Effects of Covert and Overt Modeling on the Communication of Empathy

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Abstract

This study examined the efficacy of imagery used in covert modeling and compared it with the efficacy of overt modeling alone on the acquisition of empathy responding. Sixty-four participants were assigned randomly to one of the following four experimental conditions: covert modeling, long overt modeling, short overt modeling and no-treatment control. Posttest written and oral measures of empathic responding were obtained. Data analysis indicated that participants in the three treatment conditions had a significantly higher quality of empathic responses on both measures than did the control participants. The findings indicated that imagery, inherently present in the covert modeling procedure when teaching verbal skill, did not enhance skill performance over that of overt modeling alone. Implications for counsellor training and future research are presented.

Résumé

Cette étude a examiné l'efficacité de l'imagerie utilisée à l'intérieur d'une procédure de modelage caché et l'a comparé avec l'efficacité d'une procédure de modelage ouvert sur l'acquisition de la capacité de répondre avec empathie. Soixante-quatre participants ont été assignés au hasard à l'une des quatre conditions expérimentales: modelage caché, modelage ouvert à long terme, modelage ouvert à court terme et groupe contrôle. Des résultats écrits et oraux ont été obtenus au post-test sur l'acquisition de la capacité de répondre avec empathie. L'analyse des résultats indiquaient que les participants dans les trois conditions de traitement avaient atteint un niveau de réponses empathiques de qualité significativement plus élevé dans les deux mesures contrairement aux participants au groupe contrôle. Les résultats indiquaient que l'imagerie utilisée dans la procédure de modelage caché, lors de l'enseignement d'habiletés verbales, n'a pas améliorée l'habileté de performance plus que la procédure de modelage ouvert seul. Les implications pour l'entraînement des conseillers et les recherches futures sont présentées.

Overt and covert modeling procedures have been extensively used as educational and therapeutic tools in counselling. In overt modeling, an observer is presented with a live, videotaped or audiotaped model of someone demonstrating the behaviour which the observer wishes to develop. The research indicates that overt modeling is effective in enhancing student knowledge and performance of a wide variety of skills. These include reflection of feeling (e.g., Robinson, Kurpius & Froehle, 1981), counsellor tacting response leads (e.g., Robinson, Froehle & Kurpius, 1979), self disclosure (Stone & Gotlib, 1975), and empathic communication (e.g., Gulanick & Schmeck, 1977).

Bandura (1970) suggested that modeling refers to the cognitive and representational processes that guide behaviour, rather than the mode through which information is presented. This explanation suggests that overt models are not an essential ingredient of the modeling phenomena. Cautela (1971) proposed that modeling effects can be obtained by

having the individual imagine the modeled situation. This procedure is called covert modeling.

In covert modeling participants imagine a model in a number of specific treatment scenes which are relayed to them via live or tape-recorded instructions. Each treatment scene contains a description of the situation and participants are given instructions to imagine themselves performing the targeted behaviour. Reinforcement of the model for performing the target skill has been found to enhance the efficacy of covert modeling (e.g., Kazdin, 1976). The duration of each imagery scene has ranged from 15 seconds (e.g., Scott, Cormier & Cormier, 1980) to 40 seconds (e.g., Kazdin, 1982). Covert modeling has been used successfully as a method of increasing assertive behaviours (e.g., Kazdin, 1976; Rosenthal & Reese, 1976), decreasing fear avoidance behaviours (e.g., Tearnan, Lahey & Thompson, 1982), and acquiring counsellor goal setting skills (Scott, Cormier & Cormier, 1980).

Unfortunately, it appears that studies investigating covert modeling in assertion and counsellor skill training consistently confound the covert modeling procedure with overt modeling (e.g., Kazdin, 1976; Scott et al., 1980). This confounding occurs because the target skills are verbal behaviours. For example, in assertion training, the trainers include an overt example of assertiveness by instructing the clients to imagine saying, "I ordered the steak rare and this one is medium. Please take it back and bring me one that is rare" (Kazdin, 1976). Another example of this confounding occurs in the counsellor goal setting training study reported by Scott et al. (1980) and extracted from his dissertation (Scott, 1979, p. 81), in which counsellor trainees were instructed, "To help the client do this imagine yourself saying something like, 'How would you like counselling to benefit you?'" It is evident in both examples that the trainer is overtly modeling the target verbal behaviour. Therefore, it is not clear whether it is the imagery or the overt modeling present in the covert procedure which is producing the treatment effect.

The purpose of this study was to examine the effects of imagery and overt modeling which are both present in the covert modeling procedure used to teach verbal skills. More specifically, we wanted to know whether or not imagery in covert modeling enhances the effect of overt modeling in teaching empathic responding. This was achieved through the comparison of training that includes overt plus covert modeling with training that includes only overt modeling.

METHOD

Participants

The participants were 64 female undergraduates volunteering from several sections of an Introductory Psychology course. Only those

students who had no former training in communication skills were admitted to the study.

Modeling Tapes. An audio modeling tape was developed which presented segments from two hypothetical counselling interviews. Each interview consisted of four brief exchanges ("scenes") between a client and counsellor. Each interview scene was 20 seconds in length. In the first interview a trained female graduate student in counselling role-played the counsellor, and a male counselling graduate student role-played the client. The second interview involved a second female graduate student in counselling as the client and the same helper as in the first interview

Two experienced raters independently evaluated the counsellor statements for level of empathy. The raters achieved a 100% agreement on the eight responses. In each of the interviews two of the counsellor responses were rated at a level 3 and two at a level 4 on Carkhuff's (1969) 5-point empathy scale. Level 4 responses were included because research suggests that high empathy models produce higher level empathy responses than do lower level empathy models (e.g., Perry, 1975).

Instruments

Communication Index (CI). The CI (Carkhuff, 1969) is an instrument designed to provide a standardized means of assessing level of empathic communication in helpers. It consists of 16 client expressions to which participants formulate written or verbal responses. In the present study, participants provided written responses to the CI at post-test.

Video Stimulus Tape. A videotape of six independent client statements served as the stimulus for oral empathic responses by participants at post-test. Two drama students (one male and one female) served as clients, and each role-played three client statements. Participants were given 30 seconds in which to respond to each client statement.

Empathic Understanding Scale. Carkhuff's Empathic Understanding Scale (Carkhuff, 1969) was used to assess participants' level of empathy expressed in writing and orally at the post-test. The raters using the scale were two pairs of graduate students in counselling who were naive to the purpose and design of the study and extensively trained in judging empathic skills in written and oral format. At the completion of training, the raters of written empathy reached a Pearson product-moment correlation of +.91 for interrater reliability. The raters of audiotaped empathy reached a Pearson product-moment correlation of +.94.

Self-Report Imagery Survey (SRIS). The SRIS[1] was developed for this study as a means of gathering self-reported information on what participants in the covert modeling condition experienced during treatment. The SRIS consists of five multiple choice questions assessing how clear the participants' visual and auditory imagery was, how nervous they felt

during treatment, and to what extent they conformed to instructions for imagery. The survey was given to the covert modeling participants immediately after post-test data collection.

Procedure

Participants were randomly assigned to one of four experimental conditions: (a) covert modeling (CM), in which participants listened to modeling of empathy and imagined themselves as the model; (b) long overt modeling (LOM), in which participants listened to the modeling of empathy material twice; (c) short overt modeling (SOM), in which participants listened once to the modeling of empathy and then engaged in a distraction activity of counting backwards; and (d) no-treatment control (C), in which participants received no modeling of empathy.

Treatment information was conveyed individually in all conditions by audiotape to remove any possible experimenter influence. Each participant was brought into the laboratory and seated at a table on which were two cassette tape recorders and one set of earphones. Participants listened to the experimental material through the earphones to tape recorder #1. Recorder #2 was present in order to tape participants who were instructed to count backwards in the SOM condition. Other participants were told the second recorder was present to record tape recorder #1 during the session, and that they need not worry about the taping. To standardize for the possible treatment effects of the presence of recorder #2 on participants' learning, this recorder was turned on during each experimental condition, although in the CM, LOM and C conditions it recorded silence. Training time was 29 minutes for the CM, LOM and SOM conditions, and 2 minutes and 20 seconds for the C condition.

Covert Modeling. The CM procedure closely followed that used by Kazdin (1976) and Scott et al. (1980) which included both imagery and overt modeling. Participants listened to a female narrator on recorder #1 present a brief introduction to the study and a rationale and description of the covert modeling procedure. Participants were then instructed via tape to practice the covert modeling procedure by imagining themselves engaging in a casual conversation. Though the content of the practice was unrelated to the topic of research, the procedure employed was identical to that used in the following treatment. After the practice, participants were instructed to turn off the recorder and summon the experimenter. Through questioning, the experimenter assessed the participants' abilities to clearly visualize the scenes as requested in the practice. All participants completed the practice successfully.

The experimenter then turned on both recorders and left the room, while the participants listened to a brief description and rationale for empathic responding. Participants were next instructed to close their

eyes, relax, and listen to two interview segments, each containing four scenes. Participants were instructed to imagine themselves as a helper using the same empathic responses as presented by the helper in the scenes. For each scene participants listened to (a) a brief description of the scene, (b) a client statement, (c) the helper's modeled empathic response, and (d) a subsequent statement of agreement by the client which served as a reinforcer to the model. After each scene was presented, participants were instructed to imagine the scene without input from the audiotape. Twenty seconds of silence were allotted for the imagining. Participants imagined the four scenes of the first interview, and then the interview was repeated a second time following the same procedure. A second interview, with a different client and concern, was presented using the same covert modeling procedure.

Following participant completion of the task, the experimenter re-entered the room and administered the post-test materials. The CI and video stimulus tape were counterbalanced in order to control for possible order effects. The SRIS was completed after the post-testing.

Long Overt Modeling. Participants in the LOM condition received the same audiotaped introduction to the study as did those in the CM condition. They then received a rationale and description of overt modeling and engaged in the practice conversation. However, they were not told to imagine themselves participating in the conversation, but rather to "practice listening to the conversation." Practice was included in this condition as a control for the practice element in the covert modeling condition.

As in the CM condition, the participants heard a brief description and rationale for empathic responding, and listened to the series of counsellor-client scenes. The remaining steps of the procedure were identical to those in the CM condition except that rather than imagining each scene for 20 seconds after it was presented, LOM participants listened to the modeling a second time. Covert modeling was, therefore, replaced with more overt modeling. LOM participants completed the CI and responded to the videotape at post-test in the same manner as the CM participants.

Short Overt Modeling. Participants in the SOM condition received the same audiotaped introduction to the study as did those in the CM and LOM conditions. Then, as in the LOM condition, they received a rationale and description of overt modeling and engaged in the practice conversation.

Participants were then told that the purpose of recorder #2 was to document the backwards counting task they would be asked to perform during the next portion of the study. They were told that the accuracy of their counting was not important.

The remaining steps of the SOM treatment were identical to the CM and LOM conditions, except for the activity that occurred in the 20-

second interval after each scene was presented. During this time the SOM participants engaged in the distraction activity of counting backwards to prevent them from silently rehearsing or imagining what they had just heard. Counting backwards served as a control for the time spent imagining in the CM condition and the extra time spent listening in the LOM condition. Participants were then administered the post-test materials. After the post-test, the experimenter listened to recorder #2 to verify that the counting task took place as requested. All SOM participants adhered to the counting instructions.

No-treatment Control. The C participants listened to the introduction to the study, and the description and rationale for empathy. They did not listen to the counsellor-client scenes, and therefore received no modelling of empathy. Participants were post-tested in the same manner as in the other conditions.

RESULTS

Pearson product-moment correlations of interrater reliability for the rating of written responses to the CI and oral responses to the video stimulus tape were +.83 and +.93, respectively. Means and standard deviations for the two post-treatment empathy ratings are presented in Table 1.

A one-way multivariate analysis of variance, using written and oral empathy ratings as dependent variables, was performed. Data on oral empathy for one participant in the C condition was not available due to mechanical difficulties and thus was dropped from all data analysis.

TABLE 1

*Means and Standard Deviations for Post-test Empathy Ratings
to the Communication Index and Stimulus Video Tape*

			Experimental Condition	
Dependent Measure	*CMa*	*LOM*	*SOM*	*C*
Communication Index				
X	2.22	2.29	2.36	1.64
SD	.30	.38	.30	.14
Video Stimulus Tap				
X	2.53	2.59	2.70	1.14
SD	.58	.68	.55	.16

aCM = Covert Modeling Condition
LOM = Long Overt Modeling Condition
SOM = Short Overt Modeling Condition
C = No-Treatment Control Condition

Based on the a priori assumption of an underlying multivariate nature of the data, Wilks' lambda was used to test for group differences. The obtained lambda of 0.389 showed these group differences to be significant, $F(6,116) = 11.69$, $p < .001$, and indicated that 61% of the variability in the system is attributable to the between-group differences. Following the significant multivariate result, subsequent examination of the univariate ANOVA for written empathy ratings indicated a significant treatment effect, $F(3,59) = 18.98$, $p < .001$. Scheffe post hoc comparisons between conditions showed that the CM, LOM, and SOM conditions differed significantly from the C condition in empathy ratings on the CI, but did not differ significantly from each other. Similarly, the univariate ANOVA for oral empathy ratings indicated a significant treatment effect, $F(3,59) = 29.13$, $p < .001$. Again, Scheffe post hoc comparisons between conditions indicated that the CM, LOM, and SOM conditions differed significantly from the C condition in empathy ratings to the video stimulus tape, but did not differ significantly from each other.

The SRIS was completed by all 16 participants in the CM condition. Results suggested that the participants conformed very closely to the covert modeling instructions. All participants imagined themselves as the helper. All but one participant imagined the helper using either "very much" or "somewhat" the same words as were used by the model on the audiotape. All but one participant could visualize the interview between the helper and client either "very clearly" or "somewhat clearly" in their imaginations. All participants reported hearing the voices of the helper and client either "very clearly" or "somewhat clearly" in their imaginations. Thirteen of the 16 participants reported feeling either "very calm" or "somewhat calm" during treatment. Three participants reported feeling "somewhat anxious and nervous," and no participants reported feeling "very anxious and nervous."

DISCUSSION

In this study the participants in the three treatment conditions receiving modeling outperformed those in the control condition on both written and oral measures of empathic responding. These findings confirm results from previous studies (e.g., Gulanick & Schmeck, 1977; Perry, 1975) indicating modeling to be an effective method of teaching verbal helping skills such as empathy. The participants in the three treatment conditions were equally effective in emitting empathic responses on the two measures. Other studies (Hersen, Kazdin, Bellack & Turner, 1979; Rosenthal & Reese, 1976) comparing overt and covert modeling (where covert modeling is confounded) have reported the two procedures to be equally effective in teaching verbal skills. In this study the test for modeling effectiveness was quite rigorous because, although the control

participants did not receive modeling training, they did receive the same description and rationale for empathy as the other three participant conditions.

The fact that the CM participants did not outperform the SOM participants suggests that the imagery used in covert modeling did not enhance the overt modeling effect. One explanation of this finding is that the covert self-modeling procedure is ineffective in empathy training with female university students. The results reported in the Scott et al. (1980) study and in the assertion training literature (e.g., Kazdin, 1976), must then be regarded with caution because of their confounding of overt and covert modeling with a predominantly female participant population. It is possible that these reported training effects on verbal skill acquisition were not a result of covert modeling, but rather a result of the overt modeling presented by the narrator of treatment scenes in the covert procedure.

A second explanation may be that the SOM participants received sufficient overt modeling during treatment to learn empathic responding to a level which the other treatment condition participants could not surpass in a brief analogue setting. However, in designing the study the SOM participants were allotted a minimal amount of modeling training (5 minutes) compared to the other treatment conditions. This time selection was based on the findings of Stone and Stein (1978), who reported that 5 minutes of modeling was sufficient to produce significant treatment effects in the training of empathy and reflection of feeling.

There may be an additional explanation for why the LOM participants did not attain empathy levels higher than those of the SOM condition. It could be that the modeling time in the LOM condition was not sufficiently long to produce significantly higher empathy ratings than those in the SOM condition. Stone and Stein (1978) found that increasing the length of time of the modeling training four-fold over that of minimal training produced significantly higher empathy ratings. In the present study the LOM participant training was only twice as long as that for the SOM participants. Perhaps there would have been significant differences between these two conditions if the LOM participants had received four times the amount of modeling as did those in the SOM condition.

The SRIS provided consistent self-report feedback on the degree of compliance and clarity of imagery experienced by covert modeling participants during the treatment procedure. They reported engaging in the requested tasks and reported success in accurately imagining the visual and auditory components of the presented covert scenes. The level of tension produced by the tasks was minimal. This data indicates that the subjects perceived themselves fully involved and successful in performing the covert modeling activity.

Findings of the present study indicate that overt modeling is a

powerful training method which should continue to be used in counsellor training. There is need for more rigorous experimental design to control for the confounding effect of overt modeling in research examining the efficacy of covert modeling in verbal skills training. One means of doing this is to include a minimal overt modeling group which, as in the present study, incorporates the inherent overt modeling procedure but not the imagery of the covert modeling. Tied to the use of such a minimal covert modeling group is the need to investigate the relationship between length of modeling and treatment outcome. This relationship may vary among different verbal skills. Variance may also be present between verbal and nonverbal skills. Research on the effects of covert modeling in nonverbal skills training would be particularly valuable and easy to conduct because there is no confounding of overt modeling when nonverbal skills are taught. It would be useful to examine the efficacy of adding an overt rehearsal component to the covert modeling procedure. Although imagery was not employed by Layton (1978), it was demonstrated that covert rehearsal was effective in teaching empathy when it was used in conjunction with overt modeling and overt rehearsal.

Limitations in the present study should be acknowledged. First, the study employed an analogue design with a relatively brief covert modeling treatment time similar to that employed by Scott et al. (1980). Perhaps the effect of imagery in the present study would have manifested itself if the covert modeling procedure had been administered over a longer time as found in the assertion literature (e.g., Kazdin, 1976). Second, the subjects consisted of all female undergraduate university students. This narrow population makes it difficult to generalize the findings of the current study.

Regardless of these limitations, the findings of this study suggest that imagery present in the covert modeling procedure used in teaching verbal skills does not enhance the effect of overt modeling. Thus, the efficacy of covert modeling, unconfounded with overt modeling, is yet to be demonstrated as effective in teaching verbal skills to clients and counsellors. This finding provides direction for future empirical research of this procedure in teaching verbal skills to clients and counsellors.

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