchrony.
Research Findings.

Duncan (1975) made a detailed transcription and analysis of a 38 minute conversation and found that body movement coincided with the phonemic clauses in the conversation significantly more often than chance (p<.0001). Condon and Sanders (1973, 1974) filmed interactions between newborn infants and their parents and found that the human infant moved in precise and sustained synchronous movement with articulated speech from the first day of life. Condon and Ogston (1966) have even found evidence of entrainment between humans and chimpanzees in filmed interactions.

No research was found that tested whether entrainment was associated with, or a cause of rapport or other therapeutic variables. Populations of physically and/or emotionally handicapped persons seem to have a greater difficulty establishing self-synchrony and interactional synchrony than to normal populations. This is especially noticeable with schizophrenics (Condon and Ogston, 1966). It may be that the social isolation often associated with disturbed individuals is somehow related to their inability to establish interactional synchrony, and by extension, rapport with other individuals.

Research which has interfered with the synchrony between body movement and speech, either through the ingestion of drugs or the application of verbal delay devices (Condon & Ogston, 1971) has elicited stress responses in interactants (Chapple, 1970). This stress may be caused by a frustrating inability to establish self-synchrony, and by extension, interactional synchrony and rapport.
McDowell (1978) has suggested that interactional synchrony serves the same function as kinesic calibration. In other words, he has suggested kinesic calibration enhances rapport not because it establishes a common structure to communication as Scheflen (1963) has hypothesized, but because it helps establish synchronous body movements. No psychotherapeutic techniques were found in the literature that were hypothesized to enhance the communication of rapport by facilitating entrainment and interactional synchrony.

Methodological Inadequacies in the Reviewed Literature

Three different explanations or hypotheses about how rapport is communicated nonverbally were identified in the literature. Mehrabian (1967) hypothesized that feelings of liking could be communicated by displaying approach behaviors. Scheflen (1963) hypothesized that rapport could be communicated nonverbally by posture sharing or assuming the postures of the client. Condon and Ogston (1967) hypothesized that autonomic-somatic entrainment or interactional synchrony was the basis of the nonverbal communication of rapport. No psychotherapeutic techniques were found that suggested ways of enhancing rapport through the use of interactional synchrony. Unfortunately, it appears that the results of the research investigating these hypotheses is difficult to interpret, compare and replicate due to inadequacies in the methodology of the research. A summary of the inadequacies in the reviewed research is presented below.
Reliability and Validity of Dependent Measures

Eleven of the previously discussed studies used test scores as dependent measures (see Table 1). These dependent measures were in the form of semantic differentials derived from the research of Osgood, Suci, and Tannenbaum (1957), Likert type scales, or adaptations of the therapeutic observation scales developed by Truax and Carkhuff (1967). Only three of the studies specifically used dependent measures to assess the occurrence of rapport (LaFrance, 1979; LaFrance & Broadbent, 1976; and Trout & Rosenfeld, 1980). The other eight studies used dependent measures to assess related concepts such as liking, empathy, honesty, warmth, potency, evaluation and therapeutic talent (see Table 1 for references). In only three studies was reliability data reported, and in only four studies was evidence of either content or face validity presented. Reliability data and evidence of validity were not presented together in any one study. This lack of data makes it very difficult to assess the adequacy of the dependent measures.

The reliability and validity of the rapport measures was the most thoroughly reported. LaFrance (1979) reported that the measure of rapport she developed obtained a .70 reliability and validity rating, but she never explained what type of validity she was referring to. Trout and Rosenfeld (1980) only reported that the measure of rapport they developed obtained a reliability rating of .80, and LaFrance and Broadbent (1976) did not report reliability or validity data at all.
Table 1
Analysis of Dependent Measures in Literature Review Articles

<table>
<thead>
<tr>
<th>Authors</th>
<th>Concept</th>
<th>Type of measure</th>
<th>Operational definition?</th>
<th>Reliability reported?</th>
<th>Validity reported?</th>
<th>Instrument appropriate?</th>
<th>Appropriately administered?</th>
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</table>

* S/D refers to the semantic differential of Osqood et al. (1957).
** T/C refers to the therapy scales of Truax and Carkuff (1967).
Operational Definitions.

Only one study operationally defined the concept of rapport. LaFrance (1979) defined rapport as "Warmth, actively conveyed" (Pg. 66). She did not, however, discuss how she arrived at this definition or whether the definition was theoretically based. No other study reported an operational definition of rapport. It is difficult to determine from these studies what the authors mean by "rapport" and how to replicate their research.

Goudy and Potter (1975) reviewed the literature investigating rapport and found that, in general, operational definitions of rapport were never reported. They felt that this presented a serious obstacle to building a body of literature which could be replicable and amenable to synthesis. They concluded their observations by saying that if rapport could not be operationally defined then the concept of rapport should be dropped from research entirely.

Instrumentation.

The dependent measures which were most commonly used in the reviewed literature were Truax and Carkhuff's (1967) Accurate Empathy, Respect and Genuineness Scales. Truax and Carkhuff developed these scales to assess the degree to which the attitudes of accurate empathy, respect and genuineness were communicated in interactions between two or more people. The reliability and validity of these scales has been established with samples from populations as diverse as schizophrenic inpatients, juvenile delinquents and school students. Scores on the scales were correlated with various psychotherapeutic outcome measures.
and it was found that psychotherapists who scored high on the scales were more effective than psychotherapists who scored low on the scales.

**Administration of Dependent Measures.**

D'Augelli (1974), Haase and Tepper (1972) and Smith-Hanen (1977) used the Truax-Carkhuff scales as their dependent measures. However, the scales were inappropriate for the type of research they were doing. Truax and Carkhuff (1967) designed the scales to assess the degree of therapist empathy, warmth (respect) and genuineness as determined from the therapist's verbal responses to client comments in ongoing interviews. In all three of these studies the therapist stimuli that were the object of investigation were nonverbal behaviors, and the treatment interaction segments were brief, not ongoing. Therefore, the scales were inappropriate measures of the behavior being assessed.

A second problem with the administration of the Truax-Carkhuff scales was the use of these scales by possibly untrained observers. The scales were designed to be used by trained observers. In none of the above studies was it reported whether the observers had been trained or not, and if so, how.

None of the studies using the Truax-Carkhuff scales reported whether precaution had been taken to insure that the ratings were unbiased. Observational ratings may have been biased for several reasons. The independent and dependent variables may not have been independently scored. The scores on one measure may have been biased by observations of the other measure if the observers were not naive to the treatment manipulations. Observer scores may also have been biased...
if they systematically drifted across conditions when it was necessary to make repeated observations of behavior.

**Internal and External Validity.**

Five of the studies supporting the immediacy hypothesis (Mehrabian, 1968a, 1968b; McGinley, et al. 1975; Smith-Hanen, 1977; and Haase & Tepper, 1972) used either static or brief treatment exposures which can not be equated with naturally occurring interactions. Two of the studies (Bayes, 1972; and D'Augelli, 1974) made improper inferences about causality when using correlational statistics and obtained contradictory results. One study (Trout & Rosenfeld, 1980) used an experimental design but the results of the study may have questionable generalizability to naturally occurring interactions because of the static nature of the independent variables. The anecdotal research supporting the congruency hypothesis (Charney, 1966; and Scheflen, 1963, 1964, 1967) by nature had questionable internal and external validity, and the correlational research supporting the congruency hypothesis (Erickson, 1975; Dittman & Llewellyn, 1968, 1969; LaFrance, 1979; and LaFrance & Broadbent, 1976), again made improper conclusions about causality. No research was found that studied the relationship between interactional synchrony and rapport.

**Summary**

A summary of the methodological inadequacies are as follows:

1. The results obtained from ratings of videotapes may not be generalizable to live interactions.
2. The results obtained from ratings of short segments of behavior may not be generalizable to ongoing interactions.

3. The results obtained from ratings of photographs may not be generalizable to dynamic interactions.

4. The results obtained from ratings of artificial situations (e.g., responding to a coat rack as though it were a person) may not be generalizable to naturally occurring interactions.

5. The results obtained from observers who record behaviors may be biased if the scores drift systematically over repeated observations.

6. The results obtained from research designs which fail to control for important extraneous variables (e.g., eye contact) may be confounded if the extraneous variables systematically vary between treatment conditions.

7. The results obtained from research designs which fail to properly implement the independent variables will be uninterpretable.

8. Conclusions about causal relationships in correlational research are questionable.

9. Conclusions about the significance of results obtained from research which has not used inferential statistics are questionable.

10. Results obtained from research in which the concepts are not operationally defined or based on theory are equivocal and nonreplicable.

11. The adequacy of the dependent measures used in the reviewed body of research, as well as the usefulness of the results obtained from their use is difficult to determine when the reliability and
validity of these measures is not reported, when they are not properly administered, and when they are not even appropriate devices for assessing the behaviors in question.

An outline of the methodological inadequacies is shown in Table 2.
Table 2

Summary of Design Problems in Literature Review Articles

<table>
<thead>
<tr>
<th>Authors</th>
<th>Videotapes used as treatment</th>
<th>Short segments of behavior used as treatment</th>
<th>Photographs used as treatment</th>
<th>Treatment in artificial situations</th>
<th>Observer bias</th>
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<th>Treatment not implemented</th>
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* See Table 1 for more details.
Pilot Study

A pilot study was employed to develop an experimental design that would eliminate or control the methodological inadequacies cited. The methodological inadequacies listed in the preceding summary are arranged in four categories. First, are inadequacies 1 through 4, which are primarily threats to the external validity of the research findings. Second, are inadequacies 5 through 7 which are primarily threats to the internal validity of the research findings. Third, are inadequacies 8 and 9, which are primarily problems with unsubstantiated assumptions about the research findings. Fourth, are inadequacies 10 and 11, which are also primarily threats to the internal validity of the research findings, but which focus specifically, on the use of the dependent variables in the research.

Threats to External Validity.

To improve the external validity of the present study live interactions were employed in which a graduate student interviewed subjects about their academic and career goals. In this way the subjects were exposed to the interviewer depicting approach, avoidance or congruent postures, rather than to photographs, videotapes, or written descriptions of these postures. In addition, the interviews lasted ten minutes each rather than the 10 seconds to 3 minutes used in previous research (Argyle & Dean, 1965; Haase & Tepper, 1972; and Smith-Hanen, 1977). The ten minute length of time was chosen because Scheflen (1967) suggested that five to ten minutes was needed before
posture sharing would begin to elicit rapport. No reference was found by Carl Rogers in the reviewed literature as to what minimum length of time was needed before rapport was experienced in an interaction.

**Threats to Internal Validity.**

**Interobserver Reliability.**

An observation and recording system was developed to increase the validity and reliability of the behavioral observations. Past research used untrained observers and failed to report whether more than one observer was used to guard against shifts in the recording of behavior.

The present study used two trained observers to observe and record the behaviors of the subjects and interviewer. The observers were trained to a 90% criterion level of interobserver reliability during 15 pilot study interviews. The observers' behavioral recordings were compared throughout the research to insure the reliability of their observations. This procedure is described in more detail in the Reliability of Observers section of this paper.

Several researchers attempted to develop procedures for observing and recording the behaviors of which the previously described postures are composed. La France (1979) found that nine torso and sixteen arm positions were sufficient for determining postural configurations when recording the occurrence of congruency. However, she did not specify what these positions were. It can be assumed that the nine torso positions are composed of 3 directions of forward-backward body lean and three 3 directions of sideways body lean. Fretz (1966) found that
ten clusters of behavior accounted for almost all of the variance in observations of behavior; these were: 1) horizontal hand and arm movement, 2) vertical hand and arm movement, 3) head movements other than nods, 4) positive nod, 5) negative nod, 6) smiling and laughing, 7) lean forward and lean back, 8) "talk stop", 9) "thinking", and 10) clasping movements. Only three of these clusters are relevant to this study; these are: forward lean, and horizontal and vertical hand and arm position. Scheflen (1964) reported that far less than 30 postures need be recorded to adequately describe the full range of human behavior, however, he did not specify what these postures were, either.

The occurrence of two torso lean positions, three torso orientation positions, nine arm positions and ten leg positions, for a total of 810 postural configurations were recorded for this research. In addition, eye contact and smiling were recorded. The specific postures observed are shown in Table 3. The observation form on which the occurrence of these postures was recorded is shown in Appendix I. The two observers were able to reliably judge the occurrence of approach and avoidance postures similarly more than 90% of the time using these postural categories. How these judgments were made is described in the Methodology section of this paper.
Table 3.
Postural Configurations and Immediacy Scoring.

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<tbody>
<tr>
<td><strong>Torso Lean</strong></td>
<td>Leaning backward more than 90 degrees.</td>
</tr>
<tr>
<td>Leaning 90 degrees of more forward.</td>
<td></td>
</tr>
<tr>
<td><strong>Torso Orientation</strong></td>
<td>Off center more than 20 degrees to either the left or right.</td>
</tr>
<tr>
<td>Off center less than 20 degrees.</td>
<td></td>
</tr>
<tr>
<td><strong>Leg Position</strong></td>
<td>Legs crossed at right or left knee.</td>
</tr>
<tr>
<td>Open, both legs out.</td>
<td></td>
</tr>
<tr>
<td>Open, left or right leg out.</td>
<td></td>
</tr>
<tr>
<td>Open, both legs back.</td>
<td></td>
</tr>
<tr>
<td>Legs crossed at feet.</td>
<td></td>
</tr>
<tr>
<td><strong>Arm Position</strong></td>
<td>Arms crossed at waist.</td>
</tr>
<tr>
<td>Arms not crossing torso.</td>
<td></td>
</tr>
<tr>
<td>Arms to side of body.</td>
<td></td>
</tr>
<tr>
<td>Arms behind body.</td>
<td></td>
</tr>
<tr>
<td>Sitting on hands.</td>
<td></td>
</tr>
<tr>
<td>Arms crossed at chest.</td>
<td></td>
</tr>
<tr>
<td>Forearm obscured by other arm.</td>
<td></td>
</tr>
<tr>
<td>Both hands grasping an object (e.g., leg or chair)</td>
<td></td>
</tr>
</tbody>
</table>
Operational Definitions of Postures.

The postures that were of interest in this study were described by Mehrabian (1967), Scheflen (1963), Kleinke, Staneski and Berger (1975), and Argyle and Dean (1965). Specifically, they were forward and backward body lean, open and closed leg and arm position, indirect and direct body orientation, eye contact, smiling and congruency. All of these behaviors were hypothesized to influence the degree of intimacy or rapport experienced in an interaction.

Mehrabian (1967) and Argyle and Dean (1965) stated that individuals manipulated a number of behaviors to maintain an optimal level of intimacy, and that not all parts of the body necessarily depicted solely approach or avoidance postures at any one time. The authors suggested that torso lean, torso orientation, arm position, and leg position were each important aspects of body posture and should be considered uniquely when categorizing them as depicting approach or avoidance postures. Therefore, in this study, each of these body areas was individually scored as depicting approach or avoidance postures.

The criteria by which specific behaviors were rated as approach or avoidance behaviors on the recording sheet is shown in Table 3. These criteria were based on the work of Mehrabian (1967, 1968a). He had subjects rate the degree of friendliness communicated by numerous different body postures. He found that the avoidance postures listed in Table 3 were rated as less friendly than the approach postures listed in Table 3. Therefore, approach and avoidance postures are operationally defined as the postures listed in Table 3.
To posture share appropriately the interviewer did not have to match the specific body position of the subject within each of the four postural categories. The operational definition of posture sharing in the present study was the interviewer's matching of the subject's approach or avoidance posture generally within each category. For instance, if a subject exhibited forward body lean (an approach posture), direct body orientation (an approach posture), arms crossed at the waist (an avoidance posture), and both legs stretched out in front (an approach posture), then the interviewer only needed to depict forward body lean, direct body orientation, any one of the arm positions which are classified as avoidance postures in Table 3, and any one of the leg positions which are classified as approach postures in Table 3. This procedure allowed the interviewer a greater flexibility of response within the interviews. This was done with the intention of preventing the posture sharing treatment condition from being too obvious to the subjects and seeming contrived.

**Extraneous Variables.**

As was discussed in the Review of the Literature, one reason that the results of past research have been difficult to interpret is that extraneous variables may have been responsible for statistically significant relationships that were obtained between measures of rapport and various postures. If any of these extraneous variables systematically varied across treatment condition in the present study, then it would be difficult to interpret the results of the research. The strength of the relationships between the variables in this study
were considered directly related to the degree that extraneous variables could be controlled. For this reason, the present study attempted to control for several variables that were found in the literature to have a significant impact on the experience of rapport.

The first extraneous variable that was identified was the distance the therapist and subjects sat from one another. Mehrabian (1967) hypothesized that the distance that one person sat from another gave some indication as to how much that one person liked, or was interested in interacting with the other person. Therefore, it was considered necessary to maintain an equal distance between the interviewer and subjects in all of the interviews. The chairs were arranged 48 inches apart as measured from the edge of the two chairs. This distance was an average of the distances closer than which Hall (1968) found Americans were uncomfortable (i.e., 20 inches), and beyond which Sommer (1962) found Americans were uncomfortable when interacting (i.e., 66 inches).

The research of Kleinke, Staneski and Berger (1975), and Argyle and Dean (1965) suggested that eye-contact and smiling influenced the degree of intimacy and rapport experienced in an interaction. If the interviewer preferentially smiled at or looked at the the subjects in any one of the treatment conditions then any relationship between that treatment condition and rapport could be at least partially due to the preferential occurrence of smiling or eye-contact.

In the present study the interviewer was trained to maintain eye contact at least 90 percent of the time, and to smile no more than 20 percent of the time. These behaviors were observed and recorded to
insure that the interviewer did maintain this criterion level of performance. This procedure is discussed in more detail in the Training of Interviewer section of this paper.

Pilot Study Debriefing.

Fifteen subjects were used to test the viability of the methodology used in the present study. The procedures that were followed were very similar to those described in the Methodology section of this paper. During the debriefing the subjects were asked questions by the research assistant to clarify whether the subjects were aware of the treatment manipulations and whether unforeseen demand characteristics occurred that might alter the behavior of the subjects and bias the results of the research. The questions that were asked were:

While you were talking did you have in your own mind that the therapist was doing anything on purpose?

Do you have any theories about what we were observing or doing during the experiment?

What guesses do you have about what the experiment was about?

Did you feel that you were supposed to act in a specific way? What made you feel that way?

Were the assistant's directions clear and easy to understand?

Were the directions on the questionnaires clear and easy to understand?

How did the assistant's directions make you feel. For example, did they put you at ease or make you nervous? How would you change them to make them better?

Was it hard to think of things to talk about? How could the therapist have made it easier for you?

How did you go about rating the therapist? What in particular happened during the experiment that made you rate the therapist the way you did?
How did you go about rating your own experience? What in particular happened during the experiment that made you rate your experience the way you did?

Did you feel you were expected to rate the therapist or your own experience some way in particular?

During the pilot study the interviewer asked open-ended questions which he read from a sheet of paper. It was felt that this would be the best way to standardize the verbal content of the interviews and to elicit lengthy rather than brief answers from the subjects. However, the two most common complaints during the debriefing were that reading the questions from a paper seemed too "formal" and made them nervous, and that the questions were not specific enough. Therefore, the questioning procedures were changed for the primary research as they now appear in the Interview section of this paper.

A third complaint was that the instructions at the beginning made them feel uncomfortable. However, several subjects said they appreciated the instructions and that the instructions made them feel more at ease. Therefore, the instructions were not changed from how they appear in the Intake section of this paper.

A fourth complaint was that knowing they were being filmed made them nervous and self-conscious. To ensure that the behaviors were accurately recorded by the observers required that the interviews be videotaped. Therefore, this crucial procedure was not altered. However, a better effort was made to ensure that the subjects were aware that only the two observers would view the videotapes and that they would be erased within two weeks. In addition, the subjects were told that they could set up a time to view their videotapes before the two
week time period expired, to further relieve their unease. Only three subjects took advantage of this offer.

None of the subjects reported that they felt obliged to respond during the interview in any particular way, or to the RET in any particular way. One person said that he felt we were investigating "eye contact, closeness and body language," while another reported that he thought we were looking at how "relaxed" people were in an interview situation. It was not felt that this percentage of awareness of possible research variables would seriously compromise the results of the research, especially considering that both of these subjects were psychology majors and probably sensitized to the nature of psychological research.

Subject Sensitization.

It was considered necessary to avoid telling the subjects that the research was investigating the effects of therapist postures on the subjects feelings and behaviors. It was thought that if the subjects were made aware of the treatment manipulation they might be sensitized to the manipulations and might respond unnaturally. This was considered a necessary condition for doing the research. The subjects were fully apprised of the real nature of the study during the group question and answer session after the research was completed. This procedure was approved by the dissertation committee and cleared through the Human Subjects Committee.
Rapport Experience Test

Introduction.

Major inadequacies involving the dependent variables were uncovered in the reviewed research. Specific problems were that 1) the concepts that were assessed were not operationally defined or based in theory, 2) reliability and validity data was not reported, 3) the instruments were inappropriate for the assessment situation, and 4) the instruments were inappropriately administered. An instrument to assess the occurrence of rapport was developed and refined during the pilot study that corrected these inadequacies. The name of the instrument was called the Rapport Experience Test.

Development of Rapport Experience Test.

To study the relationship between the occurrence of approach, avoidance and congruent behaviors, and the experience of rapport, a semantic differential was used to assess the occurrence of rapport. In general, the semantic differential is a technique of measurement which may be used to assess a wide range of stimuli in diverse situations. Specifically, Osgood, Suci and Tannenbaum (1957) have stated:

Although we often refer to the semantic differential as if it were some kind of a "test," having some definite set of items and a specific score, this is not the case. To the contrary, it is a very general way of getting at a certain type of information, a highly generalizable technique of measurement which must be adapted to the requirements of each research problem to which it is applied. There are no standard concepts and no standard scales; rather, the concepts and scales used in a particular study depend upon the purposes of the research. (P. 76)
In this study the concept that was assessed was the experience of rapport. The scales to be used to assess whether the experience of rapport had occurred were composed of adjectives which were descriptive of subjective states that Carl Rogers (Meadors & Rogers, 1979) hypothesized should be experienced when rapport occurs. This approach was taken for several reasons.

First, as was discussed in the Review of the Literature, problems may arise when using observers to record the occurrence of rapport. The ratings of the observers may be biased or drift over time. Second, no instruments assessing the occurrence of rapport were found in the literature that were felt to be appropriate for use in this study. Third, a lack of information about the relationship between nonverbal behaviors and internal states makes it difficult to infer what a person is experiencing simply from his/her nonverbal behavior. There are few if any nonverbal behaviors that are understood well enough to serve as operational definitions of rapport from which inferences about the occurrence of rapport may be made. For these reasons, it was decided to use a semantic differential to assess the occurrence of rapport as reported by the individual subjects.

There have been numerous definitions of rapport as was discussed in the introduction. The concept of rapport which was most clearly defined and most often used was that of Carl Rogers (1940). Egan (1975) clearly defined this conception of rapport. He stated that rapport occurs when an individual communicates accurate empathy, respect (unconditional positive regard) and genuineness (congruency). He suggested that the ability to communicate these attitudes were
therapeutic skills. He described them as follows:

Accurate empathy (primary level): the helper must respond to the client in a way that shows that he has listened and that he understands how the client feels and what he is saying about himself. In some sense, he must see the client's world from the client's frame of reference rather than from his own. It is not enough to understand; he must communicate his understanding.

Accurate empathy (advanced level): the helper must communicate to the client an understanding, not only of what the client actually says but also of what he implies, what he hints at, and what he says nonverbally.

Respect: the way in which he deals with the client must show the client that he respects him, that he is basically "for" him, that he wants to be available to him and work with him.

Genuineness: his offer of help can not be phony. He must be spontaneous, open. He can't hide behind the role of counselor. He must be a human being to the human being before him.

Carl Rogers (1940) discussed how rapport was experienced and communicated nonverbally. According to Rogers, rapport occurred when the attitudes of accurate empathy, unconditional positive regard and congruence were communicated to another person. This interaction has been described by Meadors and Rogers (1979):

Rogers proposed a counseling relationship whose characteristics were warmth and responsiveness of the therapist, a permissive climate in which feelings could be freely expressed, and a freedom from all coercion and pressure. (P. 139)

Its central hypothesis (person centered therapy) is that the growthful potential of any individual will tend to be released in a relationship in which the helping person is experiencing and communicating realness, caring and a deeply sensitive nonjudgemental understanding. (P. 131)

Briefly, the therapist wants to convey his sincere acceptance and caring for his client. (P. 152)
Meadors and Rogers also described how an individual should feel in an interaction in which rapport is experienced. They reported that in the relationship in which rapport is experienced:

The individual lives comfortably in the flowing process of his experiencing. New feelings are experienced with richness and immediacy, and this inner experiencing is a clear referent for behavior. Incongruence is minimal and temporary. The self is a confident awareness of this process of experiencing. The meaning of experiencing is held loosely and constantly checked and rechecked against further experiencing. (P. 166)

Feelings previously denied are now experienced both with immediacy and acceptance. Such feelings are not something to be denied, feared or struggled against. The experiencing is often vivid, dramatic and releasing for the individual...the individual risks being himself in the process of his relationship with others. He takes the risk of being in the flow himself and trusting another person to accept him as he is in his flow. (P. 165)

The client is gradually able to allow into his awareness and behavior those portions of his inner experiencing inconsistent with his self concept, portions around which he has built his defenses (P. 152)

The confirmatory experience of being understood seems to give substance and power to the clients expanding self concept. (P. 152)

The underlined words were considered key words which could be used to describe the experience of rapport. However, some of these words could not be appropriately used in a semantic differential. The words which could be appropriately used in a semantic differential did not include the entire domain of underlined words that were used to describe the experience of rapport. A lack of clarity as to what some of the underlined words meant prevented them from being used in a semantic differential. For the purposes of this study the words which described feeling states that had the most clear meanings were used as the scale items in the semantic differential.
Semantic Differential Format.

Osgood, Suci and Tannenbaum (1957) have suggested that several guidelines be followed when choosing scales for a semantic differential (scales are a pair of adjectives, e.g., warm - cold, which describe some continuum of meaning). The guidelines were as follows:

1. The adjectives that are used in the scales must be appropriate for the concept being evaluated.
2. The adjectives that are used in the scales must be semantically stable.
3. The quality and intensity of the dimension of semantic meaning which a pair of adjectives (a scale) describe must be balanced.

The scales in this study were selected by using these guidelines as explained below.

The adjectives used in this study were derived from the underlined key words from the quotes of Meadors and Rogers (1979) describing what an individual should experience when rapport occurs. The key words were transformed into adjectives as shown in Table 4. It is assumed that face validity for the Rapport Experience Test scale items was established using the aforementioned technique, and that the adjectives are, therefore, appropriate for the concept being evaluated as recommended by Osgood, Suci and Tannenbaum (1957).

Adjectives which were considered semantically unstable (see Table 5) were removed from consideration as scale items. Adjectives are semantically unstable to the degree that the meaning of the adjectives used in the scale items vary over time or persons. The two most common causes of semantic instability are the vagueness of a word's meaning, and
Table 4

Key Words, Adjectives and Antonyms for Rapport Experience Test

<table>
<thead>
<tr>
<th>Key words</th>
<th>Adjectives</th>
<th>Antonyms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warmth</td>
<td>Warm</td>
<td>Cold</td>
</tr>
<tr>
<td>Permissive</td>
<td>Permissive</td>
<td>Restrictive</td>
</tr>
<tr>
<td>Freely Expressed</td>
<td>Expressive</td>
<td>Unexpressive</td>
</tr>
<tr>
<td>Coercion</td>
<td>Coerced</td>
<td>Cooperative</td>
</tr>
<tr>
<td>Pressure</td>
<td>Pressured</td>
<td>Unpressured</td>
</tr>
<tr>
<td>Confirmatory</td>
<td>Confirmed</td>
<td>Negated</td>
</tr>
<tr>
<td>Understood</td>
<td>Understood</td>
<td>Misunderstood</td>
</tr>
<tr>
<td>Growthful</td>
<td>Growthful</td>
<td>Ungrowthful</td>
</tr>
<tr>
<td>Nonjudgemental</td>
<td>Unjudged</td>
<td>Judged</td>
</tr>
<tr>
<td>Acceptance</td>
<td>Accepted</td>
<td>Unaccepted</td>
</tr>
<tr>
<td>Caring</td>
<td>Cared for</td>
<td>Uncared for</td>
</tr>
<tr>
<td>Comfortably</td>
<td>Comfortable</td>
<td>Uncomfortable</td>
</tr>
<tr>
<td>Richness</td>
<td>Rich</td>
<td>Poor</td>
</tr>
<tr>
<td>Immediacy</td>
<td>Immediate</td>
<td>Nonimmediate</td>
</tr>
<tr>
<td>Incongruence</td>
<td>Incongruent</td>
<td>Congruent</td>
</tr>
<tr>
<td>Confident</td>
<td>Confident</td>
<td>Insecure</td>
</tr>
<tr>
<td>Awareness</td>
<td>Aware</td>
<td>Unaware</td>
</tr>
<tr>
<td>Denied</td>
<td>Denying</td>
<td>Undenying</td>
</tr>
<tr>
<td>Feared</td>
<td>Fearful</td>
<td>Safe</td>
</tr>
<tr>
<td>Struggled Against</td>
<td>Contentious</td>
<td>Peaceful</td>
</tr>
<tr>
<td>Vivid</td>
<td>Vivid</td>
<td>Drab</td>
</tr>
<tr>
<td>Dramatic</td>
<td>Dramatic</td>
<td>Undramatic</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Releasing</td>
<td>Released</td>
<td>Constrained</td>
</tr>
<tr>
<td>Risks</td>
<td>Risky</td>
<td>Cautious</td>
</tr>
<tr>
<td>Trusting</td>
<td>Trusting</td>
<td>Untrusting</td>
</tr>
<tr>
<td>Being Himself</td>
<td>Genuine</td>
<td>False</td>
</tr>
<tr>
<td>Defenses</td>
<td>Defensive</td>
<td>Open</td>
</tr>
</tbody>
</table>

Table 5

Inappropriate Scale Items.

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permissive - Restrictive</td>
<td>Vague</td>
</tr>
<tr>
<td>Growthful - Ungrowthful</td>
<td>Vague</td>
</tr>
<tr>
<td>Rich - Poor</td>
<td>Connotative</td>
</tr>
<tr>
<td>Immediate - Nonimmediate</td>
<td>Vague</td>
</tr>
<tr>
<td>Incongruent - Congruent</td>
<td>Vague</td>
</tr>
<tr>
<td>Denying - Undenying</td>
<td>Vague</td>
</tr>
<tr>
<td>Vivid - Drab</td>
<td>Connotative</td>
</tr>
<tr>
<td>Released - Constrained</td>
<td>Vague</td>
</tr>
<tr>
<td>Dramatic - Undramatic</td>
<td>Vague</td>
</tr>
</tbody>
</table>
connotative meaning. For instance, adjectives such as immediate, growthful and releasing have vague meanings when describing one's subjective state. The meaning of words like rich are semantically unstable because their connotative meaning is different from their literal meaning. For example, rich has a clearly defined meaning when using it to describe the properties of wealth. The meaning is less clearly defined, however, when using it in its connotative form to describe the qualities of subjective experience.

The third guideline is that the quality and intensity of the dimension of meaning that the scales cover be balanced. For example, critical and praising are words that Meadors and Rogers (1979) used to describe qualities that a therapist should not have. If they were used as antonyms this scale would be unbalanced because the dimension of meaning that falls midway between these adjectives is impartiality. The dimension of meaning that these two adjectives should assess is better defined by the scales critical-impartial and praising-impartial in which impartiality is one pole of the scale, rather than the center point of the scale. No adjectives were found that were unbalanced.

The scales were arranged in the semantic differential format II as described by Osgood, Suci and Tannenbaum (1957). In this format the concept to be defined (i.e. "How did you feel during the interview.") was placed at the top of the test sheet with the scales placed below them in alternating polarity to prevent a position response bias. In other words, adjectives which were indicative of rapport were alternated from the left to right side of the page. This format had the advantage
of allowing the rater to concentrate on one concept at a time, and facilitated ease of reproduction and scoring.

The instructions were placed on a face sheet and composed per the suggestions of Osgood, Suci and Tannenbaum (1957)(see Appendix B). They suggested that the test directions should:

1. Orient the reader to the general nature of the task.
2. Describe the significance of the scale positions.
3. Illustrate how to mark the responses.
4. Describe the attitude to be taken towards the test by the rater.

Final Scale Selection.

The scale items used in the pilot study version of the RET are shown in semantic differential form in Table 6. This form of the RET was administered to 15 subjects during the pilot study. A Pearson product moment correlation was computed between the subjects' responses to each individual item and the total test scores. Harris (1968) suggested that individual items should obtain a Pearson product moment correlation of at least +.20 with the total test scores to be considered a reliable item. For the purposes of this study a correlation coefficient of .60 was used as the cut off point. This value was chosen because it appeared that there was a natural discontinuity in the coefficients at this point as shown in Figure 1. The scale items falling below the cut off point of .60 were removed from the RET. The final form of the RET is shown in Table 7.
<table>
<thead>
<tr>
<th>Item</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warm</td>
<td>.34</td>
</tr>
<tr>
<td>Expressive</td>
<td>.85</td>
</tr>
<tr>
<td>Cooperative</td>
<td>.11</td>
</tr>
<tr>
<td>Unpressed</td>
<td>.65</td>
</tr>
<tr>
<td>Confirmed</td>
<td>.37</td>
</tr>
<tr>
<td>Understood</td>
<td>.66</td>
</tr>
<tr>
<td>Unjudged</td>
<td>.18</td>
</tr>
<tr>
<td>Accepted</td>
<td>.70</td>
</tr>
<tr>
<td>Cared for</td>
<td>.37</td>
</tr>
<tr>
<td>Comfortable</td>
<td>.83</td>
</tr>
<tr>
<td>Confident</td>
<td>.66</td>
</tr>
<tr>
<td>Aware</td>
<td>.88</td>
</tr>
<tr>
<td>Safe</td>
<td>.65</td>
</tr>
<tr>
<td>Peaceful</td>
<td>.74</td>
</tr>
<tr>
<td>Risky</td>
<td>.52</td>
</tr>
<tr>
<td>Trusting</td>
<td>.69</td>
</tr>
<tr>
<td>Genuine</td>
<td>.58</td>
</tr>
<tr>
<td>Open</td>
<td>.88</td>
</tr>
</tbody>
</table>

Figure 1. Pearson product moment correlation coefficients between the individual scale items on the pilot study RET and the total scores on the RET.

Note: --- indicates the .60 cut off score.
Table 6
Pilot Study Rapport Experience Test

|                        | Warm      | Cold       | Unexpressive | Expressive  | Cooperative | Uncooperative | Pressured    | Unpressed   | Confirmed  | Negated   | Misunderstood | Understood | Unjudged  | Judged      | Unaccepted | Accepted     | Cared For | Uncared for | Uncomfortable | Comfortable | Confident | Insecure | Unaware | Aware | Safe | Fearful | Contentious | Peaceful | Risky | Cautious | Untrusting | Trusting | Genuine | False | Defensive | Open |
|------------------------|-----------|------------|--------------|-------------|-------------|---------------|--------------|-------------|------------|-----------|--------------|------------|-----------|-------------|------------|--------------|----------|------------|-----------|--------|------|--------|-----------|---------|--------|--------|---------|-------|-------|--------|--------|---------|---|
Table 7

Final Form of Rapport Experience Test

During the Interview I felt . . .

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unexpressive</td>
<td>Unpressured</td>
<td>MISUNDERSTOOD</td>
<td>Accepted</td>
<td>Uncomfortable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expressive</td>
<td>Pressured</td>
<td>Understood</td>
<td>Unaccepted</td>
<td>Comfortable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confident</td>
<td>Unaware</td>
<td>Safe</td>
<td>Contentious</td>
<td>Trusting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insecure</td>
<td>Aware</td>
<td>Fearful</td>
<td>Peaceful</td>
<td>Untrusting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Open</td>
</tr>
</tbody>
</table>
The Reliability and Validity of the RET.

The reliability of the test scores were obtained in two ways. First, a measure of internal consistency with regard to content sampling was obtained by computing a Cronbach alpha. This form of reliability is based on the consistency of responses to all items in the test. This test
test is sensitive to both the degree to which the content is reliably sampled and to the heterogeneity of the behavior domain sampled. It is a
conservative measure of reliability (Anastasi, 1982) when a heterogeneous content domain is sampled as is the case with the RET because more sources of variance enter into computing it.

The RET was designed to assess the occurrence of rapport. However, rapport may not be an entirely homogenous concept. As was previously discussed, the concept of rapport that the RET is designed to assess is that of Carl Rogers (1940). Rogers explained that rapport was experienced when three things were communicated by an individual, i.e., accurate empathy, unconditional positive regard and emotional congruence. These three qualities may not be homogenous although they are likely to occur in the presence of the others (Osgood, et al. 1957). Therefore, the heterogeneous nature of the domain of content being assessed by the RET may decrease the degree to which the individual test items assess the same domain of content and, thus, may depress the Chronbach alpha and make it lower than if a more homogenous domain of content were sampled.

Test-retest reliability was also determined. This is a test of the stability of the test scores over time. Three male and three female
subjects from each of the three treatment groups, for a total of 18 subjects, were asked to remain in the research area for an hour after completing their post-test to further help us with the research. Following the hour wait the subjects were again administered the RET and allowed to leave.

In addition, Pearson product moment correlation coefficients were computed between each item and the total test scores to determine the degree to which each individual item consistently sampled the content domain. Harris (1968) suggested that a minimum cut off score of \( r = 0.20 \) should be obtained by an item on a test before that item may be considered a reliable item. The results of the Cronbach alpha, test-retest reliability, and the item analysis are presented in the Results section of this paper.

As was previously discussed, no tests of rapport were found in the literature which were considered appropriate criterion measures for a test of criterion validity. Therefore, the primary evidence for the validity of the RET is considered to be the face validity of the individual scale items as determined from the content sampling of Carl Rogers' works.
CHAPTER III

METHODOLOGY

Implementation of Treatment

Subject Characteristics.

The subjects were male and female undergraduate college students enrolled in a variety of undergraduate classes. A classification of the subjects by sex and major is shown in Table 8.

Subjects were recruited at random from the student center at Utah State University. The researcher and an assistant approached approximately 110 students in the student center during the months of April, June and July of 1984 and said the following:

A couple of colleagues and myself are doing some research to investigate how we can improve the quality of our graduate students' interviewing skills. To do this we have devised an experiment in which we will have one of our graduate student interview people about their academic and career goals.

I am here today to ask for your help in this experiment. What this experiment would require you to do is discuss with the counsellor what your academic and career goals are for about ten minutes. After the interview we will ask you to fill out a form asking you how you felt about the interview. Both of these tasks should take no more than fifteen minutes.

The interviews will be video recorded so that two graduate students can record what has occurred during the interview. Immediately after recording this data the videotapes will be erased. All of the information recorded from the videotapes and the questionnaires will be strictly confidential and anonymous. All of the data will be categorized by number and no identifying names will be used.

Altogether the research will take about one half hour of your time. Now I know that half an hour is a lot of time for a busy student such as yourself and I wish I could make it worth your while, I wish I could pay you, but I can't. What I can do though is offer you a free ice cream cone as a token of my appreciation for your help. Thank you for listening to my little talk. Would you like to help?
Those students who volunteered were contacted on the phone and assigned a time to participate in the research.

Assignment of Subjects.

Seventy-eight students volunteered to participate in the research. Four of these students were unable to participate because a mutually convenient time for participating in the research could not be arranged. Eight of the students failed to arrive during the assigned time. Of the remaining 66 students, the first 30 men and first 30 women were used. The remaining six were not used in the research. The 30 men and 30 women were randomly assigned to each treatment condition and were balanced for sex so that 10 subjects of each sex were assigned to each of the three conditions for a total of 20 subjects per treatment condition, and 60 subjects overall.

Experimental Environment.

The interviews took place in an eight by eight foot room in the psychology department counseling center. The room was furnished with several chairs and plants. There were no windows in the room but a skylight allowed a south-western illumination. Three cameras were hung from the walls and ceilings of the room, one of which was aimed at the participants so that a silhouette view was obtained of their behaviors. The seats in which the therapist and subjects sat were situated in the center of the room directly facing one another, standing 48 inches apart.
Table 8
Classification of Subjects by Sex and Major.

<table>
<thead>
<tr>
<th>Major</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Agriculture</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Biology</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Business Administration</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Business Education</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Computer Science</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Education</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Environmental Engineering</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Geology</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Industrial Arts</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Journalism</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Liberal Arts</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Marketing</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Physical Education</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Plant Science</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Political Science</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Psychology</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Speech and Communication</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>30</strong></td>
</tr>
</tbody>
</table>
Experimental Procedures.

Intake. The subjects were met in the psychology department counseling waiting room by a research assistant. The assistant greeted the subjects and gave them the following instructions:

Thank you for coming. My name is Larry and I will be assisting you through the proceedings today. The entire experience should last no more than fifteen minutes. I would like to tell you that if at any time you feel you want to discontinue you have that right. We do not feel however that this will be necessary. Everything that occurs during the experiment will be strictly confidential. The interview will be videotaped so that two graduate students can record what occurs. The tapes will be erased soon after they have been observed. The data that will be obtained from the interview and from the two tests we would like you to complete will be completely anonymous. No names will be used to categorize the data. If you are interested in learning about the results of the experiment we will hold a group meeting here on 6/15 to discuss the results and answer any questions that you may have.

As you know we are interested in improving the interviewing skills of our graduate students. When you go in to see the counsellor he will ask you questions related to your academic and career goals. He will mostly listen while you discuss your experiences. These interview sessions usually last about ten minutes. I will knock on the door when the interview period is over. This does not mean that you have to end the interview right then but it is a cue to begin finishing what you are discussing.

When you have finished the interview the therapist will leave the room and I will come back in. At this time I will ask you to fill out a form that asks questions about what happened during the interview. It is very important that you take your time reading the directions to these questionnaires and fill them out completely and as honestly as you can. After you have finished answering the questionnaires completely you may leave immediately.

Finally, I would like to talk about the importance of your confidentiality as a subject. Due to the delicate nature of the variables we are studying we ask that you not discuss with others the proceedings you will go through today. We feel that were others to know what to expect before they came that the sensitivity of the experiment would be jeopardized.
Interview. After the subjects were greeted by the assistant and instructed about what would happen, the assistant escorted the subjects to the counseling room. The therapist introduced himself and sat the subjects in the proper chair.

The therapist then asked a series of questions he had committed to memory. These questions were phrased and organized so that they were easy to memorize, were specific, and logically progressed from one question to the next. The questions were broken into five general areas with sub-areas within each of these areas. The questions were also organized so that they proceeded from open-ended to specific as the questioning in each area progressed.

The number of questions that each subject was asked varied between 5 and 35 depending on how thoroughly the subjects answered the questions. Some subjects talked at length about what their career goals were, while others responded very briefly to each of the questions and, therefore, had to be asked a greater number of questions. The implications of the difference in the number of questions that each subject was asked will be discussed in greater detail in the Discussion section of this paper. The questions that were asked are outlined below.

I. What are your academic and career goals?

A. What type of career goals have you considered in the past?
   1. Have you discussed your career goals with anybody before?
   2. Have you read about careers you were interested in?
   3. Are there any careers that you might be interested in but are
afraid you would be unable to do?

B. What type of experiences have you had that have influenced your career goals?
   1. What kind of work are you doing now?
   2. What kind of work have you done in the past?
   3. Have you ever been in a leadership position?
   4. Have you ever worked with people?
   5. Have you ever had a job in which you have handled money?

C. Has anybody been influential in helping you make decision about your career goals?
   1. Could you describe this person?
   2. What type of qualities did he/she have?
   3. How have these qualities influenced your decisions?

D. How has your family influenced your career decisions?
   1. What did you observe growing up in your family that helped to form your decisions?
   2. What type of work does your father do?
   3. What type of work does your mother do?
   4. What do your brothers and sisters do or want to do?
   5. What do the extended members of your family do?

E. What kinds of academic experiences have influenced your career goals.
   1. What influences have you had in college?
      a. What is your major in college?
      b. What have you thought you might like to major in?
      c. What classes have you taken that have interested you?
d. What professors have been especially interesting?
e. What type of school activities do you participate in?
f. What do your friends want to do?

2. What influences did you have in High School?
   a. What were your favorite classes?
   b. What types of school activities did you participate in?
   c. Who were your favorite teachers and what did they teach?
   d. What did your friends want to do?

3. What influences did you have in elementary school?
   a. What classes did you enjoy most?
   b. What type of school activities did you participate in?
   c. Did you belong to any organizations like the Boy/Girl Scouts?
   d. What did your friends want to be?

Closing. After the assistant knocked on the door indicating that ten minutes had elapsed the therapist told the subjects that they did not have to finish what they were taking about immediately, but that the knock was a signal that indicated that they needed to start wrapping things up. The therapist then said:

Our discussion has been very interesting and helpful. Thank you for taking the time and effort to help us in our research. I am going to ask the assistant to come in for a moment. Thank you again for participating. Have a good day.

The subject was then escorted out of the interview room by the research assistant, seated in an adjoining room, handed a copy of the RET and given these instructions:
We need you to do one last thing before you leave. Would you fill out this form as the directions instruct. Take your time, read the directions carefully. Complete every item and answer as honestly as you can. You may leave as soon as you are finished. Please leave the forms on the chair after you have finished completely filling them out. Thank you.

Independent Variables

All of the interviews were videotaped. The observers recorded the occurrence of the behaviors by stopping the videotape every 10 seconds, beginning 10 seconds after the subject and interviewer were both seated, and recording whether they judged the subject and interviewer were depicting approach or avoidance postures in each of the four body areas. In other words, behaviors were recorded on a 10 second time sample basis. Only the behavior recorded during the first ten minutes (60 observation periods) of every interview were used in the analyses.

Immediacy Scores.

Approach behaviors in each category were scored one, and avoidance behaviors zero. At each observation period a person obtained a range in scores from 4 (all four parts of the body that were being recorded depicted approach behaviors) to 0 (no part of the body being recorded depicted approach behavior). The scores from all of the observation periods were then summed to obtain a summed score called the Immediacy Score. The maximum Immediacy score that could be derived for a person during an interview was 240 points. This score is derived by multiplying the number of 10 second observation periods in a 10 minute interview (60) by the maximum score that could be obtained in any one observational period (4). The Immediacy score represented the degree of
immediacy presented by the person during the interview. Appendix A shows the observation forms that were used to collect the data.

**Congruency Scores.**

Scheflen (1964) reported that in his observations, congruence in postures seldom occurred in all parts of the body simultaneously. Therefore, congruency in postures was also recorded separately for each of the four areas of the body. A congruency score was determined by comparing the behavioral record of the subject and interviewer during an interview. The videotapes of each session were stopped at 10 second intervals and one point was scored for each part of the interviewer's body that was congruent with the subject's body. A total of four points maximum could be scored at each observation period, one for each of the four parts of the body whose positions were recorded (i.e., body lean, body orientation, arm and leg position). The scores obtained at each of the observation periods was then summed to obtain a summative Congruency score. The maximum possible Congruency score was 240. This was determined by multiplying the maximum number of points that could be obtained during any one 10 second observational period (4), times the number of observational periods in a ten minute interview (60). The Congruency score represented the degree to which the postures of the interviewer and subjects were congruent. The maximum Congruency and Immediacy scores were both 240, therefore, a 90% score on either of these measures was 216, and a 10% score was 24.
Reliability of Immediacy and Congruency Scores.

Two observers were trained during the pilot study to record the postures of the interviewer and the subjects. The observers then reviewed the behavioral recordings which were dissimilar and reached a consensus as to how to record those particular behaviors. This procedure was continued until the two observers recorded behaviors similarly nine out of ten times, or at a 90% criterion level for three interviews in a row.

During the course of the research if the scores of the two observers agreed less than 90% of the time then the observers reviewed the scoring procedures and criteria for scoring the behaviors, and reached a consensus on how to score the dissimilarly scored behaviors the same. This only occurred three times as reported in the Results section of this paper.

To monitor whether the observers immediacy and congruency scores drifted over time during the course of the research, both of the observers recorded and scored the behaviors of both the subjects and the therapist. The observers were naive as to how the other observer had recorded and scored the behaviors. This procedure did not insure that drift could not occur but lessened the possibility of it occurring.

Extraneous Variables.

Two observers also recorded whether smiling and eye contact occurred at each of the 10 second observation periods during the research. The observers scores for eye contact and smiling were compared after each interview. If the observers scored the behaviors
similarly less than 90% of the time then it was intended that they review the recording and scoring procedures. However, the level of interrater reliability never fell below 90% so this was not necessary. This procedure did not insure that drift did not occur but lessened the possibility of it occurring.

Training of Interviewer.

A male graduate student in psychology was trained to depict approach postures, avoidance postures, and to posture share. He was called the interviewer. The interviewer practiced depicting these postures during the pilot study until he obtained an immediacy score of 90% or more during the approach treatment interviews, an immediacy score 10% or less during the avoidance treatment interviews, and a congruency score of 90% or more during the posture sharing treatment interviews. In addition, the interviewer practiced maintaining eye contact more than 90% of the time, and smiling between 0% and 20% of the time until he was able to do so in all of the conditions. The interviewer met these criterion levels of performance for two consecutive pilot study interviews before he was allowed to interview primary research subjects.

Validity of Employment of Treatment.

The interviewer's performance was monitored throughout the research. If the interviewer did not maintain a 90% immediacy score in any one approach treatment interview, a 10% immediacy score in any one avoidance treatment interview, or a 90% congruency score in any one posture sharing treatment interview, or a 90% eye contact rate, or a 20% smiling rate during any of the interviews, then practice sessions were
scheduled until criterion levels were reached. The interviewer did not attain the criterion level of performance during three interviews. All three of these interviews were posture sharing treatment conditions. The interviewer participated in a practice session following these three interviews in which he posture shared with the research assistant who was depicting the problematic behaviors.
CHAPTER IV

RESULTS

Introduction

The results of the present study are presented in four sections. The first section presents the treatment results. The second section presents the results of the interobserver reliability data. The third section presents the results of the validity data for the experimental treatment. The fourth section presents the results of the reliability data for the Rapport Experience Test (RET).

Treatment

Relationship Between Interviewer's Posture and Experience of Rapport.

Null hypotheses 1, 2 and 3 hypothesized that subjects exposed to an interviewer who depicted approach, avoidant or congruent postures would not report experiencing a degree of rapport that was significantly different statistically from one another. To help determine whether there was a significant difference statistically between the RET scores of the subjects in the three treatment conditions, a one-way analysis of variance was performed with the three treatment conditions as the independent variables and the scores on the RET as the dependent variable. In addition, to increase the power of the analysis a two-way analysis of variance was performed with sex as the second independent variable. Differences in RET scores were considered significant statistically beyond a .05 alpha level in this and the following
There were no significant differences statistically in how the subjects scored the RET in the three treatment conditions in the one-way analysis of variance (F= 1.267, p> 0.956)(see Table 9 for the F values and sources of variance for this analysis). In the two-way analysis of variance the male and female subjects did not report experiencing a degree of rapport that was significantly different statistically either by sex or treatment group, and there were no significant interactions statistically (see Table 10 for the F values and sources of variance for the two-way analysis of variance) (see Table 11 for the cell and marginal means and standard deviations of this analysis). Therefore, Null hypotheses 1, 2 and 3 were supported.

Table 9
Sources of Variance in One-way ANOVA for Treatment

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>2.533</td>
<td>2</td>
<td>1.267</td>
<td>0.44</td>
<td>0.956</td>
</tr>
<tr>
<td>Residual</td>
<td>1619.400</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1621.933</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 10.

Sources of Variance in Two-way ANOVA for Treatment and Sex.

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>2.533</td>
<td>2</td>
<td>1.267</td>
<td>0.458</td>
<td>0.955</td>
</tr>
<tr>
<td>Sex</td>
<td>9.600</td>
<td>1</td>
<td>9.600</td>
<td>0.347</td>
<td>0.558</td>
</tr>
<tr>
<td>Interactions</td>
<td>116.400</td>
<td>2</td>
<td>2.104</td>
<td>2.104</td>
<td>0.132</td>
</tr>
<tr>
<td>Residual</td>
<td>1493.40</td>
<td>54</td>
<td>27.656</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1621.933</td>
<td>59</td>
<td>27.490</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11.

Cell and Marginal Means and Standard Deviations of RET Scores for Treatment and Sex.

<table>
<thead>
<tr>
<th>Approach</th>
<th>Avoidance</th>
<th>Posture Sharing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>44.60</td>
<td>47.30</td>
</tr>
<tr>
<td></td>
<td>(6.60)</td>
<td>(5.03)</td>
</tr>
<tr>
<td></td>
<td>n = 10</td>
<td>n = 10</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>47.60</td>
<td>45.50</td>
</tr>
<tr>
<td></td>
<td>(5.25)</td>
<td>(4.50)</td>
</tr>
<tr>
<td></td>
<td>n = 10</td>
<td>n = 10</td>
</tr>
</tbody>
</table>

| Male     |           |                 |
|          | 46.10     | 46.40           | 46.60       |
|          | (6.00)    | (4.73)          | (5.16)      |
|          | n = 20    | n = 20          | n = 20      |

Note. Standard deviations are in parentheses.
Relationship Between Subjects' Postures and Experience of Rapport.

Null hypotheses 4, 5, 6 and 7 hypothesized that subjects who displayed approach-congruent, avoidance-congruent, approach-noncongruent and avoidance-noncongruent postures would not report experiencing a degree of rapport that was significantly different statistically from one another. This study used a post hoc causal-comparative design to help determine what types of subject behaviors were associated with subjects' reports of experiences of rapport.

The immediacy and congruency of the subjects' postures were measured as was previously discussed. The subjects were divided equally into groups with high and low immediacy scores, and into groups with high and low congruency scores. Subjects who obtained immediacy scores above the median immediacy score of 172 were placed in the high-immediacy group, while those who obtained immediacy scores below this level were placed in a low-immediacy group. Each group contained 30 subjects. The immediacy scores ranged from 1 to 240. Similarly, subjects who obtained congruency scores above the median congruency score of 146.5 were placed in the high-congruency group, while subjects who obtained congruency scores below this level were placed in the low-congruency group. There were 30 subjects in each group. The congruency scores ranged from 41 to 240.

Two one-way analyses of variance were performed with the high and low immediacy score groups being the independent variables and the subjects' scores on the RET being the dependent variables in the first analysis, and the high and low congruency score groups being the
independent variables and the subjects' scores on the RET being the
dependent variables in the second analysis.

The high and low immediacy subjects did not report experiencing a
degree of rapport that was significantly different statistically
\((F = 1.406, p > .240)\) (see Table 12 for sources of variance). The high
and low congruency subjects did not report experiencing a degree of
rapport that was significantly different statistically \((F = 2.385,\)
\(p > .128)\)(see Table 13 for sources of variance).

In addition, the subjects were divided into four groups according
to their immediacy and congruency scores. The four groups they were
divided into were 1) high immediacy-high congruency, 2) high immediacy-
low congruency, 3) low immediacy-low congruency, and 4) low immediacy-
high congruency.

This was accomplished by placing the subjects who obtained
immediacy scores above the median of 172 and congruency scores above the
median of 146.5 into a group called the high-immediacy, high-congruency
group \((n = 19)\). Subjects who obtained immediacy scores below 172 and
congruency scores below 146.5 were placed in the low-immediacy, low
congruency group \((n = 19)\). Subjects who obtained immediacy scores higher
than 172 and immediacy scores less than 146.5 were placed in the high-
immediacy, low congruency group \((n = 11)\). Subjects who obtained
immediacy scores less than 172 and congruency scores greater than 146.5
were place in the low-immediacy, high congruency group \((n = 11)\).

A two-way analysis of variance was performed with the four
previously mentioned groups being the independent variables and the
subjects' scores on the RET being the dependent variables. The four
Table 12
Sources of Variance in One-way ANOVA for Immediacy.

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediacy</td>
<td>38.40</td>
<td>1</td>
<td>38.400</td>
<td>1.406</td>
<td>0.240</td>
</tr>
<tr>
<td>Residual</td>
<td>1583.533</td>
<td>58</td>
<td>27.302</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1621.933</td>
<td>59</td>
<td>27.490</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13
Sources of Variance in One-way ANOVA for Congruency.

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congruency</td>
<td>64.067</td>
<td>1</td>
<td>64.067</td>
<td>2.385</td>
<td>0.128</td>
</tr>
<tr>
<td>Residual</td>
<td>1557.867</td>
<td>58</td>
<td>26.860</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1621.933</td>
<td>59</td>
<td>27.490</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

groups were placed in an orthogonal matrix with high and low immediacy scores comprising one dimension of the matrix, and high and low congruency scores comprising the other dimension of the matrix. There were no statistically significant main effects for high and low immediacy or high and low congruency, and there were no interactions (see table 14 for the sources of variance)(see Table 15 for the cell and marginal means and standard deviations).
Table 14
Sources of Variance in Two-way ANOVA for Immediacy and Congruency.

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediacy</td>
<td>17.766</td>
<td>1</td>
<td>17.766</td>
<td>.684</td>
<td>.411</td>
</tr>
<tr>
<td>Congruency</td>
<td>43.433</td>
<td>1</td>
<td>43.433</td>
<td>1.67</td>
<td>.201</td>
</tr>
<tr>
<td>Interaction</td>
<td>87.584</td>
<td>1</td>
<td>87.584</td>
<td>3.37</td>
<td>.071</td>
</tr>
<tr>
<td>Residual</td>
<td>1452.5</td>
<td>56</td>
<td>25.938</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1621.9</td>
<td>59</td>
<td>27.490</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 15.
Cell and Marginal Means and Standard Deviations of RET Scores by Subjects High and Low in Immediacy and Congruency

<table>
<thead>
<tr>
<th></th>
<th>High Immediacy</th>
<th>Low Immediacy</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>46.89</td>
<td>48.27</td>
<td>47.40</td>
</tr>
<tr>
<td>Congruency</td>
<td>(4.93)*</td>
<td>(4.10)</td>
<td>(4.62)</td>
</tr>
<tr>
<td>n = 19</td>
<td>n = 11</td>
<td>n = 30</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>47.63</td>
<td>44.00</td>
<td>45.33</td>
</tr>
<tr>
<td>Congruency</td>
<td>(5.02)</td>
<td>(5.74)</td>
<td>(5.68)</td>
</tr>
<tr>
<td>n = 11</td>
<td>n = 19</td>
<td>n = 30</td>
<td></td>
</tr>
<tr>
<td></td>
<td>47.26</td>
<td>46.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(4.97)</td>
<td>(4.92)</td>
<td></td>
</tr>
<tr>
<td>n = 30</td>
<td>n = 30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Standard deviations are in parentheses.
A concern in these analyses was that the division of Immediacy and Congruency scores according to their means may have created artificial groups of scores which were not reflected in the natural distribution of scores. In this case, statistically significant differences between the RET scores of these groups may not have been found because in reality the groups that these scores were based on did not exist in the natural distribution of scores. For instance, if the distribution of scores were preferentially clustered around the medians then it was possible that in reality only one group of scores existed and that dividing them artificially into two groups around the median created two groups that differed little in the postures exhibited. The differences between the RET scores would, therefore, not likely be significantly statistically. The frequency distributions of Immediacy and Congruency scores are shown in Appendix C.

The distribution of Congruency scores indicated that all of the scores were not located near the median. Thus using the Congruency median score to divide the subjects into two groups successfully created two groups of subjects differing in Congruency. In contrast, the preferential distribution of Immediacy scores around the median (14 of 30 Immediacy scores fell within ten points of the median of 172) suggested that this division of subjects may not have successfully divided the subjects into two groups differing in Immediacy.

To determine whether another method of dividing scores should have been used, the differences between the mean RET scores of groups divided by the median were compared with the differences between the mean RET scores of two groups divided by the median after the scores of the 14
modal immediacy scores were eliminated. The mean of the RET scores above 172 was 47.26. The mean of the RET scores above 172 after the 14 modal scores were eliminated was 46.13. Therefore, differences among cell means in either a one-way or two-way ANOVA using the revised high immediacy scores would be even less than in the present analyses and would be less likely to show significant differences statistically.

Reliability of Observers

Two observers judged the occurrence of therapist eye contact and smiling during each interview. They also judged the degree of immediacy of both the subjects' and therapist's postures during each interview. The two observers' judgements of eye contact, smiling, and immediacy were compared after viewing each videotape and the number of times that the judgements disagreed was recorded. A 90% criterion level of concurrence was set for judging the occurrence of eye contact, smiling, and immediacy.

Reliability of Immediacy Ratings.

The two observers judged the immediacy of the therapist's and subjects' postures 240 times during each interview as was previously explained. To attain the 90% reliability criterion, the observers' judgements had to agree at least 216 of 240 times during each interview. Therefore, the two observers could disagree less than 24 times during every interview.

The two observers attained this performance criterion during every interview for both the therapist's and subjects' postures. Figures 2, 3
and 4 present the number of times the two observers disagreed in their judgements of immediacy for each session. In every case they disagreed less than 24 times a session. In addition to showing that the observers attained the criterion level of reliability, the figures also seem to suggest that there was no noticeable drift in judgements over the course of the 60 interviews.

Reliability of Recording Eye Contact and Smiling.

The two observers made 60 judgements on whether eye contact and smiling occurred during each interview. To attain the 90% criterion level of reliability the judgements had to agree at least 54 of 60 times during each interview for each behavior. Therefore, the two observers could disagree less than six times during each interview for each behavior. The two observers attained this criterion of reliability during every interview for both eye contact and smiling. Figures 5, 6 and 7 present the results of the eye contact concurrence data, and Figures 8, 9 and 10 present the results of the smiling concurrence data for each session.

In every case the number of disagreements in recording occurred less than 6 times in any one session, as depicted by the dotted line. The figures also seem to suggest that there was no evidence of drift in recording during the course of the 60 interviews.
Figure 2. Observer disagreement scores for therapist postures during approach treatment interviews.

Figure 3. Observer disagreement scores for therapist postures during avoidance treatment interviews.

Figure 4. Observer disagreement scores for therapist postures during posture sharing treatment interviews.
Approach Interviews

Figure 5. Observer disagreement scores for eye-contact during approach treatment interviews.

Avoidance Interviews

Figure 6. Observer disagreement scores for eye-contact during avoidance treatment interviews.

Posture Sharing Interviews

Figure 7. Observer disagreement scores for eye-contact during posture sharing treatment interviews.
Figure 8. Observer disagreement scores for smiling during approach treatment interviews.

Figure 9. Observer disagreement scores for smiling during avoidance treatment interviews.

Figure 10. Observer disagreement scores for smiling during posture sharing treatment interviews.
Interviewer's Behaviors

Occurrence of Treatment Behaviors.

Three different treatment conditions were used in a random order in this study. The interviewer displayed approach postures during 20 sessions, avoidance postures during 20 sessions, and posture shared during 20 sessions. During the approach sessions the interviewer was trained to display approach behaviors a minimum of 90% of the time. To attain the performance criterion the interviewer had to obtain an immediacy score of at least 216. Therefore, to attain the performance criterion he had to be rated as displaying avoidance behaviors 24 times or less during each approach session. The reverse of this procedure was used to determine whether the interviewer attained criterion performance during the avoidance sessions. In other words, to attain the performance criterion the interviewer had to be rated as displaying approach behaviors 24 times or less during each session.

During the posture sharing sessions the interviewer had to display congruent behavior a minimum of 90% of the time to attain performance criterion. This is a congruency score of 216 or better. He could only be rated as noncongruent 24 times or less during each posture sharing session to attain the performance criterion.

The interviewer attained the performance criterion during every approach and avoidance interview. The interviewer did not attain the performance criterion during three of the posture sharing sessions. Figure 11 presents the number of times the interviewer displayed
avoidance postures during each approach session, figure 12 presents the number of times the interviewer displayed approach postures during the avoidance sessions, and figure 13 presents the number of times the interviewer displayed noncongruent postures during the posture sharing sessions. In each case the cut off score for attaining the performance criterion was 24 or below. The interviewer missed the performance criterion during sessions 26, 38 and 43 as shown in figure 15.

Extraneous Variables.

The interviewer was trained to maintain eye contact a minimum of 90% of the time, and to smile less than 20% of the time during the interviews. The observers judged whether eye contact or smiling occurred during each of 60 observation periods. To attain the performance criterion for eye contact the interviewer had to maintain eye contact during 54 or more observation periods, and smiling during 6 or less periods. The interviewer could avert his eyes only six times or less and smile six times or less to attain the performance criteria.

Figures 14, 15 and 16 present the number of times the interviewer averted his eyes during each interview, and figures 17, 18 and 19 present the number of times the interviewer smiled during each interview. The interviewer failed to maintain eye contact 90% of the time during interviews 16 and 17 but attained the smiling performance criterion.
Figure 11. Number of avoidance behaviors displayed by therapist during approach treatment sessions.

Figure 12. Number of approach behaviors displayed by therapist during avoidance treatment sessions.

Figure 13. Number of noncongruent behaviors displayed by therapist during posture sharing treatment interviews.

Note: --- indicates level below which criterion attained.
Figure 14. Occurrence of eye-contact during approach treatment interviews.

Figure 15. Occurrence of eye-contact during avoidance treatment interviews.

Figure 16. Occurrence of eye-contact during the posture sharing treatment interviews.

Note: —— indicates level below which criteria attained.
Figure 17. Occurrence of smiling during approach treatment interviews.

Figure 18. Occurrence of smiling during avoidance treatment interviews.

Figure 19. Occurrence of smiling during posture sharing treatment interviews.

Note: —— indicates the level below which criteria attained.
To determine whether eye contact and smiling preferentially occurred during any of the treatment conditions, two one-way analysis of variance were computed. In the first analysis of variance the three treatment conditions were the independent variables and the occurrence of eye contact was the dependent variable. In the second ANOVA, the three treatment conditons were the independent variables, and the occurrence of smiling was the dependent variable.

The first ANOVA indicated that there was no statistically significant difference in the occurrence of eye contact between the three treatment conditions ($F = .8821, p > .419$)(see Table 8). The second ANOVA indicated that there was no statistically significant difference in the occurrence of smiling between the three treatment conditions ($F = 1.286, p > .284$)(see Table 9). The cell means and standard deviations for the occurrence of smiling are presented in Figure 22. The cell means and standard deviations for the occurrence of eye contact are presented in Figure 23.

---

Table 16.
Sources of Variance of One-way ANOVA for Eye Contact

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>6.633</td>
<td>2</td>
<td>3.317</td>
<td>.882</td>
<td>0.419</td>
</tr>
<tr>
<td>Residual</td>
<td>214.300</td>
<td>57</td>
<td>3.760</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>220.933</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 17.

**Sources of Variance of One-way ANOVA for Smiling.**

<table>
<thead>
<tr>
<th>Source of Variance</th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>3.700</td>
<td>2</td>
<td>1.850</td>
<td>1.28</td>
<td>0.284</td>
</tr>
<tr>
<td>Residual</td>
<td>81.950</td>
<td>57</td>
<td>1.438</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>85.650</td>
<td>59</td>
<td>1.452</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Rapport Experience Test**

A measure of the internal consistency of the RET was obtained by computing a Chronbach alpha. A coefficient of .77 was obtained with an n = 11. In addition, Pearson product moment correlation coefficients were obtained between the scores on each scale item and the total RET scores. All of the scale items obtained coefficients above the +.20 cut off value recommended by Harris (1968). Figure 20 presents the coefficients of this analysis.

A measure of stability of the test over time, test-retest reliability, was obtained by computing a Pearson product moment correlation coefficient between the total test scores on the post-test and the total test scores on the retest. A coefficient of .85 was obtained. In addition, a Pearson product moment correlation coefficient was computed between each individual scale item on the post-test and its complementary item on the retest. Only one item (i.e., accepted -
unaccepted) obtained a coefficient below $r = .50$. Figure 21 presents the results of this analysis.

The subjects' scores on the RET obtained a test-retest reliability coefficient of .85, and a Chronbach alpha of .77. The test-retest reliability coefficient suggested that the test reliably assessed the same domain of behavior over time, and that the individual test items maintained their original meaning to the subjects' over time. In other words, after waiting an hour to take the test a second time the subjects interpreted the meanings of the test items very similarly to how they did during the post-test, and marked the items as though the meanings of the items had the same or similar relevance to their experience as they had when they marked them during the post-test.

The Chronbach alpha of .77 indicated that the test was reliable and the test items were internally consistent. Chronbach's alpha is a more conservative estimate of reliability as was previously discussed because more sources of variance enter into computing it. For this reason, both of these indications of reliability were considered comparable and complementary.
Figure 20. Pearson product moment correlation coefficients between individual scale items and total scores on the final form of Rapport Experience Test.

Figure 21. Pearson product moment correlation coefficients between individual post-test and retest scale items.
Six studies in the reviewed literature specifically investigated the relationships between posture and feelings of rapport, or feelings akin to rapport, with designs more rigorous than simple description of clinical and anecdotal evidence. These will be referred to as key studies (D'Augelli, 1974; LaFrance, 1979; LaFrance & Broadbent, 1976; Mehrabian, 1968a; Smith-Hanen, 1977; and Trout & Rosenfeld, 1980). Only one of these studies directly contrasted the effects of the two postures most often hypothesized to be responsible for the nonverbal communication of rapport (Trout & Rosenfeld, 1980). Only four specifically examined the relationship between posture and the experience of rapport (D'Augelli, 1974; LaFrance, 1979; LaFrance & Broadbent, 1976; and Trout & Rosenfeld, 1980). However, methodological inadequacies in the reviewed research made the results difficult to interpret, compare and replicate.

The present study was pursued with the goal of correcting some of these methodological inadequacies to perhaps gain a better understanding of the relationships between posture and the experience of rapport. Specifically, an attempt was made to 1) establish the reliability and validity of the dependent measure, 2) insure the reliability of the behavioral observations, 3) control the effect of important extraneous variables, 4) insure the employment of the independent variables, and 5)
increase the generalizability of the results.

The present study obtained results that were discrepant with all of the key studies other than D'Augelli (1974). The results of the present study indicated that null hypotheses 1 through 7 should be retained suggesting that there were no relationships between approach or congruent postures and the experience of rapport. Similarly, the D'Augelli (1974) study suggested that there were no relationships between approach postures and the experience of rapport, but did not investigate the relationship between congruent postures and rapport. LaFrance (1979), and LaFrance and Broadbent (1976) reported statistically significant relationships between congruent postures and the experience of rapport. Mehrabian (1968a), Smith-Hanen (1977) and Trout and Rosenfeld (1980) reported statistically significant relationships between approach postures and feelings akin to rapport, but no relationship or a much lesser relationship between congruent postures and the experience of rapport (Trout & Rosenfeld, 1980). The results of the key studies and the present study are discussed below in view of the limitations of the studies.

**Internal Validity**

**Reliability of Dependent Measures**

Only two studies (D'Augelli, 1974; and LaFrance, 1979) reported data about the reliability of their dependent measures. D'Augelli (1974) reported that his measure of rapport obtained an unspecified measure of internal consistency of $r = .73$. LaFrance (1979) reported
that the scores on her measure of rapport correlated with the evaluation items on Osgood, Suci and Tannenbaum's (1957) semantic differential $r = .70$, and said that this was evidence of reliability. However, this was really an assessment of the criterion validity of the dependent measure and not an assessment of its reliability. Therefore, the D'Augelli (1974) study was the only one of the six key studies that reported data about the reliability of the dependent measure.

The present study obtained two types of reliability data. First, an assessment of the internal consistency of the RET scores was computed and a Cronbach alpha of .77 was obtained. This score is comparable to the measure of internal consistency obtained by D'Augelli (1974). In addition, a measure of test-retest reliability of one hour duration was computed and resulted in a coefficient of $r = .85$. Although a longer test-retest time duration may have been desirable, the reliability data presented in the present study is clearly better than that reported in the six key studies.

The greater reliability a dependent measure has the more confidence can be placed in results obtained from that measure. The results of the D'Augelli (1974) study and the present research complement and support each other in that neither study found a significant relationship between approach postures and the experience of rapport. At the least, poor reliability of the dependent measure can with some confidence be ruled out as the reason for obtaining a nonsignificant relationship between these variables in the present study.

Three studies that investigated the relationship between approach postures and feelings akin to rapport, and that did not report data
about the reliability of the dependent measures reported a positive relationship between approach postures and these feelings (Mehrabian, 1968a; Smith-Hanen, 1977; and Trout & Rosenfeld, 1980). It is difficult to determine how much confidence can be placed in results obtained from dependent measures which may be unreliable.

A more critical analysis of the individual test items used in the present study suggests that the reliability of the RET may be improved further by the deletion of one of the scale items. The accepted-unaccepted scale item obtained a test-retest correlation coefficient of $r = .22$. This was by far the lowest coefficient of any of the individual scale items. In addition, this same item obtained the second lowest measure of internal consistency obtaining a correlation coefficient with the total test scores of $r = .42$. It may be assumed that this item lacked the clarity of meaning needed to be a reliable item on this measure of rapport. It is suggested that if this test is used in future research, that this item be dropped from the test.

Another problem with the RET is its questionable validity. The validity of the RET at present rests solely on the face validity of the individual scale items as was discussed in the Development of the Rapport Experience Test section of this paper. A more objective form of validity needs to be provided. Perhaps some measure of criterion based validity can be established between subjects' experience of rapport as measured by the RET, and trained observers' assessment of rapport as measured by the clinical scales of Truax and Carkhuff (1967). In this way more confidence can be placed in the validity of the RET.
Validity aside, the two measures of reliability obtained for the RET suggested that it may be used with some confidence in future research investigating the experience of rapport. Goudy and Potter (1975) reviewed the literature on rapport and suggested that one of the basic weaknesses in this area of research was that the results of different studies could not be directly compared or replicated because of the lack of reliable and theoretically based assessment devices for rapport. The RET may help mitigate some of these difficulties.

Reliability of Observations and Employment of Treatment Variables.

The six key studies demonstrated their greatest methodological rigor in insuring inter-rater reliability and employment of the treatment variables. The three studies in which the use of observers was required all used two or more observers and reported the inter-rater reliability. D'Augelli (1974) reported that his observers obtained inter-rater reliability coefficients of between .73 and .92, depending on the behaviors being rated. LaFrance (1979) reported a coefficient of .92, and LaFrance and Broadbent (1976), a coefficient of .90. The observers in the present study agreed in their judgements of posture, smiling and eye contact more than 90% of the time for each behavior during every interview. Confidence can be placed in the results of these studies at least to the extent that the observation of the behaviors were reliable.

The three studies in which it was important to insure that the treatment variables were fully implemented generally gave evidence that this had been done. Mehrabian (1968a) fully described the photographs
which he used as treatment stimuli in the body of his paper. Trout and Rosenfeld (1980) described the contents of the 40 second videotapes they used as treatment stimuli, and Smith-Hanen (1977) described the contents of the 30 second videotapes they used as treatment stimuli. It is assumed that these are accurate descriptions.

The present study was the only study that used live treatment stimuli. Therefore, a more complex process to insure the employment of the treatment stimuli was used. The interviewer clearly displayed approach postures during the 20 approach treatment interviews. This was not hard to do because the interviewer merely had to seat himself so that all four parts of his body depicted approach postures and remain in this position for the rest of the interview. Likewise, the interviewer clearly displayed avoidant postures during the 20 avoidance interviews. This was easy for the interviewer to do for the same reason.

The interviewer depicted congruent postures more than 90% of the time overall during the posture sharing interviews even though this was a more difficult task. This task was more difficult because the interviewer had to continually monitor the subjects' postures and his own postures, and adapt his posture to match theirs. The more active the subjects were the greater difficulty the therapist had maintaining congruent postures since there was a greater likelihood of the interviewer missing or misinterpreting the postural shifts during the course of the interview.

The interviewer did not depict congruent postures 90% of the time during three individual posture sharing interviews. During these three interviews he depicted congruent postures 87%, 89% and 89% of the
time. The sample size for each treatment condition was large enough (n=20) and the interviewer's failure rate during those three interviews small enough (3, 1 and 1 percent respectively), that it is assumed that decreasing the percent of congruent posture by less than one-half of one percent overall did not seriously bias the results.

The interviewer maintained eye contact on average more than 90% of the time, and smiled less than 10% of the time during any individual interview, and only maintained eye contact less than 90% of the time during two interviews. Again, it is assumed that decreasing the amount of eye-contact less than one-half of one percent overall did not seriously bias the results.

The treatment variables appear to have been employed in the present study as well as in the Mehrabian (1968a), Trout and Rosenfeld (1980) and Smith-Hanen (1977) studies. Therefore, confidence can be placed in the results of these studies at least to the extent that the treatment variables were fully implemented.

Extraneous Variables

An attempt was made to insure that four nonpostural variables which the reviewed literature suggested affected the experience of rapport were not preferentially exhibited during any of the treatment conditions. These variables were eye-contact, smiling, proximity of interactants, and the content of the verbalizations. This was accomplished more successfully in the present study than in three of the key studies (D'Augelli, 1974; LaFrance, 1979; and LaFrance & Broadbent, 1976), but not as successfully as in three of the key studies.
1976), but not as successfully as in three of the key studies (Mehrabian, 1968a; Trout & Rosenfeld, 1980; and Smith-Hanen, 1977).

D'Augelli (1974), LaFrance (1979), and LaFrance and Broadbent (1976) made no apparent effort to control for any of these variables. All three of these studies used observations of naturally occurring interactions which were beyond their power to control. LaFrance (1979), and LaFrance and Broadbent (1976) observed interactions in a classroom setting while D'Augelli (1974) observed interactions in a group therapy setting. The degree to which the group leader or teacher maintained eye-contact or smiled with each student or group member, the distance they sat from the interactants, and the verbal content of the interactions could not be controlled. There was no way of knowing from the data reported whether the relationships that were found between congruent postures and the experience of rapport were due to congruence in postures as the authors concluded or to the preferential occurrence of extraneous variables while those postures were being exhibited. Inversely, there was no way of knowing whether there really were no relationships between approach postures and the experience of rapport in the D'Augelli (1974) study or whether extraneous variables counteracted the effects of the approach postures.

The present study appears to have controlled these variables somewhat better than the three previously discussed studies. In the present study the interviewer and subject sat the same distance apart during every interview. The interviewer was trained to maintain eye-contact 90% of the time and to smile less than 10% of the time during every interview, and to ask the subjects a standard list of questions.
There seems little question that the proxemic variable was well controlled in the present study. Similarly, the occurrence of eye-contact and smiling did not vary across the three treatment conditions as suggested by the results of the ANOVA's presented in the Results section of this paper. This suggests that these variables were also well controlled.

One concern in the present study was the arbitrary assignment of the 90% criterion level for eye contact and the 20% criterion level for smiling. If the criterion levels of these behaviors did not approximate the incidence of these behaviors in naturally occurring interactions then the possibility existed that the unusual frequency of occurrence of these behaviors may have interacted with treatment effects to bias the results and prohibit the obtainment of statistically significant results. For instance, if smiling naturally occurs more than 20% of the time during most therapeutic interactions then the decreased incidence of smiling during the interviews may have decreased the degree of rapport experienced by the interactants and restricted the possible range of scores on the RET. Similarly, eye-contact naturally occurs less than 90% of the time during therapeutic interactions then the increased incidence of eye-contact during the interviews may have increased the degree of rapport experienced by the interactants and restricted the range of scores on the RET. It is suggested in future research that several different criterion levels be set for eye-contact and smiling and that the results of these different groups be compared and perhaps counterbalanced in the final analyses.
A more subtle concern is whether the type of smiling that did occur varied systematically across treatment conditions. Ekman and Friesen (1982) suggested that different types of smiles could communicate entirely different affective states. Specifically, they identified what they called felt smiles and miserable smiles. They suggested that felt smiles used only symmetrical zygomatic major and orbicularis oculi muscle groups, while miserable smiles used asymmetrical zygomatic major muscles groups. If the type of smile varied systematically across groups then it would be difficult to determine whether the relationships between treatment variables and the experience of rapport were due to the treatment variables or to differences in types of smiling.

In the present study, the interviewer displayed a noticeable difficulty preventing himself from smiling during several of the interviews. The specific interviews during which this occurred were not recorded. However, if the interviewer prevented himself from smiling and as a result exhibited miserable smiles during some interviews rather than felt smiles, then the effect of the treatment variables may have been confounded by the type of smile portrayed.

Perhaps certain postural configurations did elicit the experience of rapport in the present research. For instance, suppose that whenever the subjects and interviewer were in congruent approach postures they experienced rapport. Suppose also that they were more likely to smile while experiencing rapport in this posture to communicate their pleasure. The subjects would probably have exhibited felt smiles. The interviewer on the other hand may have tried to prevent himself from smiling and may as a result have exhibited miserable smiles rather than
felt smiles. Therefore, the miserable smiles would have more likely occurred when the interviewer and subjects were in those postures that elicited rapport. If the subjects interpreted the miserable smiles as dislike or rejection then the experience of rapport elicited by the specific postures would have been counteracted by the preferential occurrence of miserable smiles by the therapist. The results may have been that no relationships were found between postures that elicited rapport and the experience of rapport because of this confound.

The verbal content of the interactions was more difficult to control. Although a standard list of questions was used to help insure that the content was similar in each interview, the order in which the questions were asked and the number of questions asked were not the same during every interview. The order in which the questions were asked and the number of questions asked during each interview varied depending on the completeness of the answers, the areas of greatest interest to the subjects, and the spontaneity of the subjects. The number of questions asked varied from about 5 to 35. A record of how many questions were asked during each interview was not kept because it was not anticipated that this would be an important variable. If the number of questions asked or the types of questions asked varied systematically across treatment conditions then the results of the research could have been confounded.

Three studies controlled the effects of the extraneous variables more effectively than the present study. Smith-Hanen (1977), Mehrabian (1968a), and Trout and Rosenfeld (1980), used photographic or videotaped
stimuli which allowed them to rigidly control the stimuli that was presented to the subjects. Smith-Hanen (1977) and Trout and Rosenfeld (1980) simply omitted the head in their videotapes to preclude the effects of eye-contact and smiling. Smith-Hanen (1977) had five raters judge the degree of empathy expressed in the verbal content of a number of videotapes and deleted those tapes with verbal content that expressed exceedingly high or low degrees of empathy. Trout and Rosenfeld (1980) simply omitted the audio track from their videotapes entirely to control for differences in verbal content. Similarly, the subjects in Mehrabian's (1968a) stimulus photographs wore masks so that facial cues could not be discerned and, of course, verbal communication was not possible. Control of proxemic cues was not a relevant concern in any of these studies.

The three studies that did not adequately control for the effects of extraneous variables concluded that congruent postures were related to the experience of rapport (LaFrance, 1979; and LaFrance & Broadbent, 1976), and that approach postures were not (D'Augelli, 1974). The three studies that best controlled these effects concluded that approach postures were associated with the experience of rapport (Mehrabian, 1968a; Smith-Hanen, 1977; and Trout & Rosenfeld, 1980), and that congruent postures were not (Trout & Rosenfeld, 1980). This simple comparison would suggest that poorly controlled research tends to obtain results which suggest that congruent postures are associated with the experience of rapport, while rigidly controlled research tends to suggest that approach postures are associated with the experience of rapport. However, what the rigidly controlled studies gain in
experimental rigor they may lose in the generalizability of their results, so this simple conclusion cannot be made.

**External Validity**

The treatment variables of the present study and the six key studies had very different stimulus properties. The stimulus properties varied in, 1) the degree to which the passage of time was depicted, 2) the types of treatment variables used, and 3) the number of persons employed to display the stimulus postures. For instance, the depiction of passage of time varied from zero seconds in the Mehrabian (1968a) study, to one hour in the LaFrance (1979) study. The types of treatment variables ranged from photographs in the Mehrabian (1968a) study to classroom interactions in the LaFrance (1979) study. The number of persons employed to display stimulus postures varied from 21 in the D'Augelli (1974) study to one in the present study.

The extent to which the research results of the present and the key studies can be generalized to the natural environment depends largely on the degree to which the experimental environment, including the stimulus properties of the treatment variables, resembles the natural environment. Specifically, the degree to which the results of the research could be generalized to therapy sessions depended largely on the degree to which the experimental environments resembled therapy sessions. Table 18 shows how the stimulus properties of the seven studies varied. The degree to which confidence can be placed in the generalizability of the results obtained from the various experimental
stimuli is ranked ordered for each category of stimulus property and summed across stimulus properties.

Table 18

Generalizability of Key Study Treatment Variables

<table>
<thead>
<tr>
<th>Study</th>
<th>Time</th>
<th>R/O</th>
<th>Type</th>
<th>R/O</th>
<th># R/O</th>
<th>Total R/O</th>
</tr>
</thead>
<tbody>
<tr>
<td>D'Augelli (1974)</td>
<td>4 min.</td>
<td>4</td>
<td>Group</td>
<td>1</td>
<td>21</td>
<td>1</td>
</tr>
<tr>
<td>LaFrance (1979)</td>
<td>one hour</td>
<td>1</td>
<td>Class</td>
<td>3</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td>LaFrance &amp; Broadbent (1976)</td>
<td>14 min.</td>
<td>2</td>
<td>Class</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Carcelli (this study)</td>
<td>10 min.</td>
<td>3</td>
<td>InterV.</td>
<td>2</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Trout &amp; Rosenfeld (1980)</td>
<td>40 sec.</td>
<td>5</td>
<td>Videos</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Mehrabian (1968a)</td>
<td>0 sec.</td>
<td>7</td>
<td>Photos</td>
<td>5</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Smith-Hanen (1977)</td>
<td>30 sec.</td>
<td>6</td>
<td>Videos</td>
<td>4</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: R/O indicates the rank order.

Population Validity

None of the key studies reported whether or how subjects' characteristics may have affected the results of their research. For instance, Borg and Gall (1979) suggested that volunteer subjects may differ from nonvolunteer subjects in several ways that might impact the results of the research. They suggested that volunteer subjects tend to be better educated, more intelligent, more sociable, more self-disclosing, more maladjusted, and have a greater need for social approval than nonvolunteer subjects.
These characteristics may have affected the results of the present research in several ways. For instance, more intelligent and better educated subjects may have been more aware of the treatment variables and more sensitized to them. The more social subjects may have compensated for any postures which adversely affected the experience of rapport with social skills of their own so that the negative effects of postures on the experience of rapport (perhaps by avoidance postures) would have been negated by the subjects. The subjects who had a higher need for social approval may have felt obliged to rate their experience of rapport on the RET higher than it really was to gain the approval of the therapist and experimenter. The maladjusted subjects may simply have been unaware of subtle interpersonal postural cues and less affected by them.

The present research used volunteer subjects as did the LaFrance (1979), and LaFrance and Broadbent (1976) studies. However, the present study and the LaFrance studies obtained very discrepant results. The present study found no relationship between congruent postures and the experience of rapport while the LaFrance studies found strong relationships. Even if the use of volunteer subjects did affect the results of these three studies, it is difficult to see how that affect was systematic.

Similarly, the three studies that reported using subjects who received class credit for their research obtained discrepant results. The research results of D'Augelli (1974) suggested that there were no relationships between approach postures and the experience of rapport,
while Mehrabian (1968a) and Trout and Rosenfeld (1980) suggested just the opposite. It is difficult to see how the use of nonvolunteer subjects systematically affected this research.

The extent to which personalological variables interacted with treatment were also of concern. The present study employed one graduate student to interview all of the subjects. It is difficult to know whether the results obtained in the present research would also be obtained using other people as interviewers. The interviewer that was employed was chosen because he had a relaxed and friendly demeanor. Perhaps the personal qualities of this particular interviewer were such that they overwhelmed the more sensitive postural cues. Perhaps significant results would have been obtained using other persons as the interviewer.

The number of persons employed in each study to display the postural cues is shown in Table 18. It does not appear that the discrepant results of the seven studies can be explained by the number of stimulus persons used in the studies.

Ecological Validity

Inherent in naturally occurring interactions is the passage of time. It is assumed that the degree to which confidence can be placed in the generalizability of results obtained from research investigating the relationships between postures and feelings of the interactants is directly related to the temporal qualities of the treatment stimuli used in the research. Mehrabian (1968a), Smith-Hanen (1977), and Trout and Rosenfeld (1980) used short videotaped segments of behavior or
photographs as treatment stimuli. The results of these three studies suggested that there was a statistically significant relationship between approach postures and the experience of feelings akin to rapport. Furthermore, the results of the Trout and Rosenfeld study suggested that there were no relationships between congruent postures and the experience of rapport.

Four studies employed treatment variables which spanned longer periods of time. D'Augelli (1974) employed four minute interactions and, in contrast to the preceding studies, found no relationship between approach postures and the experience of rapport. The present study employed 10 minute interactions and similarly found no relationship between approach postures and rapport, but also found no relationship between congruent postures and rapport. LaFrance (1979) and LaFrance and Broadbent (1976) employed longer 14 minute to one hour interactions and both found statistically significant relationships between congruent postures and the experience of rapport.

It may be that the relationships found between approach postures and feelings akin to rapport in the first three studies can only be obtained in experimental environments in which subjects are required to make quick decisions based on insufficient information. In this case the subjects may likely base their decision on the most obvious information available. These may be the gross cues provided by approach postures. It is doubtful that clients in therapeutic settings would base their trust in a therapist and allow the feelings of rapport to grow after an immediate glance or a 40 second perusal of the therapist. Therefore, the generalizability of the results of these studies to
naturally occurring therapy settings must be seriously questioned.

In contrast, subjects exposed to longer treatment periods may have discounted the obvious cues as lacking in sufficient discriminative information with which to base their decisions about trust and resultant feelings of rapport. When more time is available as in a therapy setting more subtle and discriminating cues may be used. This would be supported by the results of D'Augelli (1974) which suggested that feelings of rapport were not related to approach postures after a four minute interaction, and the results of LaFrance (1979) and LaFrance and Broadbent (1976) which suggested that congruent postures were related to rapport after 14 minute and one hour interactions. The present study employed 10 minute interactions and found that neither approach or congruent postures were related to the experience of rapport. Perhaps the ten minute time period was sufficient to negate the importance of approach postural cues but insufficient to establish the importance of the congruent postural cues.

The four studies which employed treatment variables with the longest treatment periods also used live and naturally occurring interactions. The results of three of these studies were in conflict. The present study employed live interactions and obtained results which suggested that there were no relationships between congruent postures and rapport. The LaFrance (1979), and LaFrance and Broadbent (1976) studies employed live naturally occurring interactions and obtained statistically significant results suggesting that there were relationships between congruent postures and rapport.
The discrepant results may be explained by the differences in treatment. The present study had subjects participate in an experiment which ostensibly would improve the skills of graduate student counselors. The subjects most probably did not volunteer to participate in the research because they had serious questions and doubts about their career goals which they wanted to discuss with a graduate student for ten minutes, but rather due to curiosity or simply wishing to help the experimenter. It may be supposed that the subjects were not very emotionally involved in the interview and probably were not motivated to be very revealing or expressive. In contrast, the subjects in the LaFrance (1979) and LaFrance and Broadbent (1976) studies were observed in naturally occurring interactions in which they were more likely to be emotionally involved and invested in performing well. Therefore, the subjects in the present study may not have been as sensitive to subtle postural cues as the subjects in the conflicting studies. Perhaps if the present study were replicated using naturally occurring therapy sessions in which the subjects were emotionally involved, then statistically significant results investigating relationships between congruent postures and the experience of rapport could be obtained.

Conclusion

The results of the present study suggesting that there were no relationships between approach, avoidant and congruent postures and the experience of rapport must be interpreted in light of the limitations of the research. Specifically the most prominent limitations which temper these conclusions are: 1) the lack of a measure of validity for the RET,
2) the difficulty controlling extraneous variables such as verbal content and miserable smiles, 3) lack of emotional investment in the experimental procedure by the subjects, 4) personal characteristics of the interviewer, and 5) the insufficient period of time to establish the experimental effects of congruent postures.

The difficulty with resolving these problems is that trying to improve internal and external validity at the same time is to some extent inherently paradoxical. Often, the better the internal sources of variance are controlled the more rigid and unnatural the research becomes and the less generalizable the results. Therefore, it may be suggested that two lines of research be pursued; one addressing the problems of internal validity and one addressing the problems of external validity.

Several steps may be taken to improve the internal validity of future research. First, the RET can be validated against some kind of criterion measure of rapport. Since the RET was based on Carl Rogers' (1957) concepts of unconditional positive regard, accurate empathy and emotional congruence, it is suggested that the RET be validated against an instrument that assesses the occurrence of these qualities. Presently, the instruments that best assesses these qualities are Truax and Carkhuff's (1967) clinical observation scales. In this case, trained observers could rate the degree of empathy, congruence and positive regard communicated by the therapist in an interview. The subjects could fill out the RET indicating the degree of rapport experienced in the interview. If the RET indeed assesses the emotional
experience resulting from the communication of empathy, congruence and positive regard then the degree of rapport experienced by the subjects as measured by the RET should be highly correlated with the observations of the therapist as measured by the clinical scales. In this way, criterion based validity may be established for the RET.

Second, the verbal content of the interviews could be better controlled. Perhaps, the best way to control for this problem is by asking every person the same questions. However, since persons differ in the degree to which certain question interest them and the degree to which they elaborate, the time to answer any individual question and all of the questions would vary greatly among subjects. Conversely, as was done in the present study, a set period of time could be given to answer as many of the questions as possible but the number of questions asked would then vary greatly among subjects. Perhaps these two approaches could both be used in a counterbalanced design in which half of the subjects in each treatment group participated in time constant interviews, and half in question constant interviews to determine whether the different approaches achieved different results.

Third, there are a series of variables which are even harder to control because they seem to have infinite degrees of freedom. For instance, smiling may appear in many guises. One may prevent themselves from smiling but as a result do something else unexpected as previously discussed. If they try to prevent themselves from doing this then they may do something unexpected again. This may be true of eye-contact, paralinguistic cues, facial expressions, etc. This regression of confounding communication variables seems very difficult to
successfully anticipate and control.

Rather than controlling for these variables directly a second tack may be considered in which the occurrence of these behaviors is allowed to occur naturally but are measured and statistically controlled. For instance, ongoing therapy sessions could be used rather than contrived interviews. A series of sessions could be videotaped and the critical behaviors recorded. In addition, independent observers could rate the degree of rapport exhibited in the sessions on Truax and Carkhuffs (1967) clinical scales, and the clients could rate the degree of rapport they experienced after every session on the RET. In this way a time series design could be used to study the relationships between nonverbal behavior and rapport.

Research which emphasized maintaining external validity by observing naturally occurring situations was pursued in the 1960's by Scheflen (1967) and Birdwhistell (1963). These researchers videotaped naturally occurring interactions and categorized the behaviors at a very fine level of observation. They used the data from the observations to develop complex theories about the nature of nonverbal communication. However, their research was anecdotal, not supported by statistical analysis, and not correlated with the internal states of the interactants. Perhaps the study of nonverbal behavior has gotten ahead of itself by trying too quickly to isolate the critical variables and test the effects of these variables. Rather it is suggested that a return to a more naturalistic approach be used in the future with a much greater emphasis on a statistical analysis of the observations. In this
The relationships between elements of communication and feeling states can be studied in their natural state and perhaps result in a clearer understanding of how human intervention can facilitate successful and emotionally rewarding interactions.
REFERENCES


Appendix A: Behavior Observation Form
Appendix B: Instructions for Rapport Experience Test
Self Report Form

The purpose of the Self Report Form is to measure how you felt during the interview. In filling out this form please make your judgements on the basis of how you felt during the interview. It may help to repeat before each item, "I felt ____". You are the judge of how you felt in the interview by marking each item in order. If you are not sure how you felt, what the words mean, or if the words don't make any sense to you, please try and mark the scale anyways, as best you can. Mark all of the items and mark them in order. For example, the following item would be marked in the box closest to "strong" if you felt very strong during the interview.

Strong   ____   ____   ____   ____   ____   Weak

If you felt very weak you would mark it the following way:

Strong   ____   ____   ____   ____   ____   Weak

And if you felt neither strong or weak, then you would mark the item in the following way:

Strong   ____   ____   ____   ____   ____   Weak

Please complete every item and complete every item in order.
Appendix C: Frequency Distributions of Congruency and Immediacy Scores
Frequency Distributions of Congruency and Immediacy Scores

Indicates medians.
Lawrence Anthony Carcelli  
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Brigham City, Utah 84302

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Home: 734 9345

Education

UTAH STATE UNIVERSITY

9/79 to present  
Doctoral candidate in American Psychological Association approved program in Professional-Scientific Psychology. This program is a combined clinical, counseling and school psychology curriculum. The program includes courses in psychological testing and assessment, diagnosis, statistics, research design and implementation, neuropsychology, psychopharmacology and clinical and consultation skills. A special emphasis is placed on practica experience. A Masters in Science was awarded in December of 1981. The expected completion date for the Ph.D. is March 1985. The proposed dissertation topic is The Effect of Therapist Approach Postures, Avoidance Postures, and Posture Sharing on Subjects' Experience of Rapport. Cumulative GPA: 3.9

UNIVERSITY OF CALIFORNIA, LOS ANGELES

9/73 to 6/76  
Undergraduate major: psychology. Strong emphasis in social and environmental psychology. Research involving attribution theory, childhood learning, and alcohol consumption was pursued under the guidance of four professors. Extracurricular activities included intramural sports, precinct worker in local political elections, playground supervisor in elementary schools. B.A. awarded with departmental honors in June of 1976.

Experience

PSYCHOLOGICAL CONSULTATION, WEBER STATE COLLEGE, DEPARTMENT OF CONTINUING EDUCATION, OGDEN, UTAH

10/84 to present  
Provided consultation for screening of applicants to adolescent residential treatment facility. Provided group therapy for the adolescents and parent training for the parents of the adolescents; 6 hours a week.
ASSOCIATE PSYCHOLOGIST, BEAR RIVER MENTAL HEALTH SERVICES, INC., BRIGHAM CITY, UTAH

10/85 to present

Provided outpatient and transitional services for a wide variety of clients, utilizing individual, marital, family, group and recreational therapies. Provided psychological evaluations and consultations for referring agencies and parties. Participated in interagency coordination of services; 20 - 25 hours a week.

CLINICAL PSYCHOLOGY INTERN, SALT LAKE VETERANS ADMINISTRATION MEDICAL CENTER

10/83 to 10/84

Psychology intern in American Psychological Association approved internship. Primary rotation on Inpatient Psychiatric ward. Responsibilities included: psychological evaluations and assessment, psychological consultation on interdisciplinary teams, delivery of psychological services including, individual, group and marital therapy, didactic patient education seminars, participation in ongoing research, professional presentation, development of treatment programs and behavioral interventions. In addition, secondary rotations included Surgery-Hemodialysis, Geriatrics-Neurology, and Outpatient Substance Abuse Clinic. Responsibilities on these rotations included: neuropsychological assessment and consultation with interdisciplinary team, delivery of psychological services to an alcohol and drug abuse population, including individual, group, family and marital therapy, and didactic lectures about alcohol and drug related issues. 40 hours a week.

EXTERN, BEAR RIVER COMMUNITY MENTAL HEALTH, BRIGHAM CITY, UTAH

1/82 to 8/83

Provided outpatient and transitional services for a wide variety of clients, utilizing individual, marital, family, group, and recreational therapies. Provided psychological evaluation and consultations for referring agencies and parties. Participated in interagency coordination of services; 20 hours a week.

PRACTICUM SUPERVISOR, UTAH STATE UNIVERSITY, LOGAN, UTAH

1/83 to 8/83

Provided therapy and assessment supervision for graduate students in psychology, working as therapists in community clinic; 5 hours a week.
THERAPIST, HILLSIDE ADOLESCENT RESIDENTIAL SCHOOL, LOGAN, UTAH

2/81 to 2/82
Provided individual and milieu therapy for disturbed adolescents in a private behaviorally oriented residential treatment program; 10 hours a week.

TEACHING ASSISTANT AND LECTURER, UTAH STATE UNIVERSITY, LOGAN, UTAH

9/81 to 1/82
Helped develop curriculum and testing for undergraduate behavioral psychology course. Lectured occasionally; 10 hours a week.

GRADUATE RESEARCH ASSISTANT, UTAH STATE UNIVERSITY, LOGAN, UTAH

3/80 to 6/81
Participated in the development and implementation of a major federal education research grant. Responsibilities included: developing assessment devices, and interviewing school district personnel in northern and central Utah; development of computer programs for the analysis of the data; writing and presentation of the research findings and presentation at national conventions; 20 hours a week.

PRACTICUM STUDENT, INTERMOUNTAIN INDIAN SCHOOL, BRIGHAM CITY, UTAH

9/80 to 2/81
Provided individual therapy for Indian students and coordinated psychological services with school personnel; 12 hours a week.

PRACTICUM STUDENT, HEAD START, LOGAN, UTAH

3/80 to 6/80
Developed behavioral programs for Head Start students, consulted with parents and teachers and directed parent training classes; 12 hours a week.

Publications

Carcelli, Larry and other. The effect of item format on phonics subtest scores of standardized reading achievement tests. Resources in Education, 1980. (ED 206 654)


White, Karl; Taylor, Cie; Carcelli, Larry; and Eldred, Nancy. Final Report: State refinements to the ESEA Title I evaluation and reporting system: Utah 1979-80 project. United States Office of Education.