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THE EFFECT OF ONE TYPE OF PREINTERVIEW VERBAL DISCRIMINATION TRAINING MODEL ON VERBAL BEHAVIOR IN AN INTERVIEW SETTING

by
Donald Joseph DelBeato

Dissertation submitted to the Faculty of the Graduate School
of the University of Maryland in partial fulfillment
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Title of Dissertation: THE EFFECT OF ONE TYPE OF PREINTERVIEW VERBAL DISCRIMINATION TRAINING MODEL ON VERBAL BEHAVIOR IN AN INTERVIEW SETTING

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ABSTRACT

Title of Dissertation: The Effect of One Type of Preinterview Verbal Discrimination Training Model on Verbal Behavior in an Interview Setting

Donald Joseph DelBeato, Doctor of Philosophy, 1971

Dissertation directed by: George L. Marx, Ph.D.

Modeling is rapidly becoming a prominent technique in the helping relationship because of the speed and efficiency with which it facilitates the acquisition and performance of specified behaviors. However, as Bandura (1969) has explained, the mere presentation of a model does not quarantee that the observer will attend to the model, or even know what he is looking for. Thus, the development and refinement of modeling techniques is necessary to effect stronger, more efficient modeling procedures.

The study used contiguity-mediational principles of learning to investigate the effect of one type of preinterview verbal discrimination training on three dimensions of verbal behavior in a quasi-counseling interview. The three dimensions of verbal behavior were: (a) positive self-reference (PSR), (b) negative-ambiguous self-reference (N/ASR), and (c) external object reference (EOR). It was assumed that talking about oneself, and not talking about other people or things, is an important goal in counseling process. It was hypothesized that Ss exposed to a discrimination training model (DTM), or to a passive model (PM), would emit significantly more PSR and significantly less N/ASR and EOR than Ss exposed to no model. It was also hypothesized that Ss exposed to the DTM would emit significantly more PSR and significantly less N/ASR and EOR than Ss exposed to the PM.

A random sample of 27 males and 27 females was selected from a group

of 97 University of Maryland students. The students were members of two large Sociology I lecture sections who volunteered to participate in a "student views survey." Ss were paid for their participation. Ss were randomly assigned, by sex, to the DTM treatment, the PM treatment, or the control group. Ss were then randomly assigned, again by sex, to one of the three counselors participating in the study.

Experimental Ss received instructions to discuss their feelings, attitudes, beliefs, and problems as part of an academic environment. The experimental Ss were then exposed to either the DTM or the PM. DTM treatment Ss answered short questions about the model at intervals during the model exposure. The written response sequences were seen as increasing attentional set and facilitating discriminability of efficient and inefficient verbal behavior modeled. PM treatment Ss listened to the same model, but no overt responses were required. Both models were presented via standard audiotape. After exposure to the audiotape, the experimental Ss had a twenty minute interview with a counselor. Control Ss received the instructions and were immediately led to the interview sequence.

The interviews with the counselors were audiotaped. Three raters trained to count the frequencies of PSR, N/ASR, and EOR emitted by each of the Ss reviewed the tapes. The experimenter participated as one of the three raters. The frequencies of PSR, N/ASR, and EOR provided the data for hypothesis testing. Analysis of variance procedures, for differences in the mean number of emissions for each of the three dependent variables, were used to test the hypotheses. The level of statistical significance was set at .05 using a one-tail test.

Results indicated that the DTM treatment Ss did not emit significantly

more PSR than PM treatment Ss. A post hoc analysis revealed that Ss exposed to either the DTM or the PM did emit more PSR than control Ss ($p < .05$). For the N/ASR and the EOR variables, it was found that the modeling treatments did not differentiate. Ss exposed to the DTM and the PM did not emit significantly less N/ASR or EOR than the control Ss.

The sex and counselor factors had been controlled for in the design. The data indicated that females emitted more PSR than did males ($p < .05$). There were no sex differences found for the N/ASR and EOR variables. No differences were found between the three counselors used in the experiment as measured by Ss' emission of PSR, N/ASR, and EOR.

Several explanations for the results were offered and discussed. Additionally, methodological limitations of the study were examined as were suggestions for further research.

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CHAPTER I

INTRODUCTION

The Problem

Students often enter counseling with little knowledge about how to verbally express their own feelings, attitudes, beliefs, and problems to the counselor. Krumboltz and Thoresen (1969) report that most clients do not describe their difficulties in straightforward language. Counselors typically take time in initial sessions to introduce the client to more efficient modes of verbal participation. Since verbal behavior is an essential part of the therapeutic relationship it would be more beneficial to introduce, into the client's repertoire, knowledge about efficient styles of verbal participation prior to counseling so that interview time may be more therapeutically oriented toward goal attainment. The problem at hand, then, concerned the development and refinement of procedures to facilitate more efficient modes of client verbalization in counseling.

Modeling, or imitation learning, has become increasingly an area for research in facilitating the acquisition and performance of specified behaviors. Modeling provides a means for learning a series of behaviors by observation, and as such, it holds promise for providing expeditious procedures for use in counseling. Additionally, modeling appears to be more efficient than trial and error methods or shaping procedures where the observer must be directly reinforced for approximating desired behaviors (Bandura, 1965a; 1969).

Imitation learning may be defined as a process whereby an observer (O) views the behavior of a model (M) whereupon O's subsequent behavior becomes similar to that of the behavior exhibited by M (Flanders, 1968).

A review of the literature on the effects of models on verbal behavior reveals that, generally, modeling has been more effective than no modeling. It is also revealed that, within groups, modeling seems to have differential effects on S's verbal behavior. Bandura (1969), Bandura and Walters (1963), and Flanders (1968) refer to some of the factors that appear to be related to modeling being more effective with some Ss than with others. Some of the factors which appear to be responsible for variability are observer characteristics, model characteristics, incentive conditions, motor reproduction, and retention. An additional factor, which has provided a part of the procedural focus of this study, involves attentiveness to the model. Bandura (1965a; 1969) postulates attention as a subprocess which is influential in the imitation learning process. Krumboltz and Thoresen (1969) and Nixon (1969) add the important point that providing an example of a complex behavior does not guarantee that an observer will notice it, or even know what he is looking for. This is consistent with Bandura's theory (1969) concerning attentional processes. Bandura has explained:

> "Simply exposing persons to distinctive sequences of modeled stimuli does not in itself guarantee that they will attend closely to the cues, that they will necessarily select from the total stimulus complex the most relevant events, or that they will even perceive accurately the cues to which their attention has been directed...To produce learning, therefore, stimulus contiguity must be accompanied by discriminative observation [p. 136]."

Since research has shown that models effect some persons differently than others it can be assumed that some individuals need stronger, more facilitative modeling procedures. Specifically, there is a need to develop models that insure greater attentiveness by O and provide training so that O correctly perceives the cues to which his attention has been directed.

A discrimination training modeling procedure may provide more attentiveness to M and more accurate perception of cues by O. Nixon (1969) presents a case study that describes one type of discrimination training model. Nixon was interested in reducing hyperactive behavior in children in a classroom setting. He used the discrimination procedure with his filmed model. Children saw both appropriate and inappropriate behaviors exhibited. The experimenter insured for attentiveness by stopping the film at intervals where the children were required to verbalize what the M was doing. If correct, the subjects were reinforced with candy. Nixon reported that the procedure facilitated the reduction of hyperactive behavior. Thus, a discrimination training technique, used in conjunction with a model, seems to create a situation where the O is more attentive to M and potentially receives more relevant cues, with the end result being an increased learning.

The study, which concerned itself with the development and refinement of procedures to improve client verbal participation in counseling, was seen as having practical significance for expediting counseling process and client movement toward goal attainment. The problem was to ascertain whether a preinterview audiotape training model, requiring overt (written) responses by Ss during exposure, would facilitate efficient client verbalization and inhibit inefficient client verbalization in an interview. An additional problem was to determine whether a preinterview audiotape training model not requiring overt responses was as effective as a model requiring overt responses. Specifically, college student volunteers were exposed to one of the two types of preinterview audiotape models, or to no model before entering a quasi-counseling interview. The models were designed to facilitate students' verbalization

about one's own feelings, attitudes, beliefs, and problems, and to decrease students' talking negatively or ambiguously about their own views and about other people or things. Since counseling is, for some, a process concerned with client revelation of feelings, attitudes, beliefs, and problems it was felt that the results of the study would hold implications for actual counseling situations.

For some counseling approaches, a significant therapeutic goal is the exploration and disclosure of self (Bratton, 1961; Jourard, 1964; Patterson, 1966). As such, counseling is seen as a process concerned with a style of participation that involves self-reference. Wolpe (1969), in writing about the growth of behavior therapy, has mentioned that systems that focus on self-reference and exploration still predominate and proliferate. Moreover, self-reference appears to be readily applicable to experimental research. The use of the verbal referent statement is documented in the literature where it has been shown to be a measurable and manipulatable variable (Brody, 1968; Ince, 1968; Myrick, 1969, Wilder, 1968).

Definition of Terms

Criteria

Frequency of verbal referent statements was used to test the effects of the treatments. Positive self-reference was considered to be efficient verbal behavior and negative-ambiguous self-reference and external object reference were considered inefficient verbal behavior. Each is operationally defined below.

Positive Self-Reference (PSR)--PSR refers to a statement made by a S in which he expresses his own feelings, attitudes, beliefs, and problems in a way which expresses no negation, ambiguity, or doubt, e.g.,

I don't know, I have no idea, I think, I guess, maybe, perhaps, to the interviewer. The statement must contain one of the following pronouns: I, my, me, we, our, and us.

Negative-Ambiguous Self-Reference (N/ASR)--N/ASR refers to a statement made by a S in which he verbally expresses a self-referent statement, but at the same time the unit of speech expresses negation, ambiguity, or doubt, e.g., I don't know, I have no idea, I think, I guess, maybe, perhaps, to the interviewer.

External Object Reference (EOR)--EOR refers to a statement made by a S in which he focuses on other people or things.

The Models

The operational definitions for the two preinterview audiotape models are given below.

Discrimination Training Model (DTM)--The DTM is a $12\frac{1}{2}$ minute audiotape which presents a student-counselor interaction. During the presentation M exhibits efficient verbal behavior (PSR) and inefficient verbal behavior (N/ASR and EOR). In addition to the behaviors exhibited, the O responds, in writing, to questions during four 45 second intervals in the model exposure period.

Passive Model (PM)--The PM is an exact duplicate of the DTM with the exception that it does not require any overt response from O during the exposure period. The response intervals have been deleted, and it is $9\frac{1}{2}$ minutes long.

CHAPTER II

LITERATURE REVIEW

As comprehensive reviews of the research related to imitation learning have been attempted elsewhere, (Bandura, 1969; Flanders, 1968), the following review has been limited to theoretical conceptualizations and research findings considered particularly relevant to this investigation. Thus, the review will cover imitation learning from a contiguity-mediational perspective, and the application of modeling techniques with reference to verbal behavior in counseling and quasi-counseling settings.

Imitation Learning

The following section will review the literature on imitation learning as it relates to (a) conceptualizations of contiguity-mediational theory, (b) the effects of exposure to a model, (c) vicarious reinforcement, (d) the influence of observer and model characteristics on modeling, and (e) awareness.

Much of the way an individual behaves is in large part acquired through imitation of what he has observed in others (Bandura, 1961). The above mentioned notion is the basis for a social learning theory that views modeling as a fundamental method in facilitating the acquisition of new behavior and the modification of existing behavior. The literature reveals modeling to be an effective mode for: (a) training therapists, (b) a didactic tool in the classroom setting, and (c) a therapeutic device in and of itself (Dubner, 1970).

In contemporary literature "imitation learning," "modeling," "vicarious learning," "observational learning," and "one-trial learning" have been used interchangeably. These terms, which are used interchangeably in this study, specifically define a process where:

> "new responses are acquired or the characteristics of existing response repetoires modified as a function of observing the behavior of others and its reinforcing consequences, without the modeled responses being overtly performed by the viewer during the exposure period [Bandura, 1965a, p. 3]."

Conceptualizations of Contiguity-Mediational Theory

The investigator has, in this study, approached vicarious processes via the contiguity-mediational framework espoused by Bandura (1965a; 1969) and Sheffield (1961).

Representational systems. Basic to contiguity-mediational theory are the two major assumptions that: (a) association by contiguity is necessary for learning to occur and (b) learning can proceed at a perceptual level without any actual performance of overt responses (Bandura, 1965a; 1969; Sheffield, 1961). When an individual acquires behavior through imitation of a model, without overt performance, learning is said to have occurred purely on a covert basis. Covert means that the modeled responses were acquired while they occurred in cognitive representational forms. Accordingly, Bandura (1969) postulated the existence of two representational systems and labeled them imaginal and verbal. Images and words that have become linked to modeled stimuli function as mediators for later response retrieval and reproduction.

The imaginal system involves a process whereby sensory and perceptual data are converted into recoverable images of modeled sequences of behavior. Sensory conditioning literature supports the existence of the above mentioned process (Conant, 1964; Leuba, 1940). With regard to the nature of perceptual responses, it has been reported (Bandura, 1965a; 1969; Sheffield, 1961), that sensory responses are centrally rather than peripherally integrated, i.e., they need not have motor components. These sensory responses may not only be connected to cues, but may be

cues themselves, which ultimately means that sensory responses are subject to the principle of association by contiguity.

Moreover, Sheffield (1961, p. 15) makes a specific distinction between sensory responses and perceptual responses which the investigator felt was important to understanding conceptions of the imaginal system. Sensory stimulation that elicits innate sensory responses is referred to as a sensory response. Sensory stimulation that elicits both innate and acquired connections between sensory responses is referred to as a perception. Thus, perceptual responses always involve sensory responses, the distinction being only that of whether some of the sensory responses are being "filled in" or "interpreted" by the conditioning mechanism (Sheffield, 1961).

The "filling in" aspect of perceptual responses entails a process called perceptual reintegration. In the course of exploring a stimulus object, a set of n sensory responses become conditioned to each other as cues, e.g., a person who sees a lemon at a distance can imagine its sour tast, its skin texture, its pulpy inner structure, and its odor from a past experience of eating a lemon. Sheffield (1961) says:

> "This "cross conditioning" mechanism accounts for the "filling in" property of perceptual behavior in which a fragment of a total stimulus pattern "reintegrates" the whole [p. 17]."

Thus, it may be seen that this interpretive feature assigns perceptual responses an important role. Perceptual responses permit complete representation of a distinctive stimulus object even though the object is not physically present, or even though all stimulus aspects are not sensed simultaneously.

The verbal representational system is a symbolic coding system in which symbols are used in the absence of the real objects referred to.

The O has at his disposal a verbal code system that not only stores a great deal of information, but also can be manipulated to recreate perceptual responses in himself and others. Because verbal codes provide for efficient storage and facilitate later recall and reproduction of responses, Bandura (1969) hypothesized that this symbolic representational system probably accounts for the notable speed of vicarious learning and long term retention of modeled contents by humans.

The facilitating effect of verbal symbolization in vicarious learning has been supported by research. To test the theory that symbolization enhances observational learning Bandura, Grusec, and Menlove (1966) exposed 36 boys and 36 girls, ages six to eight years, to one of three treatments. Ss randomly assigned to the facilitative symbolization group were asked to verbalize every action of the M as it was being performed in a movie. Children in the passive observation group simply watched the same film. A competing symbolization group was instructed to count from one to five repeatedly while they watched the filmed presentation. The results indicated that the facilitative symbolization group reproduced significantly more of the modeled responses than the passive group and the competing symbolization group. It was concluded that facilitative symbolization was a significant source of the variance among groups.

Further evidence in support of the symbolic coding conceptualization is provided by Gerst (1969). Ss were assigned to one of four groups and watched a filmed M perform complex motor behaviors. Depending on the treatment to which they were assigned, Ss were told to code items into (a) vivid images, (b) concrete verbal descriptions, and (c) concise labels of the modeled responses. Control Ss were not given an

opportunity to produce symbolic mediators. Results indicated that all three experimental coding conditions enhanced the modeling of responses by the observing Ss. Overall, concise labeling proved to be the most efficient condition when factors of immediate reproduction and retention were considered.

Subprocesses influencing modeling. Contiguity-mediational theory assumes that stimulus contiguity is a necessary, but not sufficient condition for learning (Bandura, 1969, p. 135). Thus, related subprocesses, each with their own influencing sets of variables, must be considered:

1. Attention Processes--As was stated in Chapter I, providing an example of a complex type of behavior for an O does not insure that he will accurately perceive the cues to which his attention has been directed, or that he will select the relevant stimuli (Bandura, 1969). The important consideration is to increase the probability that the O will direct his attention to the modeling sequence. Bandura (1969) mentions a number of attention directing variables which influence whether the M is observed or ignored, e.g., incentive conditions, model characteristics, observer characteristics, and physical properties of the modeling cues. Stimulus input conditions such as rate, number, distribution, and complexity of modeling stimuli must also be considered since they bear on the number of presentations of M required before complete imitation takes place.

McGuire's study (1961), which dealt with overt and covert responding and rate of presentation in audio-visual instruction, points out how a stimulus input condition such as the presentation rate of M can effect learning. The task was to name nine mechanical parts projected onto a

screen. In the overt responding condition the mean score for Ss was 78 correct responses when the stimuli were presented at a slow rate. Under the overt-fast presentation condition the mean score dropped significantly from 78 to 37.

Furthermore, discrimination pretraining and motivational set are also of consequence in determining what stimuli the observer attends to (Bandura, 1969). The literature tends to substantiate the view that some form of prior familiarization or discrimination training augments attending behavior and thus facilitates imitation learning. Wulff and Kraeling (1961) used the assembly of an auto ignition distributor as a learning task and found that Ss exposed to a familiarization procedure, i.e., stimulus characteristics were made more recognizable by using pointers and labels, made less assembly errors than Ss exposed to the same film with no familiarization procedure.

Bandura and Harris (1966) devised an experiment to increase the use of passive nouns in sentences by children. The authors found that combining modeling cues with a procedure to increase the discriminability of passive nouns was successful in changing the S's linguistic patterns. It is interesting to note that modeling used alone was ineffective in changing the S's usage of passive nouns.

2. Retention Processes--Individuals possess the ability to reproduce behavior without having to be continually stimulated by external modeling cues, and therefore, retention processes become important to finding ways of stabilizing and strengthening learning. Rehearsal is a variable important to strengthening retention. Margolius and Sheffield (1961) studied several methods of combining practice with a filmed M and found that overt rehearsal of modeled sequences, by O, enhanced

observational learning. Additionally, Berger (1966) noticed that Os tended to practice M's behavior during exposure, and that the rehearsal phenomena was positively correlated with the level of imitation learning. Additionally, the level of retention was directly related to the number of different behaviors practiced by the Os.

Moreover, the evidence involving covert rehearsal demands attention since it provides a method to expedite learning when overt techniques are not applicable. Michael and Maccoby (1961) discovered that covert rehearsal was equally as effective as overt rehearsal for high school students' retention of factual material presented on film. The importance of covert practice is noted further by Lumsdaine (1961) in his discussion of studies concerned with overt and covert responding conditions. The results of the investigations led Lumsdaine to conclude that covert responding conditions somehow prevent the learner from making incorrect overt responses.

In addition to rehearsal processes, symbolic coding of stimuli appears to be an effective aid to retention (Tulving, 1968; Gerst, 1969; Paivio, 1969).

3. Motor Reproduction--Producing an overt response from that which has been perceptually represented is greatly influenced by the availability of component motor responses. Learning more complex behavior requires that the O have, in his repertoire, previously acqired motor components that can be resynthesized to fit the new patterns of modeled behavior. Because physical limitations and muscle coordination are also critical in very complex performances, Bandura (1969, p. 142) believes that overt practice is required in addition to the performance of an M.

4. Incentive and Motivational Processes--Individuals may learn a

modeled behavior but may simply not be motivated to perform it, or fear performing it because of some punishment contingency. Identification and presentation of the proper incentive, or reinforcement variable, can effectively influence an O to express the modeled response overtly. Research has shown more imitation learning to occur in Ss under conditions of high positive reward than under less reinforcing conditions (Bandura, 1965a; 1965c; Hicks, 1965; Mischel & Grusec, 1966).

The Effects of Exposure to a Model

Bandura (1965a; 1965b; 1969) and Bandura and Walters (1963) suggest that exposure to M has three major behavioral effects: (a) a modeling effect, (b) an inhibitory and disinhibitory effect, and (c) a response facilitation, or eliciting effect.

Modeling effects. The modeling effect is demonstrated when an O reproduces, without performing during exposure, novel behavior that is exhibited by M. The keynote is novel behavior, and it is defined as that behavior which has a very low probability of occurring under appropriate stimulus conditions. Novel behaviors are important to the contiguity-mediational theorist who is critical of the instrumental conditioning paradigm which depends heavily on successive approximation and direct reinforcement procedures to establish novel behaviors. Bandura (1965a; 1965b) views operant procedures as restricting, potentially dangerous, costly, and less efficient than no-trial learning. Research on the alteration of moral judgments in children (Bandura & McDonald, 1963), on the acquisition of aggressive responses in children (Bandura, Ross, & Ross, 1963a), and on the acquisition of complex behavior sequences in college students (Luchins & Luchins, 1966) lends support to the notion of a modeling effect.

Inhibitory and disinhibitory effects. Another behavioral effect of exposure to M pertains to the weakening and strengthening of behavior that is already in the O's repetoire but has been suppressed. Bandura (1965a; 1969), Bandura and Walters (1963), and Flanders (1968) review a number of studies which demonstrate that the frequency of emission of a behavior can be decreased, or inhibited. On the other hand, the emission of socially disapproved behavior has been increased, or disinhibited vicariously.

Eliciting effects. Many times a person views another individual behave in a certain manner, whereupon the behavior of M serves as a discriminative cue for releasing similar behavior in O. The eliciting or facilitating effect is distinguished from inhibitory and disinhibitory effects if the past reward history of O is known (Bandura & Walters, 1963), and because it usually involves socially approved behavior (Bandura, 1969). Sharing behavior in children (Harris, 1968), volunteering aid (Bryan & Test, 1967), information seeking in students (Krumboltz & Thoresen, 1964; Krumboltz, Varenhorst & Thoresen, 1967) are some of the types of behaviors that have been modified through modeling in the recent literature.

Vicarious Reinforcement

It has been suggested that the behavior of O can be modified by exposure to the response consequences of M's behavior with no response contingency for O (Bandura, 1969). Bandura has advanced the idea that vicarious reinforcement is not necessary for, but does facilitate, imitation learning. The above theory is consistent with Bandura's proposed distinction between acquisition (learning) and performance. Acquisition occurs, essentially, through association by contiguity while

performance of vicariously learned behaviors is influenced by vicarious rewards presented to M, or direct rewards presented to O (Bandura, 1965a; Bandura & Walters, 1963). Recent studies by Kanfer (1965), Marlatt (1968b), and Walters and Parke (1964) report findings that support the hypothesized distinction between acquisition and performance.

Vicarious reinforcement is consequential to modeling in a number of ways. It provides: (a) information pertaining to probable reinforcement contingencies, (b) a discriminative role by furnishing information about the types of situations in which behavior is appropriate, (c) knowledge of incentive and motivational sets, and (d) data about emotional responses of Ms experiencing either reward or punishment. Further, vicarious reinforcement provides information pertinent to the social evaluation of M by O. Ms receiving positive reinforcement for their behavior were seen as more prestigious and competent (Bandura, Ross, & Ross, 1963b; Hastorf, 1965).

In his review of the experimental literature on imitation learning Flanders (1968) concludes that the evidence upholds the hypothesis that vicarious reward will increase O's imitation of M. As compared to direct reinforcement, vicarious reward has, generally, been found to be as effective (Bandura & McDonald, 1963; Berger, 1966; Kanfer, 1965; Kanfer & Marston, 1963). One study found that the vicarious reinforcement condition to be more effective than a vicarious plus direct reinforcement condition (Marlatt, 1968). In light of recent studies (Dubner, 1970; Marlatt, Jacobsen, Johnson & Morrice, 1970), it would be most appropriate to conclude, however, that the role of vicarious reinforcement needs to be explored further. Dubner's investigation revealed that vicarious reinforcement did not facilitate children's imitation of M's picture

drawing anymore than did no vicarious reinforcement. Similarly, Marlatt et. al. (1970) found their neutral condition, i.e., no vicarious reinforcement, to be more facilitative than the postive vicarious reinforcement condition for college student's imitation of problem statements.

The Influence of Observer and Model Characteristics In Modeling

Observer characteristics. Some Os, when exposed to M do not imitate as much as others. It has been suggested that some of the variability can be accounted for by examining previous experiences and personality characteristics of the observer (Bandura, 1969; Flanders, 1968; Hosford, 1969).

The sex of O has been shown to be a source of variance in imitation learning. Flanders (1969) explains that sex differences have, generally, been found in studies where some type of aggression is the dependent variable, but that in nonaggression studies no sex differences have typically been found. Those studies that have found differences have been inconsistent. Bandura (1965c) and Bandura, Grusec, and Menlove (1966) found that boys modeled behavior more than girls, as did Kanareff and Lanzetta (1961) in an earlier study. Hetherington (1965) and Patel and Gordon (1960) reported that girls imitated more than boys.

Sex of O sex of M interaction has also been demonstrated. Krumboltz and Thoresen (1964) found that junior high school students imitated M more when M was the same sex. Conversely, Rickard and Joubert (1968) indicate that college students appear to imitate M more when M is of the opposite sex.

With regard to personality characteristics of O, Epstein (1966) found that high authoritarian Os imitate more than low authoritarian Os. Interestingly, Epstein indicated the occurrence of an interaction between

O's level of authoritarianism and the race of M, i.e., high authoritarian Os imitate negro Ms less than white Ms.

Level of self-esteem appears to influence the vicarious learning process. Os with lower measures of self-esteem imitate more than others with higher levels of self-esteem (de Charmes & Rosenbaum, 1960; Gelfand, 1962).

Findings that have been reported concerning the dependency level of O have been inconsistent. Jacubczak and Walters (1959) and Ross (1966) demonstrated that high dependent children imitated M more than low dependent children. However, Jacobsen (1968) found no differences between high and low dependent college students and susceptibility to modeling.

Finally, physiological arousal (Bandura & Rosenthal, 1966; Schachter & Singer, 1962), previous experiences with failure (Gelfand, 1962), and the cooperative-competitive set of O have been shown to effect imitation learning.

Model characteristics. Stimulus aspects of M also bear on the amount of behavior O will model. The literature reveals a number of studies dealing with social power, status, nurturance, and sex of M (Bandura, 1969; Flanders, 1968; Hosford, 1969).

Ms who control resources which have value for O are imitated to a greater degree (Bandura, Ross, & Ross, 1963a; Grusec, 1966; Mischel & Grusec, 1966; Mischel & Liebert, 1967; Hanlon, 1965). Ms who are seen as competent are emulated more (Gelfand, 1962; Rosenhan & Tucker, 1962), as are Ms of high social status (Harvey & Rutherford, 1960; Krumboltz, Varenhorst & Thoresen, 1967).

Experiments focusing on the nurturance dimension have yielded

inconsistent results. Studies have shown that Os exposed to warm, nurturant Ms exhibited more imitative behavior than those exposed to cold, distant Ms (Bandura & Huston, 1961; Bandura, Grusec, & Menlove, 1967). Arongreed, Cutlick, & Fagan (1963) and Rosenhan and White (1967) yielded no nurturance effects.

Results of studies designed to control for sex characteristics of M have, like the nurturance dimension, yielded divergent results. Flanders (1968) has concluded that the available experimental manipulations of sex of M suggest few dependable effects.

A number of modeling studies have considered O and M characteristics as a source of variance. However, more exploration is needed, especially experimentation which focuses directly on the characteristics of O and M.

Awareness

A controversy concerning whether learning can occur with or without awareness appears in the psychological literature (Strong, 1964). Studies concentrating on the role of awareness in learning appear to add little to reducing the controversy because there is little consistency as to what awareness is or how to measure it (Williams, 1964).

Bandura (1969), in discussing several formulations concerning the function of awareness in learning, concludes:

> "A reciprocal interaction theory, [Farber, 1963; Postman & Sassenrath, 1961] , seems best able to order the divergent findings bearing on this issue. According to this view, reinforcing consequences can alter behavior independently of awareness, but individuals eventually infer, from observation of their behavior and its differential outcomes, the correct reinforcement rules which partly control subsequent responding [p. 622]."

The above statement implies that while some learning can occur without awareness, it can be accelerated by awareness of the appropriate

responses. Bandura (1969) has mentioned further that it would be difficult, in fact, to influence O's behavior without his awareness or concurrence.

Models in Counseling

This section will review the literature specifically concerned with the conditioning of verbalization, using an imitation learning paradigm, as it relates to counseling and psychotherapy.

The Conditioning of Verbalization

In reviewing the literature on behavior therapy and the conditioning of verbalization it becomes evident that the bulk of the research has used an operant conditioning paradigm (Grossberg, 1964; Strong, 1964; Williams, 1964). Modeling techniques have received scant attention. Furthermore, most of the work that has involved the use of the imitation learning paradigm has been done with children. Many assumptions about adult modeling behavior have been generalized from experimentation with children. Additionally, Heller (1970) points out that the application of modeling techniques to clinically helpful relationships is hampered by a dearth of research investigating the operation of modeling procedures in clinic-like settings. The above mentioned shortcomings lend credence to the notion that modeling requires more careful investigation especially with reference to: (a) verbal conditioning, (b) adult populations, and (c) counseling.

The relatively small number of studies that have used modeling techniques to influence verbal behavior have, generally, been successful. For ease of presentation, the studies have been classified into two main types: (a) exposure to M during the interview and (b) exposure to M before an interview.

In studies of the first kind, the experimenter, or some confederate, is the M who models appropriate behavior during the counseling or quasi-counseling interview. Wilder (1968) was concerned with the effect of verbal modeling and verbal reinforcement on the frequency of self-referred affect statements. Wilder paid a sample of 57 female college students to undergo 45 minute interviews concerning their adjustment to college. Ss were assigned to one of two experimental groups or a control group. In one experimental group Ss were exposed to the experimenter who modeled self-referred affect statements during the interview. In the second experimental group the experimenter did not model behavior but directly reinforced the S when she emitted a self-referred affect statement. The results indicated that the Ss exposed to the modeling procedure emitted significantly more self-referred affect statements than Ss who were directly reinforced and Ss in the control group.

In a similar study, Brody (1968) used nonvolunteering female college students. The study compared an audiotape modeling treatment with two other modeling treatments in which live Ms were used. All modeling treatments were successful in increasing the initial rate of self-referent affect statements. However, Brody indicated that a model-reinforcement treatment, in which the experimenter M directly reinforced S's emission of appropriate behavior, was found to be most effective when sustained rate of self-referent affect statements was considered.

Studies of the second kind involve subject, or client, exposure to M before entering the interview setting. Truax and Carkhuff (1967) present several studies using a "vicarious therapy pretraining" modality. A "vicarious therapy pretraining" audiotape model was effective in inducing changes in clients' own self-exploratory verbal behavior in

therapy.

In a study focusing on vicarious and direct reinforcement Marlatt (1968a) found that a pre-interview audiotape M significantly influenced the emission of personal problem statements in both male and female students. Marlatt reports that positive vicarious reinforcement alone was more effective than vicarious plus direct reinforcement. However, in a replication of the experiment, Marlatt, Jacobsen, Johnson, and Morrice (1970) obtained somewhat different results. Overall, modeling was found to be effective in increasing the emission of problem statements in college students, but the investigation revealed that the condition of no vicarious reinforcement to M was more influential than the positive vicarious reinforcement condition. The finding provided evidence supporting Bandura's hypothesis that vicarious reinforcement is not a necessary condition for response acquisition.

Jacobsen (1968) explored the effects of several treatment combinations of modeling and instructions on self-disclosing behavior in high and low dependent college students. While there were no significant findings reported concerning the dependency dimension, the investigator did indicate that instructions alone were as good as being exposed to M.

Methods for presenting symbolic Ms have been investigated. Myrick (1968) compared the effects of audio and video M presentation on self-referent behavior in a sample of 90 junior high school boys and girls. Myrick ascertained that both audiotape and videotape methods of presenting M were effective in producing more self-referent behavior in the modeling treatments than in the control group. Moreover, the audiotape treatment appeared to be more powerful than the videotape procedure. Caution must be used in considering the results of this study, since the investigator

used a .25 level of significance to test hypotheses.

Finally, Jourard and Jaffe (1970) present evidence indicating that a live M, i.e., the experimenter/counselor, who self-disclosed to a client before an interview influenced the duration of the client's utterances. The preinterview disclosure by the live M also increased the number of topics the client was willing to discuss.

The effects of modeling on verbal behavior has also been studied in relation to counseling with groups. Zerfas (1965) was able to increase participation in a group of chronic hospitalized psychotics, and in a group of college students by using modeling techniques (Heller, 1970).

Truax, Wargo, Carkhuff, Kodman, & Moles (1966) and Truax and Wargo (1969) provided group therapy patients with "vicarious therapy pretraining" by presenting an audiotape of a patient M emitting self-exploratory behavior. Both studies found the pretherapy audiotape to be successful.

Whalen (1969) assessed the effects of various combinations of Ms and instructions on interpersonal openness in a group setting. The data revealed that detailed instructions, followed by a videotaped M facilitated openness and tended to inhibit impersonal discussion. In a similar study Milburn (1971) presented a group of counseling clients with an audiotaped M exhibiting self-disclosing and feedback behaviors. While the M was effective in facilitating feedback, over time, in group clients, it was not successful in increasing emission of self-disclosure.

Summary

Chapter two has reviewed the literature on vicarious learning processes from a contiguity-mediational theory point of view. Modeling is seen as a conditioning process based on the two assumptions that: (a) learning occurs through association by contiguity and (b) learning

can take place at a perceptual level without any overt performance being made by O. Verbal behavior is important to the learning process because words provide for efficient storage and expedite recall and reproduction of learned responses.

There are also several conditions and variables which influence vicarious learning processes. Research findings present evidence to support the view that attention, retention, motor reproduction and incentive are conditions that can effect rate and level of observational learning. Additionally, modeling has been shown to effect behavior in a number of ways. Modeling procedures are capable of: (a) producing novel behaviors where the behaviors were previously nonexistent in the repetoire, (b) inhibiting and disinhibiting existing behaviors, and (c) facilitating the production of socially approved behaviors.

The role of vicarious reinforcement was also reviewed. Studies, generally, support the contention that vicarious reinforcement extended to M will tend to increase O's imitation of the M. Further, vicarious reinforcement has been found to be at least as effective as directly reinforcing O for appropriate behavior.

Characteristics of O and M were discussed as possible sources of variance which may be of help in explaining why some Os imitate more than others. Future investigations are called for to clarify divergent findings.

The controversial topic of the role of awareness in learning was discussed.

Finally, studies concerned with the effect of modeling on verbal behavior in counseling or quasi-counseling settings were reviewed. It was concluded that, while modeling procedures appear to be effective in

facilitating certain classes of verbal behavior, more research is needed.

CHAPTER III

METHODOLOGY

Hypotheses

The study was concerned with the use of modeling procedures to improve client verbal participation in a quasi-counseling setting. The problem was to determine whether a preinterview audiotape discrimination training model (DTM) would facilitate efficient client verbalization and inhibit inefficient client verbalization in an interview with a counselor. An additional problem was to ascertain whether the DTM, which required written responses by Ss during exposure, was any more effective than a passive model (PM) not requiring any overt responses by Ss during exposure. To test the idea, Ss were exposed to: (a) a DTM, (b) a PM, or (c) no model before entering an interview. Treatment effect was determined by counting the frequency of verbal referent statements emitted by the Ss during the 20 minute interview. Specifically, PSR constitued the efficient form of verbal behavior and N/ASR and EOR constituted the inefficient types of verbal behavior that were measured to test the hypotheses. It was hypothesized that Ss exposed to the DTM, or to the PM, would emit significantly more PSR and significantly less N/ASR and EOR than Ss exposed to no model. It was also hypothesized that Ss exposed to the DTM would emit significantly more PSR and significantly less N/ASR and EOR than Ss exposed to the PM.

Major Null Hypotheses

1. There is no statistically significant difference among DTM, PM, and control treatments as measured by Ss' PSR.

2. There is no statistically significant difference among DTM, PM, and control treatments as measured by Ss' N/ASR, and as measured by Ss' EOR.

Secondary Null Hypotheses

3. There is no statistically significant difference between male and female Ss' PSR.

4. There is no statistically significant difference between male and female Ss' N/ASR and EOR.

5. There is no statistically significant difference among counselors as measured by Ss' PSR, by Ss' N/ASR, and by Ss' EOR.

6. There is no statistically significant interaction among the main effects of treatment, counselor, and sex for PSR, N/ASR, and EOR.

Subjects

A group of 97 volunteers, i.e., 51 females and 46 males, were obtained from two large Sociology I lecture classes during the Fall, 1970 semester at the University of Maryland College Park Campus.

Volunteers were told that they would participate in an interesting "student views survey" aimed at getting to know more about college students' feelings, attitudes, beliefs, and problems now that they were part of an academic environment. The experimental pretense was similar to Ince's (1968) study which involved the conditioning of verbal behavior using an operant paradigm. The volunteers were told that they would be paid $2.00 for spending approximately one-half hour with a professional counselor in a confidential interview. Application forms were used to aid in contacting the student for an interview and in facilitating sex identification and randomization procedures. (See Appendix A for the volunteer application form.)

The application forms were then numbered consecutively by sex. Males were given odd numbers and females were given even numbers. Using a table of random numbers, 27 male Ss and 27 female Ss were selected for a total of 54 Ss. Volunteers who were not selected provided a source for alternate Ss in the event of a "no show" during the experiment.

Following the above procedure, a table of random numbers was again used to assign male and female Ss to one of three treatment groups. There were 18 Ss, i.e., nine males and nine females, in each treatment group.

The three counselors participating in the experiment were assigned numbers and randomly sequenced. Subsequently, each S was randomly assigned, by sex, to each counselor in sequence. Thus, each counselor interviewed an equal number of male and female Ss from an equal number of treatment conditions.

Ss were contacted by telephone and given an appointment for an interview. Four subjects, i.e., three males and one female, failed to present themselves for the experiment. Alternate Ss were randomly selected from the pool of previously unselected volunteers.

Audio Tape Models

Discrimination Training Model (DTM)

The DTM is an audiotape model of $12\frac{1}{2}$ minutes duration, which presents a student peer model exhibiting both efficient and inefficient interview behavior. Additionally, the DTM provides four overt response sequences, each with feedback, to promote "attentional set" and aid in the accurate discrimination of cues modeled during exposure. (See Appendix B for DTM typescript.)

For this investigation, focusing on one's own feelings, attitudes, beliefs, and problems, i.e., positive self-reference, was considered efficient behavior. Negative and ambiguous references to one's feelings, attitudes, beliefs, and problems, and references to external persons and things were considered inefficient behavior. When M exhibited an efficient verbal behavior on the tape he was reinforced by the counselor

on the tape. That is, the counselor responded with supportive verbal behavior. When M exhibited inefficient behavior the counselor responded with a question or with a nonevaluative reply. No punishment was extended to M for inefficient verbal behavior.

The four overt response sequences in the DTM were 45 second intervals during which the S was instructed to make a written response to two short questions. The questions were:

1. Was the student expressing his views efficiently or inefficiently?
2. Why do you think so?

The written response interval of 45 seconds had been pretested against other time intervals of 30 seconds and 60 seconds. Students used to compare the intervals found the 45 second interval to be the most comfortable without being wasteful. These students did not participate in the experiment. (See Appendix C for the interval response sheet.)

Passive Model (PM)

The PM is an audiotape of $9\frac{1}{2}$ minutes duration. It is an exact duplicate of the DTM with the exceptions that the narrator instructions for the four response intervals and the intervals themselves have been deleted.

Tape Production

A freshman college student and a doctoral student in counseling role played the student-counselor interaction using a prepared script. The narrator on the audiotape was a doctoral intern in counseling. The participants in the tape production had no further involvement in the study.

The PM tape was made by copying the DTM tape and deleting the

narrator instructions for the response sequences and the four 45 second response intervals.

Treatment Procedures

Discrimination Training Model Treatment

The DTM treatment Ss were given an appointment, by the experimenter (E), to meet with a counselor at the University Counseling Center. It was arranged so that three DTM treatment Ss of the same sex arrived at the same time. Thus, counselors would interview their prospective Ss during the same period of the day. It is important to note that the three treatment procedures were randomly sequenced throughout the three days of the experiment. No two treatments reported at the same time. This was done to prevent loss of validity through treatment contamination. (See Figure 1 for the daily sequence schedule of treatments.)

Upon presenting themselves, DTM treatment Ss were greeted with a minimum of verbalization by E. Ss were then given the following instructions by E:

> "We are interested in the views of college students now that they have become part of an academic environment. You will enter a confidential interview, so feel free to discuss your views with the counselor."

Each group of three Ss was then conducted to a room where the DTM would be presented. Upon entering the room the Ss were seated facing away from each other. E then passed each S an interval response sheet (IRS) and a pencil and gave the following prepared rationale for the DTM and the IRS:

> "You are about to enter a 20 minute interview. Now twenty minutes is a short period of time to discuss one's feelings, attitudes, beliefs, and problems. This $12\frac{1}{2}$ minute audiotape consists of parts of a previous interview with a student like yourself and may be helpful in making your interview more efficient. Your responses to the questions on the interval

> response sheet will be used to help me [the E] see if the tape has been confusing or helpful. Please read the instructions at the top of the sheet."

Ss were then given a set of earphones that enabled them to adjust sound to a volume level comfortable for them. The tape was started and E left the room. Upon completion of the tape Ss were directed to their respective interviewers.

The interviews were of 20 minutes duration. Timeclocks were used to insure that each was 20 minutes in duration. The timeclocks were pretested and found to be within 10 seconds of each other at the time the experiment began. They were rewound before each interview.

Upon completing the interview, each S was paid $2.00 by the counselor and left the Center. Participating Ss were sent a letter explaining the actual motive of the study with a brief summary of results when the data analysis was completed. (See Appendix D for the debriefing letter.)

Passive Model Treatment

Ss assigned to the PM treatment group went through the same procedures experienced by the DTM Ss, except that the alternate PM was used. Instructions differed in that the PM treatment Ss did not respond to questions on the IRS, but only listened to the $9\frac{1}{2}$ minute tape.

Control Treatment

Ss assigned to the control treatment were greeted by E in the same fashion as the DTM and PM Ss. Control Ss were also given the same instructions. After the initial instructions, the Ss were directed immediately to their interviewer. (See Figure 2 for the summary of treatment procedures.)

Counselors

Three male counselors were used in this experiment. All were

doctoral interns in Counseling Psychology or Counseling and Personnel Services. The three interns were all in the advanced stages of their respective doctoral programs and had had previous supervised counseling experiences.

Counselors had no knowledge as to the exact nature or presentation of the DTM or the PM. The counselors were instructed to begin each interview by explaining to the S that he should feel free to speak about his feelings, attitudes, beliefs, and problems as a student at the University. These instructions were not memorized verbatim. The counselor was given the latitude to explain the above to each S in whatever way he wished, but the explanation had to precede each interview. Additionally, each counselor was asked to be supportive when Ss discussed their own views with the counselor. No other methodological limitations were placed on the counselors.

Dependent Variables

The three dependent variables in this investigation are positive self-reference, negative-ambiguous self-reference, and external object reference. The frequency of emission of the three types of verbal behavior, by each S in an interview, constituted the data for testing the hypotheses. The operational definitions given below are modified versions of the adopted by Ince (1968) in a study that used the operant paradigm to control verbal behavior.

Positive Self-Reference (PSR)

PSR refers to a statement made by a S in which he verbally expresses his own feelings, attitudes, beliefs, and problems in a way which expresses no negation, ambiguity, or doubt, e.g., I don't know, I have no idea, I think, I guess, maybe, perhaps, to the interviewer.

The statement must contain one of the following pronouns: I, my, me, we, our, and us. Some examples are given below:

I believe that student unrest is hurting students.
We really love each other.
My problem is that I cannot get along with my roommate.

Negative-Ambiguous Self-Reference (N/ASR)

N/ASR refers to a statement made by a S in which he verbally expresses a self-referent statement, but at the same time the unit of speech expresses negation, ambiguity, or doubt, e.g., I don't know, I have no idea, I think, I guess, maybe, perhaps, to the interviewer. Some examples of N/ASR are:

I don't know how I feel about school.
Maybe I should try to call my parents.
I think I am lonely.

External Object Reference (EOR)

EOR refers to statements made by a S in which he focuses on other people or things. Examples of EOR:

My parents felt uptight about the riots.
They are always starting trouble.
Professors think that their particular subject is the most important.

Rating Procedure

Raters

Three graduate students were trained for a period of six hours rating audiotapes of interviews that had been recorded for training purposes only. E participated as one of the three raters and had no knowledge of the treatment to which any of the Ss had been exposed since all the interviews were randomly sequenced on the audiotape.

Following the six hour training period, the three raters worked independently of each other. Each was required, however, to use earphones and a rater's guidesheet which had been developed during training.

(See Appendix E for the rater's guidesheet.)

Interrater Reliability

Interrater reliability was determined by using Pearson product-moment correlation coefficients. A correlation was computed for each rater pair, i.e., raters A and B, raters A and E, and raters B and E, for each of the dependent variables. The rater pair yielding the highest interrater reliability for the dependent variables determined the ratings used to test hypotheses.

Data Analysis

The frequency of emission of each S's PSR, N/ASR, and EOR provided the data used in the analysis.

The investigation used a posttest only control group design. The design consisted of a 3 X 3 X 2 factorial experiment, i.e., Treatment X Counselor X Sex, in which all the factors were fixed. Analysis of variance was the statistical method used to test hypotheses. The University of Miami Biometric Laboratory Multivariate Analysis of Variance Program, i.e., MANOVA, and the University of California at Los Angeles Health Facility Analysis of Variance for a Factorial Design, i.e., ANOVA, were the computer programs used to analyze the data. The use of the two programs provided a check for error, and each provided supplemental data that were not given by using either of the programs alone, e.g., the MANOVA provided F ratios and significance levels and the ANOVA provided sums of squares and error statistics.

The Duncan new multiple range test (Edwards, 1968) was the post hoc procedure used to ascertain specific differences between main effects when an F ratio did reach the critical level of $p < .05$ using a one-tail test.

Null hypotheses were not supported upon reaching the .05 level of significance using a one-tail test.

FIGURE I

Daily Sequence Schedule for Treatment

Treatments Day One	Time	Treatments Day Two	Time	Treatments Day Three	Time
Control	2:00 pm	Control	2:00 pm	PM	1:00 pm
DTM	2:30 pm	DTM	3:00 pm	Control	2:00 pm
PM	3:00 pm	PM	4:00 pm	PM	2:30 pm
PM	3:30 pm	Control	6:15 pm	DTM	3:00 pm
Control	4:00 pm	DTM	6:30 pm	DTM	4:00 pm
DTM	6:15 pm	PM	7:00 pm	Control	6:15 pm

FIGURE 11

Summary of Treatment Procedures

DTM Treatment	PM Treatment	Control Group
A. Three Ss arrive for appointment	Same	Same
B. Instructions given by E	Same	Same
C. Ss led to exposure room	Same	No exposure
D. Ss given IRS	Not given	No
E. E gives rationale for M and IRS	Rationale for M	No
F. Ss listen to an audiotape of M	Same	No
G. Ss overtly respond to questions during exposure	No responses required	No
H. Ss proceed to 20 minute interview	Same	Same
I. Receives $2.00 and leaves Center	Same	Same

CHAPTER IV

RESULTS

This study investigated the effects of two types of modeling conditions and a no model condition on verbal behavior in a quasi-counseling setting. Ss were exposed to: (a) a DTM requiring written responses by each S during exposure, (b) a PM which did not require any response by S during exposure, or (c) no model before entering an interview with a counselor. PSR, N/ASR, and EOR were the criteria used to determine treatment effect. It was hypothesized that Ss exposed to the DTM, or to the PM, would emit significantly more PSR and significantly less N/ASR and EOR than Ss exposed to no model. It was also hypothesized that Ss exposed to the DTM would emit significantly more PSR and significantly less N/ASR and EOR than Ss exposed to the PM. Results of the data analysis are presented below.

Results

Interrater Reliability

The interrater reliability coefficients for PSR, N/ASR, and EOR are summarized in Table 1. The rater combination of A and E resulted in the highest interrater reliability consistently across PSR, N/ASR, and EOR. Frequencies of the three dependent variables as rated by A and E constituted the data used in the analysis.

Findings for the Major Null Hypotheses

Null Hypothesis One--There is no statistically significant difference among DTM, PM, and control treatments as measured by Ss' PSR. Hypothesis one was not supported. Table 5 summarizes the analysis of variance for PSR. The table shows that the F ratio for treatment effect did reach significance level, i.e., $p < .05$. Post hoc analysis, using the Duncan

new multiple range test (Edwards, 1968), revealed that the means for the DTM and the PM treatment groups were not significantly different. However, both the DTM and the PM Ss did emit significantly more PSR than the control Ss. Table 2 shows the mean frequencies of PSR emitted by the treatment groups.

TABLE 1

Interrater Reliability Coefficients for Frequency of Emission of PSR, N/ASR, and EOR Using Pearson r

Rater Combination	PSR r	N/ASR r	EOR r
A and B	.68	.65	.49
A and E*	.84**	.89**	.70**
B and E*	.73	.73	.65

* E is the investigator.
** Identifies the reliability coefficient for the rater combination used in the data analysis.

Null Hypothesis Two--There is no statistically significant difference among DTM, PM, and control treatments as measured by Ss' N/ASR and as measured by Ss' EOR. Hypothesis two was supported. The analysis of variance for N/ASR and EOR is outlined in Table 6 and Table 7 respectively. There were no significant differences, at the .05 level, between the treatment means for N/ASR and for EOR. Treatment means for these two dependent variables, presented in Table 2, reveal that there was little variation among the three treatment groups.

Findings for the Secondary Null Hypotheses

Null Hypothesis Three--There is no statistically significant difference between male and female Ss' PSR. Hypothesis three was not supported. The analysis of variance outlined in Table 5 demonstrates a significant F ratio for the sex factor. The means in Table 4 indicate

that females emitted significantly more PSR than did males.

Null Hypothesis Four--There is no statistically significant difference between male and female Ss' N/ASR and EOR. Hypothesis four was supported. There were no differences between males and females for emission of N/ASR and for EOR (Table 6 and 7). The means for N/ASR and EOR are summarized in Table 4.

Null Hypothesis Five--There is no statistically significant difference among counselors as measured by Ss' PSR, N/ASR, and EOR. The hypothesis was supported. There were no differences in the performances for the three counselors as measured by each criterion, i.e., PSR, N/ASR, and EOR. The main effect for counselor shown in Table 5, 6, and 7 indicates insignificant F ratios across the three dependent variables. Examination of the means in Table 3 suggests that Ss who had interviews with counselor two emitted less PSR. However, a post hoc test indicated that there were no significant differences between the three counselor means for the PSR variable.

Null Hypothesis Six--There is no statistically significant interaction among the main effects of treatment, counselor, and sex for PSR, N/ASR, and EOR. Hypothesis six was supported. There were no significant interactions found among the main effects of treatment, counselor, and sex (Tables 5, 6, and 7). Thus, differences which occurred between the levels of treatment and between the levels of sex for the PSR variable should be considered singly.

TABLE 2

Means and Standard Deviations for the Three Dependent Variables by Treatment (A)

	PSR		N/ASR		EOR	
Treatment	Mean	SD	Mean	SD	Mean	SD
DTM	63.69	22.02	28.11	10.65	64.61	15.33
PM	68.69	15.64	32.78	13.09	69.19	18.48
Control	52.39	11.91	29.53	11.32	73.47	11.01

TABLE 3

Means and Standard Deviations for the Three Dependent Variables by Counselor (B)

	PSR		N/ASR		EOR	
Counselor	Mean	SD	Mean	SD	Mean	SD
Counselor 1	64.03	14.23	29.19	11.35	70.78	15.31
Counselor 2	55.53	19.74	28.92	11.82	68.17	15.85
Counselor 3	65.22	19.03	32.31	12.22	68.33	15.78

TABLE 4

Means and Standard Deviations for the Three Dependent Variables by Sex (C)

	PSR		N/ASR		EOR	
Sex	Mean	SD	Mean	SD	Mean	SD
Males	54.28	14.35	29.20	11.96	70.19	14.68
Females	68.89	18.56	31.07	11.65	68.00	16.29

TABLE 5

Analysis of Variance for the Positive Self-Reference Variable

Source	df	Sums of Squares	Mean Square	F
Treatments (A)	2	2512.12	1256.06	4.90*
Counselors (B)	2	1005.95	502.98	1.96
Sex (C)	1	2889.35	2889.35	11.27*
A X B	4	189.71	47.43	.19
A X C	2	802.06	401.03	1.56
B X C	2	29.56	14.78	.06
A X B X C	4	573.93	143.48	.56
Error	36	9227.33	256.31	
Total	53	17230.01		

* $p < .05$.

TABLE 6

Analysis of Variance for the Negative-Ambiguous Self-Reference Variable

Source	df	Sums of squares	Mean Square	F
Treatments (A)	2	206.08	103.04	.71
Counselors (B)	2	127.44	63.72	.44
Sex (C)	1	47.23	47.23	.32
A X B	4	1114.88	278.72	1.92
A X C	2	135.29	67.64	.46
B X C	2	138.04	69.02	.47
A X B X C	4	217.91	54.48	.37
Error	36	5243.33	145.65	
Total	53	7230.20		

TABLE 7

Analysis of Variance for the External Object Reference Variable

Source	df	Sums of Squares	Mean Square	F
Treatments (A)	2	706.95	353.48	1.34
Counselors (B)	2	76.93	38.46	.15
Sex (C)	1	64.46	64.46	.24
A X B	4	279.41	69.85	.27
A X C	2	363.68	181.84	.70
B X C	2	73.59	36.79	.14
A X B X C	4	1507.52	376.88	1.43
Error	36	9494.50	263.74	
Total	53	12567.04		

CHAPTER V

SUMMARY, CONCLUSIONS, DISCUSSION

Summary

The study, based on contiguity-mediational principles of learning, investigated the effect of one type of verbal discrimination training model (DTM) on three dimensions of verbal behavior in a quasi-counseling interview. The three dimensions of verbal behavior were: (a) positive self-reference (PSR), (b) negative-ambiguous self-reference (N/ASR), and (c) external object reference (EOR). Further, it was assumed that talking about oneself, and not about other people or things, is an important goal in counseling process.

The sample consisted of 54 Ss, i.e., 27 males and 27 females, randomly selected from a group of 97 volunteers obtained from two large Sociology I lecture classes during the Fall, 1970 semester at the University of Maryland. Volunteers were told that they would participate in an interesting "student views survey," and that they would be paid for their participation. Ss were randomly assigned, by sex, to one of the experimental groups or to the control group. Next, Ss were randomly assigned, by sex, to one of the three counselors participating in the experiment.

Experimental Ss received instructions to discuss their feelings, attitudes, beliefs, and problems with the counselor. Ss were then exposed to the DTM or to the PM via audiotape. The DTM presented both efficient and inefficient verbal behavior and used four written response sequences to enhance attentional set and facilitate discriminability of the efficient and inefficient behavior. The PM was a duplicate of the DTM with the exception that Ss listened passively with no overt responses

required. After exposure, experimental Ss had a 20 minute interview with a counselor. Control Ss simply received the same instructions given to the experimental Ss and entered the interview.

The interviews were audiotaped and timed to insure that each interview was the same length. Raters were trained to count the frequencies of PSR, N/ASR, and EOR emitted by each of the Ss. Analysis of variance procedures were used to test for differences in the mean number of PSR, N/ASR, and EOR among the three treatment groups. The level of significance for hypotheses testing was set at .05 using a one-tail test.

Conclusions

The first major null hypothesis was not supported and the second major null hypothesis was supported. From the data it was concluded that:

1. The PM was equally as effective as the DTM in facilitating the emission of PSR. Moreover, a post hoc analysis revealed that Ss exposed to the DTM and the PM emitted significantly more PSR than the control Ss. ($p < .05$)

2. There were no significant differences in the emission of N/ASR or EOR among the three groups. Both the DTM and the PM were ineffective in decreasing Ss' emission of N/ASR and EOR.

Examination of the data concerned with the secondary null hypotheses allowed for the following conclusions:

3. Females emitted significantly more PSR than males. It would appear that female college students disclose more readily than do male college students. ($p < .05$)

4. No sex differences were found for the N/ASR and EOR dependent variables. Both the DTM and the PM were as ineffective in decreasing male N/ASR and EOR verbal behavior as they were in decreasing female N/ASR and EOR verbal behavior.

5. There were no significant differences between the three counselors as measured by the frequencies of PSR, N/ASR, and EOR. Counselors performed similarly in this experiment.

6. Finally, the null hypothesis concerned with the interaction of treatment, counselor, and sex was supported. For this investigation, differences among treatments could be considered independently of the main effects for counselor and sex.

Discussion

Limitations of the Study

The first limitation concerns the modeling tape. In producing the tape, a student and counselor trainee role-played the interview that was presented to Ss as a real interview. There was the possibility that the model interview was not perceived as a natural one by the Ss, and thus, may have interfered with Ss' later performance in the actual interview. In future studies, the problem might be remedied by hiring professional actors or by using student actors from a university's Drama Department. The experienced actor may enhance the naturalistic quality of the audiotaped interview.

A second possible limitation has to do with the statistical procedures used in the investigation. The investigator used a three-way analysis of variance for a factorial design under a fixed effects model, i.e., treatment, counselor, and sex were all treated as fixed, not random, effects. As such, the generalizability of the results and exact replication of the investigation are limited. Treatments were not randomly selected from a population of n treatments because the investigator was interested in a specific treatment. The three counselors used in the experiment were not randomly drawn from a larger population of interns since there were only four available interns in the Counseling Center. The investigator simply requested aid from the first three counselor interns with which he came in contact.

The use of the fixed effects model is justified, however, in

studies of the type presented here. Hays (1966) mentions that the fixed effects analysis is the most prevalent technique in experimental psychology because it is an extremely flexible technique which is robust against the assumptions of normality and homogeneity of variance.

One possible way of enhancing the statistical generalizability of the results and precise replication of the study would be to use an anlaysis of variance procedure under a mixed model (Edwards, 1968; Hays, 1966). In replication, E might change to a mixed model by randomly selecting n number of counselors form a larger population of counselors. Thus, treatment and sex would remain fixed effects and counselors would be treated as a random effect. Myrick's study (1969) is an example of the mixed model design.

Effects of the Treatments on the Dependent Variables

The PSR variable. The results indicated that both the DTM and the PM facilitate the emission of PSR statements. The finding that Ss exposed to either of the modeling treatments emitted significantly more PSR statements than control Ss does, however, lend additional support to the research that has found modeling procedures effective in conditioning verbal behavior. For this study, at least, exposing young adult college student to a short peer model was enough to effect the emission of one class of verbal behavior in an interview with a counselor.

One possible explanation for the finding that the PM was as effective as the DTM concerns the exposure procedure itself. Since both PM and DTM were identical, with the exception of the four interval response sequences in the DTM, it would appear that a quiet, private room and a set of earphones was enough to facilitate the attention and discrimination

in the college students selected in this investigation.

An alternative explanation may be that the modeling of both the efficient and inefficient behaviors provided Ss with a contrast between the behaviors and enhanced reduction of ambiguity between them. Consequently, Ss were able to imitate the efficient PSR statements more readily.

Another possibility accounting for the above finding, and by far the most intriguing for the investigator, involves speculation about what might be labeled a "ceiling effect." It may be that O's initial response rate after exposure to M reaches a "ceiling" or threshold. The threshold is easily reached with minimal model exposures.

The data revealed that the PM treatment Ss had a slightly higher, though not significantly higher, mean frequency of PSR statements than the DTM treatment Ss. The difference may be explained as merely a chance occurrence which upon replication could easily be reversed. However, it is possible that the DTM may have some deleterious effects. McGuire (1961), in a study which dealt with overt and covert participation in audiovisual instruction, discusses some deleterious effects of participation which may bear on the somewhat lower DTM treatment mean. It may be possible that certain Ss, when called upon to participate, feel inadequate and anxious. The anxiety creates interference which hampers the amount of learning that can take place. Secondly, the pressure to participate may become a preoccupation with some Ss and interferes with reception of modeled behavior.

The N/ASR and EOR variables. It was expected that exposure to the DTM would enhance discriminability of cues to the point where Ss would talk less vaguely about themselves and less about other people or things.

The data did not support the expectation. N/ASR and EOR means for the two experimental conditions did not differ significantly from the contol group means.

A plausible explanation for the ineffectiveness of the models with regard to N/ASR and EOR has to do with the concept of vicarious punishment. In both the DTM and the PM the M was not punished in any way for emitting inefficient behavior. The counselor simply responded in a neutral way by asking a question or responding nonevaluatively. Bandura (1969) has hypothesized that the observing of a M being punished for inappropriate behavior can decrease the emission of inappropriate behavior by O. Perhaps the punishing of M would have facilitated decrements in N/ASR and EOR.

Another explanation is, again, put forth by Bandura (1969). Bandura has stated that one exposure to a model may not be enough to influence the particular behavior one wishes to change. Multiple trials may be needed in order to accurately produce changes in behavior. It is possible that, for these Ss, N/ASR and EOR are classes of verbal behavior that have become strong through extensive use. Therefore, multiple exposures may be what is needed to reduce the frequency of emission of these behaviors.

From the results it would appear that talking negatively and ambiguously about oneself, and talking about other people or things are strong, perhaps predominant classes of verbal behavior. Krumboltz and Thoresen (1969) express the opinion that our society probably does not reward, but punishes expressions of feeling about oneself. When people are not permitted to share their feelings with others, over a period of time, they learn other classes of verbal behavior that are more acceptable to

others. It may be that N/ASR and EOR are, in reality, the more socially acceptable behaviors in our complex society. The matter is, of course, subject to objective research.

A final explanation involves a consideration of O characteristics. On one of the Interval Response Sheets a DTM S simply wrote down on the sheet that she disagreed with the narrator feedback that the segment she had just listened to was inefficient. It is possible that characteristics of O did effect results since they were not controlled for per se, but were only minimized through randomization of the Ss.

Counselor Effects

As hypothesized there were no counselor differences as measured by the three dependent variables. For this study, no one counselor either hindered or enhanced the treatment procedures. The data do not permit further objective analysis of counselor effects. However, one might conjecture that, since the counselors had not been randomly selected and all were interns at the same counseling center, common practicum and internship experiences may have been responsible for the apparent similarity of performance.

Sex Differences

The data indicate that whether they were exposed to a M or not females tended to emit more PSR statments than males. If it can be assumed that PSR is similar to self-disclosure then this study would support Jourard's investigations in self-disclosure. Jourard (1964) found that females disclosed themselves to others more than did males. A possible explanation for this finding has to do with speculation about social tradition in the United States. Women have been traditionally considered the "weaker sex." It has been, therefore, most acceptable

for females to express their feelings, attitudes, beliefs, and problems openly. Hence, the behaviors may already be in the female repetoire, needing only a discriminative cue to facilitate emission. Bandura (1969) has noted that behaviors may exist in a repertoire in different subunits. The subunits can be reordered, thus, making the new behavior easier to learn through imitation. Conversely, the male has, traditionally, not been socially rewarded for self-disclosing verbal behavior and may have learned to be less accessible. For males, PSR may be a socially censurable type of behavior that has become resistent to emission in a social context.

There were no sex differences found for N/ASR and EOR. It appears to be equally easy for males and females to talk vaguely about themselves and about other people or things. This finding gives support to a hypothesis that N/ASR and EOR statements may be predominant classes of verbal behavior in social interaction for both sexes.

Implications for Further Research

Previous research on imitative learning has been carried out, generally, with children. Much of what is discussed, in terms of modeling in older populations, has been generalized from results obtained with children. The results of this investigation, then, add support to the smaller number of imitation learning studies that have found modeling techniques to be successful in modifying various types of adult behavior.

Also, the results hold implications for the contiguity-mediational proposition that certain kinds of behaviors are resistant to modeling procedures. N/ASR and EOR statements are behaviors which were found to be resistant to modeling in this experiment. Further experimentation

could ascertain whether N/ASR and EOR statements are consistently resistant to modeling. It so, it would identify an area where multiple exposures to M, or vicarious punishment to M, might be facilitative. The result is a stronger and more refined modeling technique.

In addition, the study attempted the development of a more facilitative model that would enhance attentional set and discriminability of efficient and inefficient interview behaviors. For the college students in this study, a quiet room and earphones appeared to be enough to facilitate attentional set. Research on attention and discrimination in modeling has primarily used a child population but behavioral scientists may find they must consider an age dimension when developing modeling techniques. What may be needed to facilitate attention in children may not be required for an older more mature population.

Furthermore, the results have implications for the use of modeling procedures in counseling. As Myrick (1969) has stated, short efficient models can prepare clients to participate more efficiently in counseling in whatever way may be deemed desirable by the counselor or agency. As such, imitation learning techniques provide a way to expedite process and goal attainment.

Therapist variables must be studied further since they are important to learning more about how a counselor's behavior facilitates or hampers modeling effects.

Finally, the particular modeling procedure used in this experiment needs further clarification with regard to the process of retention. The study investigated only the initial response rate of a S's verbal behavior after exposure to the DTM or the PM. Since there were no differences between DTM and PM in facilitating the initial response rate of PSR verbal

behavior it would be intriguing to investigate which of the experimental procedures facilitate retention of the modeled behavior over time. This could be done in a replication of the study by adding a second interview which could possibly take place one or two weeks after the initial exposure to M. It might be hypothesized that DTM Ss would retain more of the learned behaviors. Bandura (1969) reports that the area concerning modeling and retention processes has been virtually ignored. The study would not only help to clarify the status of the DTM procedure, but also would be a contribution to the sparse amount of literature on retention as it relates to imitation learning.

APPENDICES

APPENDIX A

Volunteer Application Form

Student Views Survey

I would like to participate in a social science survey concerned with getting to know more about college student's feelings, attitudes, beliefs, and problems now that they have become part of an academic environment. I understand that 30 minutes is the maximum amount of time I will be putting into this survey. Results are Confidential!

NAME_____PHONE NO._____SEX____

MAILING ADDRESS_____

_____ZIP CODE_____

HOURS WHEN I AM AVAILABLE TO RECEIVE A PHONE CALL. CIRCLE AS MANY AS POSSIBLE.

MON. 9 10 11 12 1 2 3 4 5 6 7 8

TUE. 9 10 11 12 1 2 3 4 5 6 7 8

WED. 9 10 11 12 1 2 3 4 5 6 7 8

THU. 9 10 11 12 1 2 3 4 5 6 7 8

FRI. 9 10 11 12 1 2 3 4 5 6 7 8

HOURS AVAILABLE FOR AN INTERVIEW. CIRCLE AS MANY AS POSSIBLE.

MON. 9 10 11 12 1 2 3 4 5 6 7 8

TUE. 9 10 11 12 1 2 3 4 5 6 7 8

WED. 9 10 11 12 1 2 3 4 5 6 7 8

THU. 9 10 11 12 1 2 3 4 5 6 7 8

FRI. 9 10 11 12 1 2 3 4 5 6 7 8

CLASS STANDING

FROSH ( ) SOPH. ( ) JUNIOR ( ) SENIOR ( )

APPENDIX B

Typescript of the Discrimination Training Model Audiotape

Introduction

NARRATOR: In a few minutes you will enter a strictly confidential interview with a professional counselor. The purpose of the interview is to learn more about you, the college student, your attitudes, feelings, beliefs and common problems now that you have been part of an academic environment. The role of the counselor will be to facilitate your interview. The knowledge obtained will help us get to know students better than we do now.

Because you will be with us a short time we have made this tape to help you improve your style of participation in the interview. Briefly, we want you to be efficient--we want you to talk about yourself; your own feelings, attitudes, beliefs and problems. We do not want you to be inefficient. Expressing your views in ways that leave the interviewer in doubt as to what you feel, or talking about other people's views are not efficient because they do not give us a chance to learn about you.

The following tape consists of segments from a previous interview with an undergraduate student like yourself. Some parts of the tape show the student being efficient and some show him being inefficient. Keep in mind that the student's views may, or may not be like your own. What is important to note is the difference between efficient and inefficient participation.

INSTRUCTIONS FOR THE RESPONSE INTERVAL

NARRATOR: The following instructions concern your response sheet before you on the desk.

You will hear four segments from a previous interview. After each of the four segments you will hear a tone. When you hear the first tone you will have 45 seconds to respond to two short questions on the sheet. The next one will signal an interruption by the narrator to give you feedback concerning the questions you answered.

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* The transcript for the passive modeling tape will be identical to the discrimination training tape with the exception that training instructions and response intervals will have been deleted.

SEGMENT A

Efficient Participation

COUNSELOR: Hello Gary. Have a seat. Well....this interview is concerned with getting to know college students better and I would like you to feel free to talk to me about your feelings, attitudes, beliefs and problems. What you say is confidential and you can be assured your views will remain anonymous.

MODEL: Okay. I'd like to mention my pet peeve first, and it's that I feel that this university is operated so impersonally it's ridiculous. I feel like an inconspicuous cog in some big machine....ya know.

COUNSELOR: I can understand how you feel. In a place this big it's easy for a person to feel lost and kind of lonely.

MODEL: Yeh....Yeh, that's how I feel---lost. Like these big lecture classes, I hate them.....Now there's a place where I really feel lost, and do you know why. We students don't really get a fair shake in them because the instructors can never get to know us, or our problems. We are just a herd of people.

COUNSELOR: I agree....I know I'd dislike being in a class with two or three hundred people.

Click Sound

Forty-five Second Response Interval

Click Sound

NARRATOR FEEDBACK

NARRATOR: The tape you have just heard gives an excellent example of efficient participation. Gary came into the interview and almost immediately expressed a definite view regarding his feeling that the university is operated impersonally. He stated quite clearly that he felt lost, and especially hated large lecture classes. Gary is talking about his own views and not those of others. The interviewer had no doubt about what Gary felt at this point.

SEGMENT B

Inefficient Participation

MODEL: Talkin' about violence....my parents were really uptight about the student riots and stuff on this campus last Spring. They called and wanted me to come home because of the fighting and all that. They were probably afraid because of the Kent State killings.

COUNSELOR: How do you feel about the unrest?...What do you feel is causing students to do what they do?

MODEL: I'm really fussy about the issue....I don't know if what I feel is really my own or my parents influence....ya know. I guess students do what they do because they aren't listened to about things that concern them, like the war and having more to say about their education.

Click Sound

Forty-five Second Response Interval

Click Sound

NARRATOR FEEDBACK

NARRATOR: While the topic is a relevant one, this part gives us an example of inefficient participation. It is difficult to determine what Gary's feeling or beliefs are since he focuses on how his parents felt, and not how he felt.....
Gary was vague. This sometimes happens when the topic of conversation is emotionally laden, or if the person is unsure as to how the listener will react. Consequently, the interviewer has learned little about Gary's views....Remember? Gary used phrases and words like "I don't know" and "I guess"....A better way for Gary to state his views would have been to say something like, "My own feelings are that students are rebelling because we are not being listened to by those in power. We students should have more power in the system that we do now."

SEGMENT C

Inefficient Participation

MODEL: I think it might be a good idea for professors to make their courses more relevant to students. It's like....well they believe students are supossed to learn all this theory and it's going to help them when they get out in the real world.

COUNSELOR: You say you think it might be a good idea for profs to make courses more practical. Can you be more definite?

MODEL: Uh.....don't you think courses ought to be less theory and more practical stuff.

Click Sound

Forty-five Second Response Interval

Click Sound

NARRATOR FEEDBACK

NARRATOR: This segment, again, shows the student being inefficient in expressing his own views. Gary does refer to himself, but in a doubtful way. For example he said, "I think it might be a good idea for professors to make their courses more relevant...." We often use the phrase "I think" when we really mean "I feel," or a more definite term. Also, Gary was focusing on the point that professors believed students should learn alot of theory. This didn't tell us what Gary believed, or felt, but what professors may or may not believe. Consequently, the interviewer has to spend more time trying to find out what Gary's views are.

SEGMENT D

Efficient Participation

MODEL: My feelings about this Vietnam War are pretty strong; in my opinion it is wrong. There are too many social problems in this country which make it hard for any of us to justify being over there.

COUNSELOR: I see your point....It's like we'd better put our own affairs in order before we try to help other countries put theirs in order.

MODEL: Right....I'll tell you I am pretty scared because my own future hangs on what happens in this war. My draft is sixty three and I am really worried about it. I've got one hell of a problem because I want to finish school.

COUNSELOR: I can see where you would be scared. Believe me, I would be to! It's going to be a burden to try to do well in school and having to worry about the draft.

MODEL: And I am a worrier....It's going to be tough on my grades because I work part time on top of the whole mess.

Click Sound

Forty-five Second Response Interval

Click Sound

NARRATOR FEEDBACK

NARRATOR: This final segment has presented an example of efficient participation. Gary, at this point, is referring to his own views on the war and how it is effecting him. The interviewer knows that Gary is against the war and why, and has learned, also, that Gary has a problem with the draft that is worrying him and will affect his work here at the University.

CONCLUSION

NARRATOR: Before we conclude the tape let us summarize the points that will help you be more efficient in the interview.

1. Talk about your own feelings, attitudes, beliefs and problems as a college student.

2. Make your views clear to the interviewer. Try not to leave him in doubt as to what you have said.

3. Try not to focus on other people or things because this gives us little knowledge about you.

You are important, and your concerns can help us learn more about students in general. Besides being of great value to us, it is believed that the interview can also help you to come to see your own views more clearly.

APPENDIX C

Interval Response Sheet

You are about to listen to an Audio tape which can help make your participation in the interview more efficient. Efficient means we want to know your own feelings and beliefs, not those of others. Being doubtful about a viewpoint, or focusing on others is inefficient and is not what we want. A narrator will instruct you on the tape and then you will hear 4 segments from a previous interview with an undergraduate student like yourself. After each of the segments you will hear a tone. At that time you will have 45 seconds to respond to 2 short questions. Another tone will signal an interruption by the narrator to give you feedback concerning the questions you answered. Make your own answer short, clear and concise.

SEGMENT A 1. Check One: Was the student expressing his views

Efficiently_____, or Inefficiently_____

2. Why do you think so?_____

_____

SEGMENT B 1. Check One: Efficient_____ Inefficient_____

2. Why?_____

_____

SEGMENT C 1. Check One: Efficient_____ Inefficient_____

2. Why?_____

_____

SEGMENT D 1. Check One: Efficient_____ Inefficient_____

2. Why?_____

_____

APPENDIX D

Debriefing Letter

Dear

In October, 1970 you, and some of your Sociology I classmates, participated in a Student Views Survey aimed at learning more about college students' feelings, attitudes, beliefs and common problems as part of an academic environment. While students' views are certainly important, the actual focus of the study, and the interviews you went through, was to ascertain the effect of social models on self-referent behavior in interviews. Some of you listened to a short tape recording of a college student (model) talking efficiently (i.e., he talked about his own feelings, beliefs and problems), and inefficiently (i.e., being vague about his views and also talking about others). Some of you just entered a twenty minute interview with a counselor. I have spent many hours analyzing the contents of the interview tapes and the results are in.

Briefly, the findings show that students who listened to my short tape models talked more about themselves, (i.e., their own feelings, attitudes, beliefs, and problems), than did students who received instructions and went directly to an interview. Also, it was found that females disclosed themselves significantly more than did males.

WHAT GOOD IS THIS STUDY?

I feel the study is important for two reasons. First, it has some scholarly value in that it tends to support a social learning theory approach behavior which says that much of the way an individual behaves is in large part acquired through imitation of what he has observed in others. Second, it promised to have practical value. You see, talking about feelings, beliefs, and problems is analogous to counseling and therapy. Some therapists believe that the more we self-disclose to counselors and significant others, the more healthy we can become. Because of your help we have been able to research a technique that can possibly shorten and make counseling more efficient. Ultimately, this means people suffer less.

In closing I would like to thank you for your participation. You were really great!

Sincerely,

Don DelBeato
Counselor
University of Maryland

APPENDIX E

Rater's Guidesheet

Please refer to this sheet at the beginning of every rating session. Refer to the sheet while you are rating the audiotapes. You may stop the audiotape at any time, and you may go back over the audiotape at any time.

1. Positive Self-Reference Refers to a statement made by a S in which he verbally expresses his own feelings, attitudes, beliefs, and problems in a way which expresses no negation, ambiguity or doubt, e.g., I don't know, I have no idea, I think, I guess, maybe, perhaps, to the interviewer. The statement must contain one of the following personal pronouns: I, my, me, we, our, us.

2. Negative-Ambiguous Self-Reference Refers to a statement made by a S in which he verbally expresses a self-referent statement, but at the same time, the unit expresses negation, ambiguity or doubt, e.g., I don't know, I have no idea, I think, I guess, maybe, perhaps, to the interviewer.

3. External Object Reference Refers to statements made by a S in which he focuses on other people or things.

Additional Rules

4. All statements beginning with the word "you" are to be rated as external object reference.

5. All "I think" sentences are rated as negative-ambiguous self-reference.

6. A sentence or an independent clause constitutes the rating unit.

7. All sentences spoken by S are rated as one of the above type statements.

8. If the sound quality of the audiotape is such that the rater cannot clearly make out what the S is saying, the rater will not rate that particular verbalization.

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