THE EFFECT OF FILM-MEDIATED MODELS ON THE VERBAL
BEHAVIOR AND SELECTED ATTITUdINAL VARIABLES
OF PARTICIPANTS IN GROUP COUNSELING

APPROVED:

Graduate Committee:

Major Professor

Minor Professor

Committee Member

Committee Member

Dean of the College of Education

Dean of the Graduate School
The purpose of this study was two-fold. The main objective was to determine the effect of film-mediated models on the frequency of a specific quality of verbal responses which have been found to be indicative of high levels of therapeutic movement in group counseling. Secondly, this study examined the effect of models on selected attitudes of group counseling participants toward interpersonal interactions reflective of the intense interaction involved in therapeutic movement in group counseling.

Thirty-three graduate students in counseling, enrolled in a course in group counseling, were randomly assigned to either experimental or control conditions. The experimental treatment was exposure to a series of five five-minute audio-tapes or films of models engaged in verbal behavior representative of Quadrant IV of the Hill Interaction Matrix. Control subjects were exposed to five Placebo video-tapes. The Experimental and Control groups were shown their respective video-tapes immediately before the second through the sixth group sessions. Both groups experienced a total of fourteen
group counseling sessions lasting approximately one hour and forty-five minutes.

Frequency counts of verbal statements from time sampling taken from audio-tapes of the first, sixth, and fourteenth group counseling sessions were obtained. The HIM-B and the Discrimination Index were administered at the first, sixth, and fourteenth group sessions.

The data obtained were examined by means of an analysis of variance for repeated measures for each dependent variable. A separate simple analysis of variance was utilized for each variable to determine if any significant differences existed between Experimental and Control Groups before the study began. Results of this analysis indicated that there were no significant differences between Experimental and Control Groups on any of the four dependent measures at the beginning of the study.

It was hypothesized that the Experimental Group would manifest a higher mean gain in the frequency of Quadrant IV verbal responses on the Hill Interaction Matrix than the Control Group at the end of the experimental period, and at the end of the group counseling experience. It was also hypothesized that the Experimental Group would manifest a greater mean gain in both the Total Acceptance Score of the HIM-B and the Quadrant IV score of the HIM-B than the Control Group after the experimental treatment, and at the end of the group counseling experience. It was further hypothesized
that the Experimental Group would show a greater mean loss on Carkhuff's Discrimination Index than the Control Group at the end of the modeling series, and at the end of the group counseling experience.

Statistical analysis failed to confirm the research hypotheses. It was found however, that the Experimental Group experienced a significant mean loss over time (P .0002) on Carkhuff's Discrimination Index, although among groups, difference was not significant. Another finding was a mean loss for Experimental and Control Groups over time on the Quadrant IV Score of the HIM-B, with the loss experienced by the Experimental Group reaching significance, (P .05).

Analysis of the data indicated that for the sample studied, exposure to a series of filmed models did not produce a significant increase in the performance of the criterion behaviors in group counseling sessions. It was also noted that although significant change in both positive and negative directions occurred over time on two of the attitudinal measures, they were not significantly different from those experienced by the control subjects.

It was concluded that merely observing a model is not sufficient to produce matching behavior. For imitation of a complex response to occur, systematic manipulation of reinforcement and/or attentional variables must be employed.
THE EFFECT OF PIKX-AcCMENTED MODELS ON THE VERBAL
BEHAVIOR AND SELECTED ATTITUDINAL VARIABLES
OF PARTICIPANTS IN GROUP COUNSELING

DISSERTATION

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Larry V. Coff, B. S., M. S.
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CHAPTER I
INTRODUCTION

One of the tasks the counselor engaged in group counseling encounters is that of facilitating "therapeutic" interpersonal interaction composed of adaptive and emotional behavior within the group. Many of the potential client behaviors or responses felt to be of great therapeutic value to the clients themselves and other group members are behaviors which have either been inhibited, or are not a part of the repertoire of interpersonal behaviors of many group members. Wolpe (36), for example, cites the deficit of "assertive responses" in an individual's interpersonal behavior repertoire as an example of faulty habit formation that can interfere with interpersonal relationships. Carkhuff (10) emphasizes the therapeutic value of "confrontive" behaviors in facilitating the therapeutic process in individual counseling, and assigns such behavior a high place in his system of evaluating therapeutic facilitation. Hill (14) considers confrontive statements centered on interpersonal relationships existing in a counseling group to have the highest therapeutic potential. Although these responses are felt by Hill to be of maximum therapeutic benefit to
group members, and characterize the "highest" level of group interaction, they are also considered to be very difficult to facilitate in a group counseling relationship.

Interpersonal interactions characterized by behaviors such as those mentioned above are not, however, characteristic of most day-to-day encounters between people. Thus, the group counseling experience, where such behaviors are desired and valuable, becomes a unique, somewhat ambiguous stimulus situation. The group member finds himself in a new situation, surrounded by others with whom he may be unacquainted, in which the expectations and behavioral goals are relatively undefined.

A common response to such an experience is the emitting of some generalized social behaviors characteristic of responses to prior social experience, which rarely approximate the behaviors associated with significant therapeutic encounters. Such "trial and error" behavior is often seen during the early sessions of group counseling and is thought to represent attempts to "test" the social climate of the group situation. Hill (14) terms such behaviors "pre (therapeutic) work" in a group.

If the group counselor accepts the position that behaviors such as confrontive responses are desirable and valuable to the counseling process, his task becomes one of facilitating the emergence of these responses as quickly as possible in order for the members to experience maximum
therapeutic benefit from the group experience. Most traditional approaches to group counseling depend considerably on the group to grow and develop the behaviors characteristic of "high" levels of interaction over time. However, when a group can only meet a limited number of sessions, and the first six to eight of these sessions are characterized by "pre work" styles of interactions, the potential benefit of the group to its members is lessened.

In order to maximize the therapeutic benefit of group counseling, it is desirable that group members acquire and emit as quickly as possible those behaviors that have been found to be helpful to themselves and other group members. Lazarus (22) applies the term "Behavior Therapy" to a system based on principles of learning, which attempts to enhance the learning of adaptive behaviors in both individual and group counseling. Wolpe and Lazarus (37) apply such techniques to group situations through desensitization and assertive training, while Bandura (1) advocates the application of imitative learning or modeling to the acquisition of new responses and/or the disinhibition of previously learned responses. Modeling theory emphasizes the importance of observation of others as an efficient means of producing "no-trial" learning of a desired response.

The application of a behavior modification technique, such as modeling, would seem to be a potentially valuable
addition to traditional group counseling techniques for facilitating therapeutic movement in group counseling (22).

Statement of the Problem

The problem of this study was to determine the effect of film-mediated models on participants in group counseling.

Purpose of the Study

This study had a twofold purpose. The first of these was to examine the effects of exposure to a film-mediated model, which illustrated responses judged to be characteristic of therapeutic interaction, on verbal behavior in group counseling. The second purpose of the study was to determine the effect of film-mediated models on the discrimination ability and selected attitudinal dimensions of group participants.

Hypotheses

The following hypotheses were tested:

1. At the end of the experimental period (six sessions), the experimental Groups (receiving modeling) will exhibit a significantly greater mean gain in the number of verbal statements judged to be Quadrant IV behaviors, as described by the Hill Interaction Matrix, than the Control Group (receiving a placebo treatment).

2. At the end of the group counseling experience (fourteen sessions), the Experimental Group will exhibit a significantly greater mean gain in the number of verbal
statements reflecting Quadrant IV behavior, as described by the Hill Interaction Matrix, than the Control Group.

3. The Experimental Group will have a significantly greater mean gain on the Total Acceptance of Therapeutic Operations Score of the HIM-3 than the Control Group at the end of the experimental period.

4. The Experimental Group will have a significantly greater mean gain on the Total Acceptance of Therapeutic Operations Score of the HIM-B than the Control Group at the end of the group counseling experience.

5. At the end of the experimental period, the Experimental Group will exhibit a significantly greater mean gain on the Quadrant IV score of the HIM-3 than the Control Group.

6. At the end of the group counseling experience, the Experimental Group will have significantly greater mean gain on the Quadrant IV score of the HIM-B than the Control Group.

7. At the end of the experimental period, the Experimental Group will manifest a significantly greater mean loss on Carkhuff's Discrimination Index than the Control Group.

8. At the end of the group counseling experience, the Experimental Group will manifest a significantly greater mean loss on Carkhuff's Discrimination Index than the Control Group.
Background and Significance

The central concept of this study utilized a learning situation in which an observer was expected to acquire a new response as a result of observing a model perform such a response. This learning mode was first extensively described by Miller and Dollard (25) and later by Mower (27). The basic hypothesis of imitative learning is that an individual can learn new responses without directly experiencing the actual environmental learning conditions usually thought to be necessary to condition the new behavior. Thus, imitative learning is seen as a unique learning experience, independent of the trial and error behavior characteristic of S-R learning approaches and of the spontaneous occurrence of new adaptive responses described in cognitive learning theories.

The concept of modeling has been systematically described in detail by Bandura (1), who conducted much of the early research on the subject. This phenomena has often been referred to in the literature as imitative or observational learning, social learning, and vicarious learning. Bandura (1) has offered the term "no-trial learning." to describe the acquisition of a new response, or the disinhibition of a previously learned response through observing another person engaged in the type of behavior the observer is attempting to learn.
The general procedure is to present a model of the desired behavior to the observer via film, audio tape, or live enactment. The learning situation may also involve reinforcement of the observer for emitting the desired behavior after modeling, as procedure advocated by Bandura (1). However, Marlatt (23) contends that reinforcement is not necessary for behavioral change on the part of the observer.

Modeling procedures have been applied to various experimental and clinical situations and with a wide range of response acquisition criteria. Krumboltz and his associates have utilized modeling techniques to increase information seeking behavior in high school students (20), in promoting career planning (19), and in increasing "test wiseness" on the part of students (16). Bandura (2) cites research by Lovaas, which demonstrated the effectiveness of modeling in facilitating verbal behavior in schizophrenic children, while Bandura (2) was able to treat gross behavioral deficits in young schizophrenic children through social learning techniques. Paul (31) found the use of modeling to be quite efficient in reducing fear of public speaking, and Bandura, Blanchard, and Ritter (5) found exposure to live models engaged in "snake holding" to be superior to group desensitization and no treatment controls in helping fearful subjects handle snakes. O'Connor (29) increased social interaction in highly withdrawn children by introducing a sound film depicting a variety of social interactions, without
introducing reinforcement for the desired social behavior. Marshall and Hahn (24) were able to modify the play activity of young children by having the children participate in several sessions of doll play with an adult who enacted topics often seen in children's play. Play behavior subsequent to these sessions included increased amounts of dramatic play activity.

In an application of modeling techniques as a pre-training technique for counseling, Myrick (28) found that after being exposed to a model in which students talked about themselves, counselees subsequently seen in counseling began to talk about themselves and their "problems" sooner than did controls who had not experienced the modeling exposure. Similarly, Marlatt (23) found the use of models to be helpful in helping clients understand better their roles in the counseling relationship. Truax and Carkhuff (34) have indicated that clients who listened to tape recordings of "good" client behavior in counseling before entering into counseling manifested more positive changes on personality tests than clients who received no modeling. The important implication of the results of these studies is that certain client behaviors, which are felt to be beneficial to the process of counseling can be increased by the clients exposure to models engaged in the desired behavior. In addition, the time required before such behaviors are emitted by the client can be reduced by exposing the client to modeled behaviors prior to counseling.
Although references to the systematic application of modeling techniques to group counseling are scarce in the literature, modeling has been combined with other techniques and applied to group situations. Roffers, (32) provided group members with stimulus material illustrative of therapeutic group interaction, coupled with reinforcing feedback for behavioral approximations of such behavior within the group. Experimental subjects exhibited more of such behaviors than did Controls, although both groups increased significantly over time. Landy (21) was able to show an increase in the speculative dimension of the Hill Interaction Matrix on the part of an Experimental group after the group had viewed a video-tape of a T-Group. Yalom, et al. (38) found that a twenty-five minute preparatory lecture of group therapy contributed to a significant increase in interpersonal interaction within the group.

Bandura (1) cites as one advantage of modeling its efficiency for treating groups of people, particularly in film-mediated form. Through the use of this medium therapeutic films may be developed to be used in preventative programs directed against common fears before they become too strongly entrenched. The development of expressive emotional responses (i.e., confrontation, etc.) in group counseling, would seem to be fertile ground for a modeling approach designed to assist group members in becoming more expressive of the kinds of interpersonal interactions which
are helpful to themselves and other group members. Modeling techniques could be beneficial in helping group members develop desired behaviors more quickly, thus maximizing the therapeutic effects of group counseling procedures. If the behaviors associated with deep interpersonal interactions are developed and allowed to occur within the group, it seems likely that concomitant attitudes regarding a person's openness or closedness in relating to others would tend toward a position consistent with the new behavior, thus strengthening and solidifying the newly acquired response.

In addition to the practical significance described above, if it can be demonstrated that these complex social affective behaviors can be effectively transmitted via modeling, many implications for counselor training and practice come to light. Counselor education could develop a series of films, video-tapes and/or audio-tapes to further define and illustrate effective and facilitative counselor behavior in group counseling. In addition, providing counselor trainees with more concrete examples of the kinds of behaviors that contribute to therapeutic movement and personal growth would likely have a positive effect in facilitating constructive personal change in themselves. This would have the effect of increasing their effectiveness as counselors, thus providing their future clients with an additional model of a life style of behaviors which contribute to openness and honesty in interpersonal relationships. Since counselors
are a powerful model in counseling relationships, techniques
which facilitate personal growth in themselves would enhance
the likelihood that they would provide a model of more
effective living for their clients.

Definition of Terms

1. Film-Mediated Model--The film-mediated models for
this study were five, five-minute video tapes of inter-
personal interactions demonstrating behaviors judged to
represent high levels of groups interaction as defined by
the Hill Interaction Matrix.

2. Group Counseling--Group counseling as used in this
study has been accurately defined by Gazda (12) as

... a dynamic interpersonal process focusing on
conscious thought and behavior and involving the
therapy functions of permissiveness, orientation
to reality, catharsis, and mutual trust, caring,
understanding, acceptance, and support. The
therapy functions are created and nurtured in a
small group through the sharing of personal con-
cern with ones peers and the counselor. The
group counselees are basically normal in-
dividuals with various concerns which are not
debilitating to the extent of requiring ex-
tensive personality change. The group counselees
may utilize the group interaction to increase
understanding and acceptance of values and
goals and to lean and/or unlearn certain attitudes
and behaviors (p. 21).

3. Therapeutic Verbal Behavior was defined as verbal
behavior which is rated as characteristic of Quadrant IV
of the Hill Interaction Matrix. Specifically, Quadrant IV is composed of four of the sixteen cells comprising the Matrix (cells 13, 14, 15 and 16). Cell 13 is characterized by information seeking, advice giving, and speculation done in problem pretext. Cell 14 is composed of individual to individual and individual to group interaction. Feedback is vague, usually not volunteered, and given in such a manner as to avoid conflict or confrontation. Cell 15 includes clarification of personal behavior, traits, etc. by self or others with documentation (behavioral data). Discussion is about the psychological or adjustment problems which concern the topic-person as he is, was, or will be, independent of his relationship with other group members or the group as a whole. Cell 16 is characterized by requests for meaningful feedback by specifying and documenting the behavior that has caused the speakers reactions or has stimulated his interest in the relationship.

4. Therapeutic Group Interaction was operationally defined as interpersonal interaction composed of verbal behavior characteristic of Quadrant IV of the HIM.

Limitations

1. This study was limited to those graduate students enrolled in Education 574 (group counseling) at North Texas State University during the Spring semester, 1971.

2. The modeling exposure introduced in the Experimental Groups in this study was experienced by the Experimental
Groups only. Although an active Control Group was employed, some of the Experimental subjects and those in the Control Groups may have been acquainted with one another. Thus some "leakage" across groups may have occurred.
CHAPTER BIBLIOGRAPHY


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CHAPTER II

RELATED LITERATURE

Group Counseling Experience in Counselor Training

The inclusion of a group counseling experience for counselors in training is becoming an increasingly present practice in counselor education programs as an effective and economical means of bringing about increased sensitivity to others, and greater understanding of self. In addition, when the counselor trainee experiences group counseling for himself, he gains a greater understanding of the feelings his future clients will experience as they encounter the group counseling process. This contention has been borne out by experimental investigation conducted by Bonney and Gazda (21), Foreman (25), and Delaney (23). An added advantage to a group experience during training is the opportunity for counselor trainees to observe a trained counselor work in a group (21). By observing the experienced counselor, the counselor candidate is in a position to learn and is more likely to imitate later, effective techniques and behaviors of the group leader. Thus, the student counselor is exposed to an effective model engaged in the behaviors he is to learn and develop himself.
This learning phenomenon has been referred to in the literature as modeling, imitation, social learning, observational learning, vicarious learning, and matching behavior. The basis for modeling as a learning mode rests on the hypothesis that much human learning is acquired by observation and is not necessarily directly experienced by the learner. Undoubtedly, a great deal of incidental observational learning takes place. However, the behaviors that are observed and imitated may not be appropriate or beneficial to the observer. For instance, children often imitate selected behaviors of parents, other adults, or peers, much to the dismay and sometime embarrassment of their parents. Likewise, counselor educators desire that their trainees develop specified behaviors which will help them facilitate therapeutic movement and personal growth in their future clients. In order to increase the probability that these behaviors are the ones imitated or modeled from their group counseling experience, a more systematic approach to facilitate such learning is called for.

Theoretical Background of Modeling

The first systematic formulation of a theoretical base for modeling was published by Miller and Dollard (45) in their classic work Social Learning and Imitation. Miller and Dollard emphasized the role of reinforcement in the learning paradigm for what they call "matched-dependent" behavior. Such a position implies that an observer through trial and error may
match the behavior of a model which will then result in reinforcement to the observer. Thus, the model serves as a discriminative stimulus for behaviors already existing in the observer's behavior repertoire.

Mower (47) has proposed a theoretical system in which learning is mediated by emotions, which, through classical conditioning, are conditioned to stimuli associated with matching behavior. These affective experiences may be positive or negative. In Mower's system, two types of imitative learning can occur, and are distinguished on the basis of how the observer experiences reinforcement. In the first case, the observer is reinforced directly, while in the second instance, the observer observes the model experiencing reinforcement. The observer is subsequently likely to reproduce the models' behavior, experiencing himself the associated affective feedback.

Bandura (10) takes issue with both the reinforcement and sensory feedback theories of imitative behavior, and proposes instead a contiguity-mediational theory of observational learning. According to this formulation, observational learning involves an imaginal and a verbal representational system. Stimuli from the modeling experience are coded into images or words for memory transmission, storage, and recovery where they function as mediators for later response retrieval. Thus, the symbolic coding of modeling cues takes an important position in the
learning and retention of modeled behavior. The contiguity of sensory stimulation becomes the required condition for acquiring modeled behaviors.

Bandura (10) cites three distinct modeling effects: (1) modeling effects, whereby an observer acquires a new response pattern which had not been a part of his response repertoire, (2) inhibitory or disinhibitory effects, and (3) response facilitation effects in which no new behavior develops. The latter type of response is not due to disinhibition effects because the modeled behavior is socially sanctioned and not likely to have been previously punished.

Bandura (10) also makes a distinction between acquisition of a modeled behavior and performance of that behavior. Acquisition of a new response may occur without the newly acquired behavior being transmitted into an observable motor or verbal response. Performance of such a response is felt to be primarily influenced by the reinforcement conditions existing in the observer's environment.

Reinforcement Variables

Although Bandura's system emphasizes the importance of reinforcement on performance of a modeled response, it differs from Dollard and Miller's position in that reinforcement to the model is experienced as vicarious reinforcement by the observer. However, such reinforcement is not contingent upon the observers' behavior. Such an effect operates by providing the observer with knowledge regarding important
environmental stimuli. Several research studies tend to verify the potency of vicarious reinforcement in matching behavior. Bandura, et al. (14) found that social reinforcement of a model's responses can have a powerful effect on the observer's spontaneous reproduction of matching behavior. Adult models manifesting high achievement standards for self-reward received social approval for adhering to such standards. Child observers tended to impose on themselves similarly high performance standards.

Similarly, a study by Bandura (7), in which children were shown filmed aggressive models, in which the model was reinforced, punished, or experienced no consequences as a result of his behavior, supported the vicarious reinforcement hypothesis. Reinforcement to the model significantly influenced the observer's performance of the modeled response. Subjects viewing the film in which the model was punished showed significantly fewer matching responses.

Vicarious reinforcement was also found to increase the acquisition of certain words on the part of observers in a study by Kanfer and Marston (29), while direct reinforcement to the observers showed no additional effects. In yet another experimental test of the concept of vicarious reinforcement, Marston (42), utilizing a modification of Greenspoon's study, found that subjects receiving vicarious reinforcement learned faster on a verbal task than subjects who received no vicarious reinforcement. Bandura, Ross, and Ross (3)
discovered that the consequences to the model as a result of his behavior affected not only the frequency of matched behavior, but also the degree to which their subjects preferred to emulate the model.

Bandura and Walters (13) proposed that training under nonreinforcement conditions is sufficient to transmit at least some behavioral disposition for the observer to imitate the model. However, later theoretical formulations have somewhat obscured this point. A study conducted by Bandura and Hutson (5) tested the hypothesis that children involved in a discrimination task would also emulate irrelevant behaviors emitted by the model. School children were given a two choice discrimination task in which the model displayed explicit yet functionless behaviors during the trials. In subsequent test trials, subjects reproduced behavior similar to that displayed by the model.

Bandura and McDonald (8) in a test of modeling procedures in modifying moral judgmental responses, exposed one group of children to adult models expressing moral judgments counter to the groups orientation, and reinforced the children with social approval for adopting the models' evaluative responses. A second group of children also observed models, but received no reinforcement for matching responses, while a third group received no modeling exposure, but was reinforced for judgments counter to their evaluative tendencies. When tested for generalization effects, subjects
in both experimental treatment groups manifested changes in judgmental responses. It was concluded that modeling procedures were more effective than the operant procedure used and that the data had failed to confirm the hypothesis that the combined modeling and operant procedures would prove to be a more powerful learning procedure than modeling alone.

Similarly, Berger (20) concluded after a series of studies that observational learning can take place independent of reinforcement. By recording Galvanic Skin Response, Berger found a tendency for observers to imitate the model and practice the modeled response (selected excerpts of the alphabet for the deaf), during exposure to the model even though no reinforcement was given. As a further extension of the study, other subjects were told they would not participate in the experiment after the observation period, thus eliminating the anticipation of reinforcement for matching behavior. These subjects also manifested behavioral practice and imitation during the exposure period.

Behavior Contagion

A related phenomena of observational learning without contingent reinforcement to the observer has been termed "Behavior Contagion." Wheeler (59) cites Redl's definition of the contagion of behavior as "... an event in which a recipient's behavior has changed to become 'more like' that of the actor or imitator. This change has occurred in a social interaction in which the actor has not communicated intent to evoke such a change" (p. 322).
Flanders (24) further clarifies the relationship between behavior contagion and reinforcement: "Behavioral Contagion implies no necessary connection with vicarious reinforcement, because it is the response of the M per se which causes O's response" (p. 325). Similarly, Kelley (30) contends that merely observing a model emit a consistent pattern of responses without tangible reinforcement may imply some future unforseen reward.

Wheeler (58) places behavior contagion within the framework of conflict theory, in which the lowering of an observers' avoidance gradient in an approach avoidance conflict acts as a mediator in the observer's matching behavior. The extent to which an observer's response is an exact replica of the modeled response is dependent upon the initial strength of the observer's approach gradient in a given situation. Thus, the probability of behavior contagion occurring is increased when the observer's approach gradient is just slightly higher than the avoidance gradient. Wheeler (58) agrees with Bandura and Rosenthal's (16) observation that conditioned emotional reactions can be extinguished vicariously by having observers witness a model encounter aversive stimuli without experiencing any aversive or punitive consequences. However, Wheeler's (58) interpretation of vicarious extinction studies is that the absence of punishment or aversive consequences to the model lowers the observer's avoidance gradient. Wheeler, Smith, and Murphy
illustrated the foregoing principle with a study in which army recruits were seated in a waiting room containing magazines, darts, and shuffleboard. The men were told they could read magazines, implying a mild restraint to playing the games available. The subjects played games more readily and frequently when they observed the experimenter’s confederate playing with the games than when the stooge was not present or when he did not play the games himself.

Incentive Variables

Although there seems to be ample evidence that observational learning can take place under conditions of non-reinforcement, the mere acquisition of a modeled behavior is usually not sufficient. In most instances, such as counseling and education, learning must be transmitted into action. Bandura (10) cites increased positive incentives as a means by which this transmission may be accomplished. Bandura (7) found that when positive incentive conditions were introduced differences in frequency of aggressive behavior previously created between groups of children due to differing reinforcement modes disappeared. Lanzetta and Kanareff (36) also noted that the introduction of monetary incentives increased imitation on a modeled choice criteria.

In a study conducted by Mischel and Grusec (46), models shown to subjects were designed to be either rewarding or nonrewarding and to possess high or low control over the subjects. They found that models possessing the qualities
of high control and noncontingent rewardingness produced increased frequency of matching behavior. Similar results were reported by Hicks (28) and Liepert and Ora (38). Liepert and Ora (38) found that children exposed to models under high incentive conditions manifested more matching behavior than subjects under low incentive conditions on a self-reward criteria. Their data indicated that performance on the stated criteria was affected by the material value associated with the reward tokens.

An added influence of incentive conditions cited by Bandura (10) is that positive-incentive conditions affect imitation by selectively focusing the observer's attention toward the modeling cues.

Attentional Variables

A great deal of research time and attention has been devoted to investigating various physical and social characteristics of the model in relation to those same characteristics of the observer. The effect of the model's sex vis-a-vis the observers' was investigated by Rosenblith (52), who found the predicted effects only for male models and kindergarten girls, not kindergarten boys. However, Bandura, Ross, and Ross (3) found that children tended to identify with the adult model who was the source of reward rather than the passive adult also present during the study. Imitation across sex lines was also revealed as a result of identification with the source of reward power.
The variable of relative age and status of model and observer was found to influence modeling in children. Male peer models had the most immediate effect while male adult models had the most lasting effect in modeling of aggressive behavior after viewing filmed adult or peer aggressive models (28).

McMains and Liepert (40) in a study dealing with self-imposed reward systems found that subjects exposed to two consistent models matched more closely the stringent self-reward system of the model than subjects experiencing one or two discrepant models.

Social status of the model was found to influence matching behavior by Harvey and Rutherford (27), but these results were not replicated in a study by Bandura and Kupers (15).

Recently, Bandura (10) has proposed that the factors of model and observers similarly may serve as little more than attention cues, and that the inclusion of more overt and clear attentive elements may eliminate the need for matching models and observers characteristics. "Persons who are informed in advance that they will later be asked to reproduce a given model's response and rewarded in terms of the number of elements performed correctly would be expected to pay much closer attention to relevant modeling stimuli than persons who are exposed to the same modeled
events without any predisposition to observe and to learn them" (10, p. 137).

Symbolic Models

Models may be presented to observers either in live or symbolic form via film, video-tape, slides, or cartoons. Studies such as those conducted by Bandura, Ross, and Ross (6), Mussen and Rutherford (48), and Lovaas (39) have indicated that symbolic models may be as effective as live models in facilitating matching behavior.

Filmed models have been employed by Bandura, Ross, and Ross (6), Bandura (7), and Hicks (28) to model aggressive behavior. Bandura and Menlove (4) and Bandura and Rosenthal (16) utilized film models to facilitate extinction of children's fear of dogs with success.

Counseling as a Learning Process

Counseling theorists and practitioners have long viewed counseling as a learning experience for the client, although the nature of the learning process and what is learned has been debated. Patterson has stated: "It is generally agreed that counseling or therapy is a learning process. Clients learn from experiences in counseling as well as by verbal exploration" (50, p. 138). Krumholz has defined counseling more explicitly within the framework of his "reinforcement counseling" theory as: "... whatever ethical activities a counselor takes in an effort to help the client engage in
those types of behaviors which will lead to a resolution of the clients problems" (31, p. 384).

In order to accomplish the above goals, Krumboltz has suggested several "new directions" for facilitating change in client behavior. Among these suggested techniques is the use of models, about which he states: "The powerful effect of providing models of desired behavior is just now beginning to be explored" (32, p. 156).

Krumboltz (31) has further described the counseling process as a process of setting specific behavioral goals for the client to learn. He describes three basic types of behavioral goals as (1) altering maladaptive behavior, (2) learning the decision making process, and (3) preventing problems. By stating counseling goals in specific behavioral terms, Krumboltz feels that the ambiguity centering around the goals of counseling and therapy are greatly reduced. In addition, such a process allows for the development of new and more effective techniques for helping clients change their behavior. Also, such an approach to goal setting necessitates the development of unique goals for each client, and different criteria would have to be developed to assess the success of counseling for each client.

Similarly, Bandura (11) has described psychotherapy as a process in which the patient or client must learn new adaptive behaviors in order to cope with his problems. He also takes issue with those who view psychotherapy as a
process of only internal change, and emphasizes the need for the application of known learning principles to human problems.

**Use of Models in Counseling**

The pioneer research in the application of observational learning to counseling has been conducted by Krumboltz and his colleagues at Stanford University. Much of the original research in modeling approaches to counseling has dealt with information seeking behavior (ISB). Krumboltz and Thoreson (33) presented eleventh grade students with one of four treatment conditions: (1) reinforcement of verbal information seeking behavior, (2) exposure to an audio taped high school male model in an interview, after which the subjects received reinforcement counseling, (3) control condition, and (4) a placebo control in which subjects were shown a filmstrip followed by discussion. It was found that both reinforcement procedures resulted in significantly more information seeking behaviors, with the modeling procedure more effective for male subjects. Similar findings have been reported by Krumboltz and Schroeder (34), again using high school students as subjects and ISB as the criterion behavior.

The use of models in the vicarious desensitization of phobic behavior has been effectively employed by Woody and Schauble (66) in extinguishing fear of snakes in college students. Bandura, Blanchard, and Ritter (12) compared desensitization and modeling approaches in the extinction of
snake phobia. Results of their study indicated that exposure to live models engaged in snake holding behavior produced a greater increase in overt snake holding behavior than either desensitization or no treatment control conditions.

Bandura and Menlove (4) conducted a study with children manifesting fear of dogs. Subjects were assigned to groups who received either a filmed model engaged in progressively more intimate interactions with a single dog, a graduated film depicting a number of models interacting with numerous dogs, or a film in which no animals appeared. It was found that both single and multiple models lead to a reduction in fear of dogs, but only the multiple model weakened fears sufficiently for subjects to perform overt interactions with dogs.

In an earlier study, Bandura, Grusec, and Menlove (14) had successfully extinguished avoidance behavior to dogs in children by exposing subjects to a model interacting with a dog in a non-anxious manner. The model had performed approach behaviors to the dog and experienced no aversive consequences.

Again studying ISB as a criterion, Meyer, Strowid, and Hasford (44) employed four treatment conditions including verbal conditioning of ISB, tape modeled interview plus reinforcement, sound film plus reinforcement and a no-treatment control. Their findings indicated that all behavioral-reinforcement treatments produced significantly more ISB's.
One of the few studies evaluating the effect of modeling on interview behavior was conducted by Myrick (49) using audio taped models. He found that such procedures had an effect on the client's style of participation in the initial counseling interview. Client's verbal behavior was affected in that the frequency of self-reference statements during the interview was increased. Truax and Carkhuff (55) found that clients manifested positive changes on personality tests after being exposed to tape models of "good" therapeutic behavior (self-exploration).

Use of Models in Group Counseling

After a recent review of research regarding the use of models in counseling and therapy, Bourdon (22) notes the paucity of studies dealing with modeling in group counseling and therapy. Some initial work has been published by Truax and Carkhuff (54), who presented an audio taped recording of an explanatory lecture on the purpose of group psychotherapy to groups of hospitalized mental patients. Post-therapy testing using the Minnesota Multiphasic Personality Inventory indicated that subjects who were given group therapy pre-training showed greater constructive personality change than control subjects. Yalom, et al. (61) reports similar findings using a preparatory lecture on the basis and goal of group therapy. However, little has been published dealing with the effective use of modeling as an instrument for increasing therapeutic movement in group counseling.
Roffers (51) used contingent reinforcement in the form of a light going on in the group room whenever Quadrant IV responses of the HIM were emitted, and found that this procedure resulted in significantly more Quadrant IV responses than the Control Group which received no reinforcement. However, no change was reported on the HIM-B, which was utilized as an attitudinal measure.

Warner and Hansen (57) selected high school students who scored one standard deviation above the mean on Dean's Scale of Alienation and exposed them to one of four conditions: (1) Live models plus reinforcement, (2) Verbal reinforcement, (3) Placebo, and (4) Control. All treatment conditions occurred in a group counseling situation. Findings of this study indicated that both reinforcement conditions were effective in reducing alienation scores, but no difference was found between the model plus reinforcement and the verbal reinforcement groups.

In a study using sociometric status as a criterion, Hansen, Niland, and Zani (26) employed modeling plus reinforcement and verbal reinforcement in group counseling with elementary school subjects. They found that subjects with low sociometric status in the model plus reinforcement group made significantly more gain in social acceptance than subjects in the reinforcement counseling groups without models, and subjects in a no-treatment Control Group. A two month follow-up indicated that the achieved gains were maintained.
Summary

The foregoing review of the literature in the area of observational learning would seem to imply that imitative learning is an effective means of transmitting new responses to observers. There appears to be ample evidence that observers do acquire new responses as a result of observing models even without experiencing direct reinforcement for such behaviors.
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CHAPTER III

PROCEDURES FOR COLLECTION OF DATA

This study was designed to investigate the effect of film-mediated models on the performance of specific verbal responses in group counseling, as well as to study concomitant effects on attitudes toward such behaviors and the ability to discriminate therapeutically helpful counselor responses. In order to test the hypotheses formulated, a repeated measures design utilizing experimental and active control conditions was employed.

Subjects

Subjects for this study were thirty-three graduate students enrolled in two sections of Education 574 (Group Counseling), in the Counselor Education Department, North Texas State University, during the Spring semester, 1971. The sample included eleven males and twenty-two females, whose ages ranged from twenty-four to fifty-six, with a mean age of 31.24.

Subjects were randomly assigned to one of four counseling groups consisting of two Experimental Groups, one of eight members and one of nine members, and two Control Groups of eight members each. Subject assignment to groups
and designation of groups as Experimental or Control were accomplished by means of a table of random numbers.

Participation in a counseling group is required of all students enrolled in Education 574 because of its value in training and to provide an opportunity for group members to experience group counseling for themselves. Included in a mimeographed list of course requirements given to each subject during the first class meeting was the following statement: "Each class member is expected to become an active, contributing member of a counseling group."

These groups met for approximately one hour and forty-five minutes, once per week throughout the semester for a total of fourteen sessions.

Description of Counselors for the Study

Counselors for this study were four doctoral level graduate students in counseling. Counselors were randomly assigned to one of the four counseling groups by the experimenter prior to the first group counseling session. A brief description of these counselors' background and preparation is presented below.

Counselor A--Male, age thirty, assigned to Experimental Group. M. A. in Psychology plus fifty-four semester hours toward doctorate in counseling. Approximately 200 hours as a group member and 150 hours as a group leader. Has had teaching experience in psychology and experience as a psychologist in a mental health center.
Counselor B—Male, age twenty-eight. Assigned to Experimental Group. M. A. in Psychology plus sixty semester hours toward doctorate in counseling. Approximately 250 hours as a counseling group member and sixty-four hours as a group leader. Experience in child guidance clinic, mental retardation, and family counseling center.

Counselor C—Female, age twenty-seven. Assigned to Control Group. M. Ed. in Counseling and Guidance plus sixty semester hours toward a doctorate in counseling. Approximately sixty hours as a group member and sixty hours as a group leader. Experienced in teaching and as a laboratory assistant in psychology.

Counselor D—Male, age thirty-one. Assigned to Control Group. M.Ed. in Counseling and Guidance plus fifty-seven semester hours toward a doctorate in counseling. Approximately 102 hours as a group member and ninety hours as a group leader. Experienced as a counselor in public schools.

With the exception of Counselor A, all counselors used in this study had completed their doctoral internship in Counseling. All counselors had course work in group counseling, master's level practicums in counseling, and supervised experience as a group leader.

The counselors for this study were selected by the faculty members teaching Education 574, and all were considered competent and capable in their abilities as group leaders.
Instruments

The dependent measure of performance of therapeutically facilitative verbal behavior for this study was the Hill Interaction Matrix, which provides a systematic qualitative classification system for verbal behavior occurring in counseling groups. For this study, an instrument which considered both the facilitative effect and the quality of content of a verbal statement was needed. The HIM considers both criteria in its rating system.

The Hill Interaction Matrix is a technique devised to measure and examine verbal interaction in therapy and counseling groups. The Matrix consists of ratings along two dimensions: (Therapeutic) Work/Style Categories, composed of four sub-categories according to the style of interaction (1) Conventional, (2) Assertive, (3) Speculative, (4) Confrontive. The conventional and assertive styles are designed Pre-(Therapeutic) Work in terms of therapeutic stance, while the speculative and confrontive styles are labeled (Therapeutic) Work. The Content/Style Dimension is composed of four sub-categories differentiated in terms of derivation of content of the interaction. These categories are termed (1) Topic, (2) Group, (3) Personal, (4) Relationship. The sub-categories defined as Topic and Group, are referred to as "Non-Member Centered," while Personal and Relationship sub-categories are labeled "Member Centered."

Thus, any verbal statement can be placed into one of sixteen cells after being rated along both dimensions involved in
the Matrix (Work/Style and Content/Style). The Hill Interaction Matrix Scoring Manual provides detailed scoring criteria and examples for each of the sixteen cells.

In terms of group interaction, cells 13, 14, 15, and 16 represent the highest levels of group interaction as defined and measured by the Matrix. The models presented to the Experimental Groups in this study had been rated and independently judged as falling into one of these categories. These criteria were utilized to define the dependent variable in this study, i.e., therapeutic verbal behavior. The HIM has been found to reflect change in style of interaction in group counseling in studies by Roffers (5) and Yalom (7).

In his monograph, Hill (4) reports the following reliability of the Matrix: Inter-judge percentages of agreement from 70 to 92 per cent and correlation coefficients from .70 to .90 between independent judges ratings, significant at the .01 level.

Another dependent measure utilized in this study was the ability of group members to recognize therapeutically facilitative verbal statements and discriminate between qualitative levels of such statements. In order to measure this ability, Carkhuff's Discrimination Index was utilized.

The Discrimination Index, developed by Carkhuff, is an experimental scale consisting of sixteen excerpts taken from one counseling session. Four helper responses are provided for each excerpt which the subject rates as to how well
it communicates an accurate empathic understanding and a respect for all the clients' feelings and guides the discussion into that person's specific feelings and experiences. Each of the four helper responses for each of the sixteen excerpts is rated from 1.0 (low) to 5.0 (high) in regard to how well each helper response facilitates the expression of the client's feelings. These excerpts have been rated by a panel of experts, and the total deviation from expert ratings makes up the subject's score.

The Discrimination Index has been found to discriminate between experienced and inexperienced counselors (2) and between high-level experienced counselors and low-level experienced counselors (1).

This study was also designed to investigate selected attitudes toward highly facilitative interpersonal interactions, such as those characterized by the models. In order to study changes in such attitudes, the HIM-B was selected because it was devised in accordance with the dimensions measured by the HIM.

The HIM-B is a psychometric test developed by W. P. Hill to accompany the Hill Interaction Matrix. It is composed of sixty-four statements depicting interpersonal situations designed to coincide with the sixteen cells of the HIM. The subject rates each statement along a six point Guttman type continuum according to his reaction to the group situation described. The test is designed to measure the
amount of acceptance the subject has for operating in the various HIM cells. Four statements are provided for each of the sixteen cells. The scoring cut-off points are adjusted so that the cells are rank ordered in the degree of difficulty of acceptance.

The test yields a total acceptance score corresponding to the quality of group situations accepted, and an acceptance score for each cell of the HIM. For this study, the Quadrant IV Score of the HIM-B will be utilized as a separate dependent measure. This score measures the subjects' attitude toward interpersonal interactions characteristic of the deep emotional involvement illustrated by cells 13, 14, 15, and 16 of the HIM.

Standardization procedures included normative samples obtained from a state hospital, a state industrial school, a state prison, high school students, college students, school counselors, and group therapists. Hill reports only one reliability study in which a test-retest study yielded a product moment correlation of .82 for a college sample. Hill states that the HIM-B has face validity, and that his research has found the four HIM-B items for each HIM cell to be positively intercorrelated. The HIM-B has also been found to intercorrelate with the FIRO-B and the Bioun Q Test (5).
Description of Models

The video-tape models shown to the Experimental Groups in this study were isolated excerpts totaling five minutes and were composed of individuals engaged in verbal interaction with two or more other members of a counseling group or simulated counseling group. The verbal compositions of the modeling stimuli were chosen because they illustrated verbal behavior reflective of cells 13, 14, 15, or 16 of the Hill Interaction Matrix. These four cells comprise Quadrant IV of the HIM, which is considered to be representative of a high degree of therapeutic work in a counseling group. Prior to their presentation to the subjects in this study, all video-tapes and films were judged independently by three members of the counselor education faculty to verify their appropriateness as stimulus models. Three modeling segments were presented via video-tape, and two were presented via 16 mm sound film. The Experimental films and tapes were selected and edited by the Experimenter prior to judging by the three faculty raters. Care was taken to present males and females equally in these films and tapes, and the ages of the models themselves were appropriate to that of the Experimental subjects. One of the video-tape excerpts was composed of segments from previously video-taped group counseling sessions and the two other five minute excerpts were segments acted out by live models, video-taped, and edited by the Experimenter. These later two tapes were in
turn verified in the same manner as the previous three tapes had been.

The video-tapes, after editing and judging were presented by means of a 2-inch Ampex Model 600B Record/Playback unit via a 23 inch T. V. monitor.

In order to control for the Hawthorne Effect, an active Control or Placebo procedure was employed. The Placebo treatment was composed of a series of five five-minute video-tapes of the two faculty members teaching Education 574, discussing various theoretical and practical aspects of group counseling. These tapes were recorded by the Experimenter on a 1/2 inch Panasonic Model WV-220P camera and a Model 8100 Panasonic Record/Playback unit. Each faculty member appeared in one five-minute segment alone, and in three more accompanied by the other instructor. Playback was accomplished by using a 23 inch T. V. monitor identical to that employed in presenting the Experimental tapes.

Procedures for Presenting the Models

The Experimental and Placebo tapes were presented to the respective groups simultaneously in different rooms and on separate floors of the same building. This procedure occurred after the conclusion of the didactic portion of the class period and immediately prior to the beginning of the group sessions. No contact occurred between Experimental and Placebo subjects after they had viewed the video-tapes. All groups were shown either one Experimental or Placebo
tape per week beginning with the second group counseling session and continuing for the five consecutive sessions.

All five modeling excerpts were presented to the two Experimental Groups combined and were introduced by the same individual (one of the group counselors for the Experimental Groups) with the following statement: "You are about to be shown a video-tape of statements by members of a counseling group, which are considered to be reflective of a high level of group interaction and discrimination ability. These are the kinds of statements that you will want to occur in your group and in the groups you will be leading." The Experimenter operated the playback equipment, but was not in sight of the subjects. At the conclusion of the five minute tape, each group went immediately to their nearby meeting room and their group counseling session began.

Video-tapes were presented to the two combined Placebo groups by the same individual, (the male counselor assigned to one of the Placebo groups) and introduced with the following statement: "You are about to see a video-tape with some points regarding group counseling that Dr._______ and Dr._______ felt they may not be able to cover in class." As with the Experimental groups, the Placebo groups met in separate rooms at the conclusion of each five-minute tape.
Procedures for Collecting Data

The first testing period for all groups involved in this study was the first class meeting of the course. All subjects were given the HIM-B and the Discrimination Index to take with them and return the next week. Subsequent testing was conducted in the same manner. The first sessions of the counseling groups which occurred immediately after this class meeting were audio recorded in their entirety.

The second through the sixth sessions were preceded by presentation of the Experimental and Placebo treatments. At the sixth class meeting, the HIM-B and the Discrimination Index were readministered and the sixth group sessions were audio tape recorded. This session marked the end of the Experimental treatment period.

From the seventh to the fourteenth session no Experimental or Placebo treatment was employed. At the fourteenth session, however, the HIM-B and the Discrimination Index were again administered and the fourteenth group sessions for all groups were audio tape recorded. This test administration provided a follow-up measure for all groups.

Group sessions were audio taped via standard Wollensak and Voice of Music tape recorders, using 2400 feet, two hour play, reel tapes, recorded at 3 3/4 speed. Recording equipment was prepared prior to the group entering their respective rooms for their group sessions.
Scoring Procedures

Scoring procedures for the HIM-E and the Discrimination Index were carried out in accordance with directions contained in their respective scoring manuals and sources. Scores for each subject were then tabulated and recorded for each testing period.

The tape recordings of the group session, a total of twelve tapes, were rated by the following procedures: Three raters not connected with this study, after receiving training on the HIM, met jointly with the Experimenter and independently rated blind three fifteen minute excerpts from each of the twelve tapes. A criterion of agreement between two of the three judges was set as the determinant for a scorable response. A scorable response was operationally defined as a verbal statement by a group member (statements of group leaders were not rated) rated as falling within Quadrant IV of the HIM by at least two of the judges. The points at which these responses occurred were marked by the Experimenter, who subsequently met with each group leader separately in order to determine the group member making the scorable response. Frequency of Quadrant IV statements was then recorded for each subject for each group session recorded (first, sixth and fourteenth).
Procedures Followed During the Group Counseling Course

The subjects in the Experimental Groups and the Control Groups for this study were students enrolled in Education 574 (group counseling) in the Department of Counselor Education, North Texas State University, during the Spring semester 1971. The students were enrolled in one of two sections of Education 574, and were assigned to one of two members of the Counselor Education faculty. Although these students were enrolled in different sections of Education 574, in an effort to control for important intervening variables, the two sections were combined for classroom instruction, meeting at the same hour and in the same classroom. The two faculty members assigned to teach the respective sections conducted the class jointly, using a team-teaching approach.

The students were exposed to brief sensitivity training exercises, instructional films, demonstrations of counseling techniques, role playing exercises, assigned readings, and didactic lectures on group process, group dynamics, etc., all conducted by the same faculty members, in the same room at the same time. Thus, differential effects of these experiences should not have been significant.

Treatment of Data

The research hypotheses constructed in this study were converted to the null for statistical treatment. Data obtained from the Discrimination Index, the HIM-B, and the Hill Interaction Matrix were statistically treated.
by means of a 2 x 3 analysis of variance (for repeated measures) for each dependent variable. The Newman-Keuls treatment was used to determine the source of variance where significant F's were obtained.

The .05 level of significance (two-tailed test) was required for rejection of the null hypotheses.
CHAPTER BIBLIOGRAPHY


The purpose of the chapter is to present and analyze the data obtained in the study. The statistical analysis was accomplished by means of analysis of variance for repeated measures, applied to all four independent measures. For statistical testing, all research hypotheses were converted to null form. A significance level of .05 was required for rejection of the null hypotheses.

Prior to subjecting the data to statistical treatment to evaluate the effects of the experimental treatment, the Experimental and Control Groups were compared by means of simple analysis of variance on the pre-test measures of each of the four dependent variables to evaluate the extent of intergroup variance prior to experimental treatment.

Means and standard deviations for the Experimental and Control Groups for the pre-test measures on each of the four dependent variables for this study are presented in Appendix A. Analysis of variance procedures were used to compare the Experimental and Control Groups on pre-test measures of each dependent variable. The results are presented in Tables I through IV.
On the pre-test measure of the Discrimination Index, the Experimental Group obtained a mean score of 50.29. The Control Group mean was found to be 43.94. The results of the analysis of variance computed to test the difference between these means are presented in Table I.

**TABLE I**

**SUMMARY TABLE FOR THE ANALYSIS OF VARIANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON PRE-TEST MEASURES OF THE DISCRIMINATION INDEX**

<table>
<thead>
<tr>
<th>Source</th>
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<th>Mean Square</th>
<th>F</th>
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<tr>
<td>Among Groups</td>
<td>333.05</td>
<td>1</td>
<td>333.85</td>
<td>0.88</td>
</tr>
<tr>
<td>Within Groups</td>
<td>11726.96</td>
<td>31</td>
<td>378.29</td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td>12060.01</td>
<td>32</td>
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In order to reach the .05 level of significance with 1 and 31 degrees of freedom, an F level of 4.16 was required. As indicated in Table I, an F value of 0.88 (P .64) was obtained. These results indicate that no significant difference existed between the Experimental and Control Groups on the pre-test measures of the Discrimination Index.

In the first group session, the mean number of Quadrant IV responses for the Experimental Groups was 0.2. The mean number of Quadrant IV responses for the Control Group during
the first group session was 0.8. The results of the analysis of variance computed to test the differences between these group means are presented in Table II.

**TABLE II**

**SUMMARY TABLE FOR THE ANALYSIS OF VARIANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON THE PRE-TEST MEASURES OF THE FREQUENCY OF OCCURRENCE QUADRANT IV RESPONSES**

<table>
<thead>
<tr>
<th>Source</th>
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<tr>
<td>Among Groups</td>
<td>3.98</td>
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<td>3.98</td>
<td>2.67</td>
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<tr>
<td>Within Groups</td>
<td>46.20</td>
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<td>Total</td>
<td>50.18</td>
<td>32</td>
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In order to reach the .05 level of significance with 1 and 31 degrees of freedom, an F level of 4.16 was required. As indicated in Table II, an F level of 2.67 (P > .11) was obtained, indicating that no significant difference existed between the Experimental and Control Groups on the pre-test measures of frequency of Quadrant IV behaviors during the initial group session.

On the pre-test measure of the HIMP Total Acceptance Score the mean for the Experimental Group was found to be 38.35. The mean score for the Control Group was 34.25. The
results of the analysis and variance computed to test the differences between these group means are presented in Table III.

**TABLE III**

**SUMMARY TABLE OF ANALYSIS OF VARIANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON PRE-TEST MEASURES OF THE HIM-B**

<table>
<thead>
<tr>
<th>Source</th>
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<tbody>
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<td>Among Groups</td>
<td>138.75</td>
<td>1</td>
<td>138.75</td>
<td>1.16</td>
</tr>
<tr>
<td>Within Groups</td>
<td>3706.88</td>
<td>31</td>
<td>119.58</td>
<td>...</td>
</tr>
<tr>
<td>Total</td>
<td>3845.63</td>
<td>32</td>
<td>...</td>
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</tr>
</tbody>
</table>

In order to reach the .05 level of significance with 1 and 31 degrees of freedom, an F level of 4.16 was required. As indicated in Table III, an F of 1.16 (P > .29) was obtained, indicating that no significant difference existed between the Experimental and Control Groups on the pre-test measure of the Total Acceptance Score of the HIM-B.

The mean score for the Experimental Group on the pre-test measure of the Quadrant IV Score of the HIM-B was 9.94. The corresponding mean score for the Control Group was 6.94. The results of the analysis of variance computed to test the differences between these group means are presented in Table IV.
TABLE IV

SUMMARY TABLE OF ANALYSIS OF VARIANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON PRE-TEST MEASURES OF THE QUADRANT IV SCORE OF THE HIM-B

<table>
<thead>
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<th>F</th>
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<tr>
<td>Within Groups</td>
<td>765.88</td>
<td>31</td>
<td>24.71</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>840.24</td>
<td>32</td>
<td></td>
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</table>

In order to reach the .05 level of significance with 1 and 31 degrees of freedom, an F of 4.16 was required. As indicated in Table IV, an F level of 3.01 (P > .09) was obtained, indicating that no significant differences existed between the Experimental and Control Groups on the pre-test measure of the Quadrant IV Score of the HIM-B.

The results of the foregoing statistical analysis indicate that no significant differences existed between the Experimental and Control Groups on any of the four dependent variables for this study prior to the introduction of the experimented treatment.

The null hypotheses constructed for this study and results of the statistical treatments utilized to test them are presented below.
Null Hypothesis I

There will be no significant difference between the Experimental and Control Groups in the frequency of Quadrant IV verbal responses at the end of the experimental period (six group counseling sessions).

Null Hypothesis II

There will be no significant difference between the Experimental and Control Groups in the frequency of Quadrant IV verbal responses at the end of the group counseling experience (fourteen sessions).

Results of the analysis of variance computed to test these hypotheses are presented in Table V. Pre-test, post-test and follow-up means and standard deviations are shown in Table VI.

As indicated in Table V the F value of 0.08 was obtained between the Experimental and Control groups, \( P > .77 \), which was not sufficient to reject the null hypotheses. It was, therefore, concluded that the experimental treatment did not lead to a significant difference between Experimental and Control Groups in regard to the frequency of Quadrant IV verbal responses after the experimental period or at the end of the group counseling experience. Thus, research hypotheses I and II were not confirmed.

Table V also indicates that within subject variation across time was not significant \( (F=1.67, P > .20) \). It was, therefore, concluded that the experimental treatment did not
result in significant change within groups during the span of this study. Likewise, no significant interaction effects were found between the experimental conditions (modeling or placebo) and the point in time when the dependent measures were recorded (F=1.40, F>.25).

As indicated in Table VI, the mean number of Quadrant IV behaviors for the Experimental Group on the pre-test measure was .1176. On the post-test measure, a mean of .76 was obtained, and on the follow-up measure, the mean number of Quadrant IV responses was 1.29. A consistent upward trend is evident, which is in the hypothesized direction. For the
TABLE VI

MEANS AND STANDARD DEVIATIONS FOR EXPERIMENTAL AND
CONTROL GROUPS FOR THE FREQUENCY OF
QUADRANT IV RESPONSES

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td>S. D.</td>
<td>S. D.</td>
<td>S. D.</td>
</tr>
<tr>
<td>Experimental</td>
<td>.12</td>
<td>.76</td>
<td>1.29</td>
</tr>
<tr>
<td></td>
<td>.33</td>
<td>1.03</td>
<td>1.93</td>
</tr>
<tr>
<td>Control</td>
<td>.81</td>
<td>.69</td>
<td>.88</td>
</tr>
<tr>
<td></td>
<td>1.72</td>
<td>.70</td>
<td>1.41</td>
</tr>
</tbody>
</table>

Control Group, a reduction is noted between the mean for the pre-test measure (Mean=.69), and a slight gain between post-test and follow-up mean (Mean=.88). These trends suggest that, although the differences are not statistically significant, the Experimental Group experienced a consistent upward trend in the frequency of Quadrant IV behaviors. Thus, the experimental treatment may have had an effect on the experimental subjects, but this effect did not result in significant change across time, or significant differences between the Experimental and Control groups.

Null Hypothesis III

There will be no significant difference between Experimental and Control Groups on the Total Acceptance Score of the HIM-B at the end of the experimental period (six group counseling sessions).
Null Hypothesis IV

There will be no significant difference between the Experimental and Control Groups on the Total Acceptance Score of the HIM-B at the end of the group counseling experience (fourteen sessions).

The results of the analysis of variance computed to test the above hypotheses are presented in Table VII. Pre-test, post-test, and follow-up means and standard deviations are shown in Table VIII.

TABLE VII

SUMMARY TABLE OF ANALYSIS OF VARIANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON PRE-TEST, POST-TEST AND FOLLOW-UP MEASURES OF THE TOTAL ACCEPTANCE SCORE OF THE HIM-B

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Among Subjects</td>
<td>. . .</td>
<td>32</td>
<td>. . .</td>
<td>. . .</td>
</tr>
<tr>
<td>Groups</td>
<td>207.89</td>
<td>1</td>
<td>207.89</td>
<td>1.32</td>
</tr>
<tr>
<td>Error</td>
<td>4881.41</td>
<td>31</td>
<td>157.46</td>
<td></td>
</tr>
<tr>
<td>Within Subjects</td>
<td>. . .</td>
<td>66</td>
<td>. . .</td>
<td>. . .</td>
</tr>
<tr>
<td>Treatment</td>
<td>171.30</td>
<td>2</td>
<td>85.65</td>
<td>.90</td>
</tr>
<tr>
<td>Interaction</td>
<td>249.72</td>
<td>2</td>
<td>124.86</td>
<td>1.31</td>
</tr>
<tr>
<td>Error</td>
<td>5923.47</td>
<td>62</td>
<td>95.54</td>
<td></td>
</tr>
</tbody>
</table>

As indicated in Table VII, an F value of 1.32 was obtained between Experimental and Control Groups. With 1 and
31 degrees of freedom and $P > .26$, the null hypotheses were retained. It was concluded that the experimental treatment introduced in this study did not lead to significant differences between Experimental and Control Groups on the Total Acceptance Score of the HIM-B at the end of the experimental treatment or at the end of the group counseling experience. Thus, research hypotheses III and IV were not confirmed.

Table VII also indicates an $F$ level of $0.90 (F < .57)$ for within-subject variation across time, which was not statistically significant. It was therefore concluded that the experimental treatment (modeling) did not result in significant change in subjects across time on the Total Acceptance Score of the HIM-B. No significant interaction effects between the treatment conditions and time were found ($F = 1.31, P > .27$).

In Table VIII, no consistent directional trend is evident in mean changes for either the Experimental or Control Group. Both groups experienced a decline on HIM-B Total Acceptance Scores between the pre-test and follow-up measures, with the Control Group apparently experiencing the greater loss. Between pre-test and post-test measures the Experimental Group experienced a considerable decline in the mean score while the Control Group showed a very slight increase in the mean score. The preceding observation was reversed between the post-test and follow-up periods. During this period, after the experimental period had ended, the Experimental Group manifested a slight increase in the mean score on the HIM-B, while the
Control Group showed a decline in the mean score. Since no differential effects were noted between the Experimental and Control Groups and the observed mean changes were not significant over time, it was concluded that for the subjects in this study the experimental treatment had no appreciable effect on the Total Acceptance Score of the HIM-B.

**TABLE VIII**

MEANS AND STANDARD DEVIATIONS FOR EXPERIMENTAL AND CONTROL GROUPS FOR PRE-TEST, POST-TEST AND FOLLOW-UP MEASURES OF THE TOTAL ACCEPTANCE SCORE OF THE HIM-B

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>S. D.</td>
<td>Mean</td>
</tr>
<tr>
<td>Experimental</td>
<td>38.35</td>
<td>11.06</td>
<td>33.23</td>
</tr>
<tr>
<td>Control</td>
<td>34.25</td>
<td>10.80</td>
<td>34.69</td>
</tr>
</tbody>
</table>

**Null Hypothesis V**

There will be no significant difference between the Experimental and Control Groups on the Quadrant IV Score of the HIM-B at the end of the experimental period (six group counseling sessions).

**Null Hypothesis VI**

There will be no significant difference between the Experimental and Control Groups on the Quadrant IV Score
of the HIM-B at the end of the group counseling experience (fourteen sessions).

The results of the analysis of variance computed to test these hypotheses are presented in Table IX. Pre-test, post-test, and follow-up means and standard deviations are shown in Table X.

**TABLE IX**

**SUMMARY TABLE OF ANALYSIS OF VARIANCE BETWEEN EXPERIMENTAL AND CONTROL GROUPS ON THE PRE-TEST, POST-TEST, AND FOLLOW-UP MEASURES OF THE QUADRANT IV SCORE OF THE HIM-B**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Among Subjects</td>
<td>61.99</td>
<td>32</td>
<td>61.99</td>
<td>1.72</td>
</tr>
<tr>
<td>Groups</td>
<td>1116.33</td>
<td>1</td>
<td>36.01</td>
<td>...</td>
</tr>
<tr>
<td>Error</td>
<td>...</td>
<td>31</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Within Subjects</td>
<td>...</td>
<td>66</td>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>Treatment</td>
<td>113.97</td>
<td>2</td>
<td>56.98</td>
<td>3.21</td>
</tr>
<tr>
<td>Interaction</td>
<td>34.82</td>
<td>2</td>
<td>17.41</td>
<td>0.98</td>
</tr>
<tr>
<td>Error</td>
<td>1098.98</td>
<td>62</td>
<td>17.73</td>
<td>...</td>
</tr>
</tbody>
</table>

As indicated in Table IX, an F level of 1.72 between Experimental and Control Groups was obtained (F > .20), which was not sufficient to reject the null hypotheses. It was concluded that the experimental treatment employed in this
period or at the end of the group counseling experience. Thus, research hypotheses V and VI were not confirmed.

Although no significant differences existed between Experimental and Control Groups on the post-test or follow-up measure, a significant change was obtained within subjects over time. An F value of 3.21 was obtained with a corresponding P of .05, which barely reaches the level of significance established for this study. As indicated in Table X, both Experimental and Control Groups experienced a mean loss on this measure, with the Experimental Group manifesting the greatest change. The mean change which occurred was in the opposite direction of that which was predicted. Apparently, the experimental treatment (exposure to filmed models) for this study resulted in a slight change in attitude toward the kinds of interpersonal interactions characteristic of the Quadrant IV Score of the HIM-B, but in a negative direction. No significant interaction effects between time and experimental conditions were found for this variable (F=0.98, P>.62).

In order to determine the points at which the significant means change occurred, the Newman-Keuls Test was computed. The results of this test indicated a significant mean loss between the pre-test and follow-up means on the Quadrant IV Score of the HIM-B. No significant change was found between the pre-test and post-test measures. An examination of the group means indicates that the Experimental Group experienced
a greater mean loss between the pre-test and follow-up measures on the Quadrant IV Score on the H1M-B than the Control Group.

TABLE X

MEANS AND STANDARD DEVIATIONS FOR EXPERIMENTAL AND CONTROL GROUPS ON THE QUADRANT IV SCORE OF THE H1M-B ON PRE-TEST, POST-TEST, AND FOLLOW-UP

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>Mean 9.94 S. D. 5.44</td>
<td>Mean 7.41 S. D. 5.10</td>
<td>Mean 6.65 S. D. 4.64</td>
</tr>
<tr>
<td>Control</td>
<td>Mean 6.94 S. D. 4.41</td>
<td>Mean 7.31 S. D. 4.95</td>
<td>Mean 5.00 S. D. 3.93</td>
</tr>
</tbody>
</table>

As indicated in Table X the means for the Experimental Group suggest a consistent trend across time, while the Control Group showed a slight gain between pre-test and post-test. However, the Control Group also experienced a mean loss between the post-test and follow-up measures on this variable indicating that the earlier gain was not maintained. It was concluded that the experimental treatment did not result in significant change between groups, but did result in some slightly significant change across time. Apparently the treatment contributed to a more negative attitude toward the kinds of interpersonal situations illustrated by the Quadrant IV Score of the H1M-B.
Null Hypothesis VII

There will be no significant differences between Experimental and Control Groups on Carkhuff's Discrimination Index at the end of the experimental period (six group counseling sessions).

Null Hypothesis VIII

There will be no significant differences between the Experimental and Control Groups on Carkhuff's Discrimination Index at the end of the group counseling experience (fourteen sessions).

The results of the analysis of variance computed to test these hypotheses are presented in Table XI. Pre-test, post-test, and follow-up means and standard deviations are shown in Table XII.

As indicated by Table XI, an F value between Experimental and Control Groups on Carkhuff's Discrimination Index of 0.03 was obtained (P > .86), which was not sufficient to reject the null hypotheses. It was concluded that the experimental treatment employed in this study did not lead to significant differences between Experimental and Control Groups on Carkhuff's Discrimination Index at the end of the experimental period or at the end of the group counseling experience. Thus, research hypotheses VII and VIII were not confirmed.

Although no significant differences were found to exist between Experimental and Control Groups at the post-test and follow-up periods, a significant F of 11.48 (P = .0002) was
obtained for within subjects effects (mean loss over time). An examination of means and standard deviations for the Experimental and Control Groups for pre-test, post-test, and follow-up measures on Carkhuff's Discrimination Index (Table XI) indicates that apparently the Experimental Group experienced a greater mean loss over time. No significant interaction effects between time and experimental condition were found \( (F=1.96, P > .15) \).

In order to determine the points at which the observed significant differences occurred, parallel comparisons using the Newman-Keuls Test were computed. Results of this test
indicated significant differences existed between means between the pre-test and post-test periods, and between the pre-test and follow-up periods.

**TABLE XII**

**MEANS AND STANDARD DEVIATIONS FOR EXPERIMENTAL AND CONTROL GROUPS ON CARKHUFF'S DISCRIMINATION INDEX ON PRE-TEST, POST-TEST AND FOLLOW-UP**

<table>
<thead>
<tr>
<th>Group</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>Mean 50.29 S. D. 21.84</td>
<td>Mean 36.26 S. D. 14.43</td>
<td>Mean 36.38 S. D. 16.63</td>
</tr>
<tr>
<td>Control</td>
<td>Mean 43.94 S. D. 16.52</td>
<td>Mean 38.84 S. D. 18.11</td>
<td>Mean 37.28 S. D. 17.73</td>
</tr>
</tbody>
</table>

As indicated in Table XII, both groups showed a trend toward lower scores, but the Experimental Group experienced the greater mean loss on Carkhuff's Discrimination Index over time. A greater mean loss occurred between the pre-test and post-test measures than between the pre-test and follow-up measures suggesting that the greatest change occurred during the period of time when the Experimental Group was exposed to the filmed models. No significant change occurred between the post-test and the follow-up periods during which modeling exposure was not provided. It was concluded from these data that the modeling experience contributed to a significant change in discrimination ability as measured by the Discrimination
Index between pre-test and post-test by the Experimental Group, and that these changes were maintained on the follow-up measure. However, no differential effects between Experimental and Control Groups were evident on this variable.

Summary

The purpose of this chapter was to present the results of the statistical treatment of data obtained for this study. The analyses of the results were made utilizing two statistical techniques—analysis of variance for repeated measures, and the Newman-Keuls Test.

Results of the analysis of variance for repeated measures computed to test each of the eight null hypotheses revealed that no significant differences existed between the Experimental and Control Groups on either the post-test or follow-up measures of any of the four dependent variables employed in this study. Such findings indicate that the independent variable (exposure to film models) did not lead to significant differences between the Experimental and Control Groups on the frequency of Quadrant IV verbal responses in the two group sessions rated with the HIM. Similarly, exposure to modeling did not lead to significant differences between Experimental and Control Groups on the Total Acceptance Score, Quadrant IV Score of the HIM-E or the Discrimination Index.

Although no significant differences were found between groups, significant change across time was found for the Experimental Group on the Discrimination Index, in the
predicted direction. Significant change across time was also found for the Experimental Group on the Quadrant IV Score of the HIM-E but in the direction opposite that predicted.
CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this study was twofold. The main objective was to investigate the effect of film-mediated models on increasing the frequency of a specific quality of verbal responses which have been found to be indicative of high levels of therapeutic movement in group counseling. Secondly, this study attempted to study selected attitudes of group counseling participants toward the kinds of interpersonal interactions that are reflective of the intense interaction involved in therapeutic movement in group counseling.

Thirty-three graduate students in counseling, enrolled in a course in group counseling, were randomly assigned to either experimental or control conditions. The experimental treatment was exposure to a series of five five minute videotapes or films of models engaged in verbal behavior previously judged by independent judges to be reflective of high levels of discrimination and characteristic of Quadrant IV of the Hill Interaction Matrix. Control subjects were exposed to five Placebo video-tapes. The Experimental and Control Groups
were shown their respective video-tapes immediately before the second through the sixth group sessions. Both groups experienced a total of fourteen group counseling sessions lasting approximately one hour and forty-five minutes.

Frequency counts of verbal statements from time sampling taken from audio-tapes of the first, sixth, and fourteenth group counseling sessions were obtained. In addition, the HIM-B and the Discrimination Index were administered at the first, sixth, and fourteenth group sessions.

The data obtained were examined by means of an analysis of variance for repeated measures for each dependent variable. A separate simple analysis of variance was utilized for each variable to determine if any significant differences existed between experimental and control groups before the study began. Results of the analysis indicated that there were no significant differences between Experimental and Control Groups on any of the four dependent measures at the beginning of the study.

It was hypothesized that the Experimental Group would manifest a higher mean gain in the frequency of Quadrant IV verbal responses on the Hill Interaction Matrix than the Control Group at the end of the experimental period and at the end of the group counseling experience. It was also hypothesized that the Experimental Group would manifest a greater mean gain in both the Total Acceptance Score of the HIM-B and the Quadrant IV score of the HIM-B than the Control
Group after the experimental treatment and at the end of the group counseling experience. It was further hypothesized that the Experimental Group would show a greater mean loss on Carkhuff’s Discrimination Index than the Control Group at the end of the modeling series and at the end of the group counseling experience.

Statistical analysis failed to confirm the foregoing research hypotheses. It was found, however, that the Experimental Group experienced a significant mean loss over time (P=.0002) on Carkhuff’s Discrimination Index although among groups difference was not significant. Another finding was a mean loss for Experimental and Control Groups over time on the Quadrant IV Score of the HIM-B, with the loss experienced by the Experimental Groups reaching significance, (P .05).

Discussion

As analysis of the data obtained indicated that for the sample studied in this investigation, exposure to a series of filmed models did not result in a significant increase in the performance of the criterion behaviors in group counseling sessions. It was also noted that although significant change in both positive and negative directions occurred over time on two of the attitudinal measures, they were not significantly different from those experienced by the control subjects.

The data obtained in this study failed to confirm the research hypotheses formulated. These findings seem to call for a close examination of the influence of the variables
usually considered to be influential in observational learning and their possible effects on the outcome of the study.

The present study did not include contingent reinforcement to the observer for the desired behaviors or approximations of the desired behavior. While reinforcement to the model was implied in the introduction of the models, the failure to more directly and specifically reinforce the model, and later the observer for his approximation of the models' behavior may have reduced the probability of the observers' matching responses.

While it was felt that sufficient incentive conditions were established through the orientation of the subjects to the expectations of the course in which they were enrolled and the groups they were to participate in, a more specific plan for focusing the observer's attention to the model may have facilitated imitation. More specific instructions as to the desirability of these behaviors and the importance of the observer matching these behaviors would likely have increased matching behavior.

Due to the absence of predicted results the adequacy of the models used in this study in terms of how adequately they were able to clearly represent the criterion behaviors must be raised. Although all models were judged to have portrayed adequate representations of the criterion behavior, the subjects may have focused their attention on irrelevant or incidental
cues rather than those illustrating the behaviors they were to imitate.

Another variable which may have functioned to limit imitative responses was the criterion behavior in relation to the modeled behavior. The criterion behavior represented a complex verbal and affective response. Probability of matching behavior occurring may have been increased if the models in this study had been arranged in such a way as to present successive steps which increasingly approximated the criterion behavior rather than modeling and measuring only the criterion response itself. The modeling procedure utilized in this study may have increased rather than lowered the inhibition of the desired behavior by presenting such a complex response at one time, rather than lower inhibitions of such behavior.

An additional variable which has received little attention by researchers in the area of observational learning is that of serial effects and length of presentation of the model. These would seem to be potentially important variables, particularly when the modeled behavior is a complex and possibly threatening behavior to the observer.

Another variable which may have affected the results of this study was the relationship between the criterion behavior, the behavior of the models, and the style of interaction characteristic of the group leaders themselves. As the most immediate source of reinforcement in the group,
the counselors themselves, probably provided the most potent model and source of reinforcement for approximations of their own behavior. If the behavior of the leaders and the behavior they reinforced in their groups was not consistent with the criterion behavior, such a process may have negated the effects of the symbolic models presented.

A pair of uncontrollable situational events may also have contributed to the failure of this study to obtain significant results. A member of one of the Control Groups proved to be very exceptional in his ability to perform the verbal responses used as the criterion behavior. The presence of this member consistently inflated the frequency of the criterion behavior within this group and likely offset the performance of members of that group who showed little change. In addition, the performance of the Experimental Group may have been deflated at the time of the post-test measure because of a violation of the rule of confidentiality in one of the Experimental Groups during the week between the post-test session and the previous session a week earlier. The post-test session was spent primarily in an attempt to deal with this violation of confidence, resulting in little movement within the group. This negative experience may also have contributed to the lack of significant change and differences on the attitudinal measures employed, which are measures of one's attitudes toward progressively intimate interpersonal interactions.
The significant change over time in the Experimental Group on the Discrimination Index indicates that the exposure to the models in this study did have an effect on the subjects who viewed them. The modeling exposure apparently provided more specific and clear behavioral illustrations of responses reflecting high discrimination ability. This finding suggests that these subjects were able to better identify and discriminate between levels of facilitative helper responses after the modeling exposure. This would seem to have clear implications for counselor training. It suggests that counselor trainees profit from observing others perform behaviors that have been labeled as possessing a particular desirable quality.

The negative change in the Experimental Group noted on the Quadrant IV Score of the HIM-B is difficult to account for. The Quadrant IV Scale of the HIM-B is a measure of preference for interpersonal interaction of a deep, relationship centered, confrontive, and speculative quality. Perhaps the Experimental Group experienced a significant loss on this measure because of exposure to the models, who engaged in overt behaviors reflective of this attitudinal measure but who received no reward or punishment after engaging in this behavior. Thus, viewing such behavior, without any information concerning the consequences to the model as a result of the response may actually have contributed to negative attitudes toward the modeled behavior rather than positive attitudes.
The validity of the Quadrant IV Score of the HIM-B as a measure of the subjects attitudes toward the kinds of behaviors that were modeled is also questioned. The only statements regarding the validity of the HIM-B refer to the instruments assumed face validity, and these references are only concerned with the Total Acceptance Score. No studies were found regarding the validity of the scores which correspond to the four quadrants of the Hill Interaction Matrix. The HIM-B may not accurately measure attitudes toward the kinds of interpersonal behaviors which are described as Quadrant IV behaviors.

Conclusions

It is concluded from this study that more systematic approaches designed to enhance the probability of matching behavior must be employed. The mere viewing of a model without regard to the foregoing variables was not sufficient to produce the complex matching behavior required in this study. The results of this study tend to provide support for Bandura's position that incentive conditions must be established prior to exposure to models for imitation to take place, and that some information as to the consequences for the modeled behavior must be made clear for such behavior to be translated into action. This study does not support the contention that mere observation of even a desirable behavior is sufficient for imitation by the observer.
Although merely observing the criterion behavior resulted in increased ability to discriminate similar behaviors, this experience was not sufficient to alter attitudes regarding the criterion behavior, nor result in its being overtly performed by the observer. Thus, merely demonstrating the desired behavior without systematic manipulation of motivational and consequential variables seems no more effective than merely telling the subject what is desired of him when the required behavior is of a complex nature.

The overall conclusion drawn from the results of this study tend to support the position that sufficient incentive conditions and pre-organizers must be established if significant matching behavior is to occur. Contingent reinforcement should be presented to either the model or the observer in order that the observer may experience such reinforcement either vicariously or directly for approximations of the desired matching behavior.

Recommendations

In view of the findings of this study it is recommended that:

1. In using symbolic models in counseling, sufficient incentive conditions be established and specific pre-organizers be utilized to enhance observer attention and focusing on relevant modeling cues.

2. That in subsequent research initial measures of relevant counselor behavior and attitudes be obtained and
employed as a co-variant in the experimental design of the study.

3. That in future studies a more sensitive and finely measured criterion behavior be established, one in which a progressive trend toward the criterion behavior can be obtained.

4. That a more adequate measure of acquisition or knowledge regarding the criterion behavior be included in subsequent studies.
### Table XIII

**Means and Standard Deviations for Experimental and Control Groups for Pre-Test Measures of Carkhuff's Discrimination Index**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>50.29</td>
<td>21.8389</td>
</tr>
<tr>
<td>Control</td>
<td>43.9375</td>
<td>16.5246</td>
</tr>
</tbody>
</table>

### Table XIV

**Means and Standard Deviations for Experimental and Control Groups for Pre-Test Measures of the Frequency of Quadrant IV Responses**

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>0.1176</td>
<td>0.3321</td>
</tr>
<tr>
<td>Control</td>
<td>0.8125</td>
<td>1.7212</td>
</tr>
</tbody>
</table>
### TABLE XV

Means and standard deviations for experimental and control groups on pre-test measure of the total acceptance score of the HIK-B

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>38.3529</td>
<td>11.0563</td>
</tr>
<tr>
<td>Control</td>
<td>34.2500</td>
<td>10.8043</td>
</tr>
</tbody>
</table>

### TABLE XVI

Means and standard deviations for experimental and control groups on pre-test measure of the Quadrant IV score of the HIM-B

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>9.9412</td>
<td>5.4368</td>
</tr>
<tr>
<td>Control</td>
<td>6.9375</td>
<td>4.4192</td>
</tr>
</tbody>
</table>
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