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Miles E. McFall

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A COLLECTION OF THEORETICAL AND EXPERIMENTAL RESEARCH PROJECTS
IN CLINICAL AND SOCIAL PSYCHOLOGY

by

Miles E. McFall

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Chapters I and II present experimental research relevant to two separate areas of social psychological inquiry. In the first investigation, the authors set out to determine if the reciprocity effect observed in self-disclosure research represents a genuine sharing of personally relevant material, or a mere parroting back of the same content revealed by the other person in the context of dyadic interaction. The experimental manipulations in this study were not strong enough to elicit significantly more reciprocity in the experimental as opposed to control subjects; thus, conclusions about the content-imitation issue could not be drawn. However, the study demonstrated that the nature of the dyadic relationship indeed affects the length and intimacy of self-disclosure. The second study investigated the role of cognitive factors in emotional arousal by employing a misattribution paradigm to influence female subjects' evaluation of sexual stimuli and self-attributions of arousal. The major finding of this investigation was that cognitive information was more central in mediating the effects of the misattribution procedure than was actual bodily arousal.

The remaining articles in this collection are concerned with selected topics in clinical psychology. In particular, chapters III, IV, and V demonstrate the functional utility of employing single-case experimental designs to evaluate behavioral treatment strategies for disruptive prison inmates, chronic nailbiting college students, and socially unskilled mentally deficient adults, respectively. Chapter VI discusses current cognitive theories of obsessive-compulsive neurosis, and goes on to elaborate a more unified cognitive theory of this disorder together with suggestions for psychological intervention. In chapter VII a complete review and methodological evaluation of outcome research in the treatment of depression is provided. This article concludes that multiple outcome criteria are needed to assess the interaction of different treatments with various subtypes of depression. Chapter IX extends our understanding of the role of nonverbal components in the communication of assertiveness by showing that differentially assertive actors could be distinguished on the basis of select nonverbal cues alone, and that nonverbal behaviors of males are more revealing of level of assertiveness than is true for females. In the final investigation (Chapter IX), the effects of two variables, different therapy rationales and problem severity, upon subjects' attitudes concerning various counseling approaches, psychological problems, and counselor characteristics was examined. The results of this study indicated that preference for a counseling approach was a function of problem severity, and that subjects conceptualized psychological problems in terms of the rationale provided.
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CHAPTER I

Imitation and Prior Classroom Contact as Determinants of Reciprocal Self-Disclosure

Peter Ebersole, Miles McFall, and Cindi Brandt

Abstract

The reciprocity effect in self-disclosure research was tested by controlling for the effects of content imitation and prior degree of contact with the experimenter. Written self-disclosures and objective checklist responses were obtained from 165 subjects on a questionnaire soliciting their reasons for reading non-assigned books. The experimenter disclosed in writing to half the subjects his reasons for reading non-assigned books (these reasons matched two of the checklist reasons); the remaining subjects did not receive the experimenter's disclosure. No content imitation of the experimenter's self-disclosure was found in either checklist or essay responses. No reciprocity effect was found: the experimenter's disclosure and no-disclosure groups did not differ significantly in the length or intimacy of their written disclosures. However, subjects having prior contact with the experimenter as professor wrote longer and more personal essays than subjects unfamiliar with the experimenter, suggesting that the experimenter-subject relationship may be a potent variable in self-disclosure research.
Imitation and Prior Classroom Contact As Determinants of Reciprocal Self-Disclosure

A well-established phenomenon within the area of research on self-disclosure is the reciprocity effect; self-disclosure by one member of a dyad tends to produce an equivalently intimate disclosure from the other member (Cozby, 1973; Davis & Skinner, 1974; Rubin, 1975). One possible methodological problem with this effect has been noted (Cozby, 1973; Tognoli, 1969), namely, the person may be simply imitating the content of the other member of the dyad instead of being inspired to confide in the other person because the other has confided in him at a deep level. Surprisingly this possibly confounding variable of imitation has received little systematic attention. Tognoli (1969), who seems to have been the first to note the problem, provided evidence that reciprocity can take place if the possibility of imitation is eliminated but did not test whether imitation does in fact occur within the standard experimental paradigm. However, David and Skinner (1974) and Davis and Sloan (1974) did rate subjectively the degree of imitation in subjects' reciprocal self-disclosures and found some imitation effects although they did not emphasize the result. In response to the potential seriousness of this problem, the present experiment focused upon an objective test of the presence of imitation without any prior expectation on the authors' part as to whether it would be present or not.
The reciprocity effect itself was tested within a different context than usual (the classroom) with the self-disclosure differing from most experimental situations in that it was anonymous and written. Although rarely utilized, this approach of self-disclosure in an anonymous essay has been strongly advocated by Burhenne and Mirels (1970) as a method of alerting us "to variables obscured by the more complex data of face-to-face spoken communication" (p. 413). More specifically in the present classroom setting the professor as experimenter self-disclosed his reasons for reading literature and invited anonymous written self-disclosure from students of their reason for reading literature. This procedure has the methodological advantage of ruling out the variable of social exchange (Worthy, Gary, & Kahn, 1969) as a possible underlying causal explanation since the disclosure did not take place in a dyadic face-to-face encounter. Given that the experimental conditions were different than those of the typical reciprocity study, no directional hypothesis was formulated.

Finally the overwhelming majority of studies in the area have utilized a paradigm in which subjects interact with a disclosing experimenter on a single occasion. Our classroom setting allowed for variations in the degree of prior interaction of the subjects with the professor-experimenter; since, for roughly one half of the subjects the experimenter had been their teacher for almost a semester while the others had no prior contact with the experimenter. The latter condition of no prior contact with the experimenter more closely
paralleled the usual experimental setting. Therefore prior contact with the experimenter was examined in an effort to uncover its effect on subjects' self-disclosure independent of imitation effects.

**METHOD**

**Subjects**

Subjects were 165 undergraduate students, 84 from three classes taught by the first author (prior contact condition) and 81 from three classes taught by two other professors (no prior contact condition). All six of the classes were junior level psychology classes given about the same time of day; and from knowledge of registration procedures and visual inspection of the classes there seemed to be no obvious differences between the subjects in these classes. The experiment and debriefing were held during a regular class hour near the end of the semester. Data for 23 subjects were excluded from the analysis either because they had failed to follow instructions or they were in the no prior contact condition but had previously taken a class with the experimenter-instructor.

**Procedure**

At the beginning of the class period the first author randomly handed all subjects either a three- or four-page questionnaire. The experimenter then read aloud the following instructions, which were reproduced on the first page of all the questionnaires:

> We are interested in learning more about why people read books. In the first part of this study, I would like you to state as fully as possible the important reason or reasons why you read the books you did during the last year. Please do not just list the reasons but also discuss them (consider only non-assigned books; books you chose to read).
**Experimenter's self-disclosure.** Half of the questionnaires that were randomly distributed in each class contained on page 2 the following 231-word intimate self-disclosure statement identified as written by the experimenter about his reasons for reading books:

I am asking you to write about your reasons for reading non-assigned books. One of my reasons for reading such books is that I read when I feel kind of empty, just existing on the surface, lacking depth. The right book for this state is one which is well-written and which deals with important, heavy ideas. Reading it renews my interest in life and makes me feel more full as a person. One example of that this last year was Anna Karenina by Tolstoy, especially that part dealing with the struggle Anna went through before she threw herself under the train. In addition, books can help me to perceive the world in a new way, to see the freshness and uniqueness of things. It's almost as though I see things that I've rarely or never seen before, like the delicate shades of green of leaves and the subtle interplay of light and dark within the tree. Seemingly different but really boiling down to the same reason, a book also helps me to get out of my own narrow frame of reference of a middle-class psychology professor. So I guess that the two main reasons why I read lately are that I am provided with new ways of perceiving the world and that I become more fully connected with what I consider to be the important questions of life.

After reading this statement subjects turned to page 3 of the questionnaire and wrote for 15 min. about their reasons for reading non-assigned books. On page 4 they completed a checklist containing "13 reasons people might give for reading non-assigned books". Subjects were instructed to check the five items most appropriate for themselves. Checklist items 5, "To perceive the world in new ways," and 9, "Gives me more depth and fullness by dealing with important questions in life," were the reasons given by the experimenter in his written self-disclosure statement.
No self-disclosure by the experimenter. The other half of the subjects in each class were given the same materials with the exception of page 2, the written disclosure by the experimenter concerning his reasons for reading books. After hearing the initial instructions from the experimenter, subjects in this group immediately began writing their essays and then progressed to the checklist.

In summary, approximately half of the subjects in each class were assigned to receive experimenter's self-disclosure while the other half received none. Approximately half the subjects in each of the two conditions were composed of those from the experimenter's psychology classes while the other half were from other professors' classes.

Dependent measures. Checklist items 5 and 9 were the same reasons as elaborated upon by the experimenter in his written self-disclosure. Therefore imitation in this study was operationally defined as the subject's marking Items 5, 9, or both as reasons for reading books. The degree of disclosure in the essays was defined by three measures: (1) number of words written (fluency), (2) paired choice (an essay from an experimenter self-disclosure condition was randomly paired with an essay from an experimenter non-self-disclosure condition and the more subjectively intimate one was chosen. The same was done for the prior classroom contact condition), and (3) ratings of intimacy (each essay was rated on a subjective scale of 1 to 5). Two of the experimenters served as judges in blindly rating
the protocols. Interjudge reliability for words written was .98, for paired choice was .96, and for ratings of intimacy was .92.

RESULTS AND DISCUSSION

Fluency and Intimacy of Self-disclosure

Cozby, in his 1973 review article, implied that intimacy and duration of disclosure were partially independent. Bloch and Goodstein (1971) were even stronger on this point; they stated, "The duration of utterances would seem to bear no necessary theoretical or empirical relationship to the quantity or quality of self-disclosure" (p. 596). In the present study, however, a high correlation ($r = .89$) was found between the number of words written and the rated intimacy of disclosure. This result is congruent with correlations in several other studies, e.g., $r = .79$ (Davis & Sloan, 1974) and .84 (Pedersen & Breglio, 1968) and hence argues against Bloch and Goodstein's theorizing.

Imitation Effect

No evidence was found for the presence of imitation: there was no significant difference in the proportion of subjects receiving the experimenter's self-disclosure versus those not receiving it in terms of checking the reasons (5, 9, or both) given by the experimenter in his self-disclosure. In addition reading the subjects' essays for content similar to the experimenter's self-disclosure turned up only two essays that were similar. However, this latter measure suffers from the same defect of involving subjective judgment as has been
true of the past studies of imitation (Davis & Skinner, 1974; Davis & Sloan, 1974). Further replication over a wider variety of conditions would eliminate the criticism of the effect of reciprocity being only a trivial mimicking.

Reciprocity Effect

Contrary to the results of the overwhelming majority of studies on reciprocity, no significant difference was found between the experimenter's self-disclosure and groups given no disclosure on any of the three measures of subject self-disclosure: the number of words written, the paired choice, and ratings of intimacy. Following Greenwald's (1975) argument, the failure to find significant differences in this case seems meaningful as both the power of the test of the hypothesis and the experimental manipulations appeared adequate. However, as was also true of the failure to find subjects imitating, caution should be used in generalizing to the standard face-to-face verbal dyadic interaction commonly used in similar studies. In fact it is possible that anonymous written self-disclosure and verbal self-disclosure in another's presence are phenomena differing in significant ways although this distinction has not been made in the literature. Perhaps there are social exchange effects in the verbal dyads (Worthy, et al., 1969) that greatly enhance mutual self-disclosure and possible imitation; however, our anonymous written self-disclosure situation provides little or no opportunity for social exchange.

Prior Contact with the Experimenter

Whether or not the subject was acquainted with the experimenter
determinant of self-disclosure: The subjects who had the experimenter as an instructor wrote more on the average, 145 words versus 107 words for those who had no prior contact with the experimenter ($F_{1,161} = 20.1; p > .001$), showed deeper intimacy ($F_{1,146} = 18.90, p < .001$), and their essays tended to be rated as more intimate by the matched-choice procedure ($\chi^2 = 1.95, p < .10$). Subjects who had prior contact with the experimenter and who received written self-disclosure did not differ significantly on any of the three measures from those subjects having prior contact without the experimenter's self-disclosure statement.

As Cozby stated (1973), methodological difficulties abound in measuring changes in self-disclosure with increased contact over time. However, the potency of our results seem to argue for vigorous further exploratory of this variable.
REFERENCES


CHAPTER II

The Effects of False Feedback on Attributed Arousal and Rated Attractiveness in Female Subjects

Stanley B. Woll and Miles E. McFall

Abstract

In an expanded version of the Valins false feedback paradigm, female subjects viewed ten slides of seminude males accompanied by either an increase or no change in amplified heart beats. Heart rate increase slides were rated as both more attractive and more arousing than no change slides. These two measures were highly correlated, and did not differ significantly in the degree to which they were influenced by feedback. Subjects also showed significantly greater changes in actual heart rate for the increasing feedback slides than for the no change slides, although the feedback produced no corresponding differences in GSR. Despite the effects on both subjective report and cardiac activity, correlations between these two measures were generally nonsignificant. Subjects classified as high in autonomic perception showed no significant relationship between actual cardiac activity and slide ratings, nor were they more influenced in their ratings by the feedback than subjects low in autonomic perception. Implications for the false feedback paradigm and for current issues in the social psychology and psychophysiology of emotion are discussed.
The Effects of False Feedback on Attributed Arousal and Rated Attractiveness in Female Subjects

A number of recent studies on the social psychology of emotion have focused on the role of cognitive labels and subjective interpretations in determining emotional states (cf. Leventhal, 1974; Nisbett & Valins, 1971; Harris & Katkin, 1975). One popular approach to the study of such cognitive components has been the false feedback paradigm introduced by Valins (1966). In this initial study, Valins demonstrated that it was possible to alter male subjects' evaluations of emotion-arousing stimuli by providing bogus heart rate feedback which either increased or remained constant in response to slides of seminude females. The specific results of this experimental manipulation were that subjects gave significantly higher attractiveness ratings to slides that were accompanied by heart rate increase than to slides associated with no change in heart rate. Valins concluded from these findings that subjects' self-perceptions or self-attributions of physiological arousal were a major determinant of emotional experience.

In the past few years, however, a number of qualifications and reinterpretations of these false feedback results have been offered (e.g., Taylor, 1975; Goldstein, Fink, & Mettee, 1972; Harris & Katkin, 1975). In the present study, therefore, we propose to examine four specific questions bearing upon the meaning and generalizability
of results obtained with the false feedback paradigm: (1) How is subjective report of emotional arousal related to evaluations of the objects of that arousal? (2) How are female subjects' judgments on these two dimensions influenced by false feedback? (3) How is actual autonomic arousal affected by false feedback, and to what extent does such physiological arousal mediate subjects' evaluations of the slides? (4) To what degree are individual differences in awareness of autonomic activity related to subjects' susceptibility to the influence of false feedback?

In their recent review of the literature on emotion and autonomic feedback, Harris and Katkin (1975) have criticized a number of studies for being exclusively concerned with either attractiveness ratings or autonomic response patterns as indices of subjective emotional states while neglecting to collect direct subjective reports of emotional experience. Such a direct measure of emotional state would seem to be an important check upon the validity of the false feedback paradigm, especially in light of Leventhal and Cupchik's (1975; Cupchik & Leventhal, 1974) findings on the complex relationships between subjective emotional experience and subjects' evaluations of the objects of that experience. Thus, in the present experiment we included a measure of self-attributed arousal as well as ratings of attractiveness.

An extension of the false feedback paradigm to female subjects is of interest for a number of different reasons. In the first place, Leventhal and his associates (Leventhal, 1974; Leventhal & Mace, 1970;
Leventhal & Cupchik, 1975; Cupchik & Leventhal, 1974) have reported that women are more likely to base their evaluations of affective stimuli (i.e., jokes) on their own subjective emotional state or expressive behavior (whereas male subjects' evaluations are relatively independent of their expressive behavior). However, Cupchik and Leventhal (1974) have also found that when female subjects are asked to observe their own expressive behavior, this link between evaluation and subjective emotional state is disrupted. The implications of these results for the false feedback paradigm are somewhat equivocal since (1) Leventhal's work has focused on expressive behavior rather than on autonomic arousal and (2) externally imposed false feedback may conceivably serve as either an index of or a distraction from an individual's subjective emotional state. Nevertheless, these results do suggest that it may be particularly informative to examine the relationship between subjective emotional state and affective evaluations for female subjects.

In addition, it might be argued that women in our culture have less clear-cut standards for evaluating the attractiveness of male physiques than men have for judging women. Since Detweiler and Zanna (1976) have found in a rather different context that false feedback has its clearest effects when prior knowledge about the stimulus object is minimal, we might expect such false feedback to be a particularly potent influence on female subjects' evaluations of such attractiveness. Thus, there are both theoretical and commonsense reasons for examining the effects of false feedback on female subjects'
attractiveness ratings—especially since previous research by Valins and others has focused almost exclusively on male subjects.¹

The precise relationship between actual physiological arousal and ratings of attractiveness has also been an issue of some debate in the false feedback literature (cf. Harris & Katkin, 1975). Stated very simply, although investigators (e.g., Goldstein, Fink, & Mettee, 1972; Hirschman, 1975; Stern, Botto, & Herrick, 1972) have reported that both measures of physiological arousal and subjective evaluations are significantly influenced by false feedback, it is not clear whether the physiological arousal actually mediates the effects of the feedback. In the present study, then, we propose to look once again at the complex interrelationships among false feedback, physiological arousal, and attractiveness ratings.

Finally, it seems reasonable to assume that if false feedback is related to self-perception of emotional states, this relationship should be different for subjects high and low in their awareness of their own autonomic activity (cf. Hirschman, 1975, for a similar observation). An early study by Valins (1967) showed that the effect of false feedback on evaluations of arousing material is moderated by individual differences in emotionality (see also Hirschman, Clark, & Hawk, 1977); but since Valins used the Lykken (1957) Anxiety Scale, 

¹To date, only studies by Hirschman (1975), Taylor (1975), and Detweiler and Zanna (1976) have used female subjects; and none of these studies used slides of seminude males as stimuli. (Hirschman used slides of accident victims, Taylor used slides of fully clothed males, and Detweiler and Zanna used nation stimuli.)
it is not clear whether his results actually reflect such a differential sensitivity to internal states or actual differences in autonomic reactivity, as proposed by Lykken. Thus, in the present study we decided to use the Autonomic Perception Questionnaire (Mandler, Mandler & Uviller, 1958), a measure specifically developed to assess individual differences in the perception of autonomic arousal. In addition, the APQ has been advocated by other investigators (e.g., Hirschman, 1975) for use in false feedback studies.

In summary, the present study examined female subjects' self-attributions of arousal and their ratings of the attractiveness of slides of seminude males accompanied by either increases or no change in bogus heart sounds. In addition, these measures were related to indices of actual physiological arousal (i.e., EKG and GSR) and to the APQ measure of individual differences in autonomic perception in an attempt to clarify the complex relationships among false feedback, actual physiological arousal, and the experience of emotion. Finally, the generalizability and pervasiveness of the effects of the false feedback were assessed by examining subjects' ratings of specific bodily dimensions.

METHOD

Subjects

Subjects were 26 female undergraduates at California State University, Fullerton, who participated in the experiment for credit in an introductory psychology course. The data for one subject were excluded from the analysis because of her expressed suspicion about the authenticity of the heart rate feedback.
Stimulus Material and Apparatus

Slides. The 11 slides used in this experiment were selected from a set of 61 pictures of nude males taken from *Playgirl* magazine. The entire set of 61 pictures was prerated by 20 undergraduate women in terms of attractiveness of face and body build. The 11 pictures finally selected were those which received consistently high ratings on these dimensions and which at the same time were given few ratings of medium or low attractiveness. These pictures were made into color slides in which the genital areas were covered in order to minimize any "shock value," and hence any sudden arousal. Ten of these slides made up the test series in the present study while the eleventh served as a "practice" slide shown to subjects at the beginning of the experiment.

False feedback recording. False heart beat sounds were produced by a Grass Model S88 Solid-State Square Wave Stimulator and were amplified by an Altec audio speaker. The frequency of these beats was varied as the amplified pulsations were recorded on a Wollensak 3M Model 2570 AV recorder. This tape of heart beats was synchronized with the slide presentation by means of prerecorded pulse signals which activated the slide change mechanism of a Kodak Etographic projector.

Physiological recording equipment. Changes in heart rate and skin resistance were recorded with a Narco PMP 4A 4-channel Physiograph. Standard EKG electrodes leading to a High Gain 7171 Coupler transmitted signals to one channel of the physiograph; a second channel accepted GSI signals from a 7175 Coupler which were recorded with lead (Pb) electrodes.
Procedure

Subjects were run individually in a small room containing the physiograph, the slide projector, a screen, and two chairs. Prior to each experimental session, the experimenter randomized the order of slide presentations and concealed a tape recorder inside the physiograph housing apparatus. Then, when the subject arrived, the experimenter seated her near the physiograph and read the following instructions:

The experiment you are being asked to participate in today is concerned with investigating the effects of viewing sexually oriented stimuli upon physiological responding. Although I will be explaining the details of the experimental procedure to you as we go along, let me begin by saying that all you will really be required to do is sit back and watch a series of slides of seminude males while I monitor your heart rate on this machine. The way this thing works is to pick up the electrical impulses from your heart with these sensitive recording electrodes and then send them through a series of amplifiers contained within the machine until they reach these ink pens. The pen deflection caused by your heart beats will then be recorded on paper so that at the end of the experiment we will be able to find at just what points your heart was reacting or not reacting to the pictures presented to you. An unfortunate aspect you should be aware of concerns the fact that this particular physiograph uses an audio signal to transmit the heart rate impulse from the channel amplifier to the pen motor drive apparatus. What this means, essentially, is that during the slide presentation you will overhear sounds which correspond to your heart rate. However, since the task we are asking of you requires little concentration, the extraneous sounds shouldn't be a problem provided you just try to ignore them and remain attentive to the slides. After attaching the electrodes to your arm, I'll record your resting heart rate for a while and then show you a practice slide. Following the practice slide, your resting heart rate will be recorded for another minute before I present ten slides to you at regular intervals. This series of ten slides will then be repeated in exactly the same order.

3 These instructions were adapted from those used by Valins (1966)
While attaching the EKG and GSR electrodes, the experimenter briefly mentioned to the subject that in addition to heart rate, changes in her skin resistance would also be monitored by the electrodes attached to her fingers. The experimenter busied himself with the machinery for approximately 7 - 10 minutes and then turned on the tape recorder and slide projector. The tape recording of heart beat sounds began with a two-minute interval, during which sounds fluctuated between 66 and 72 beats per minute (BPM). At the start of the second minute, the practice slide was presented and accompanied by an increase in heart rate from 72 to 84 to 90 BPM occurring in five-second intervals. This practice slide was terminated after 15 seconds, and at the same time the heart beat sounds decreased from their peak of 90 to 84 to 70 BPM in similar five-second intervals. Following another minute of heart beats varying between 66 to 72 BPM, the series of 10 experimental slides was shown. Each slide was projected on the screen for 15 seconds, with a 30-second interval between slides. Following the procedure reported by Valins (1966), the accelerated sequence of heart beats occurred in slide positions 1, 3, 6, 8, and 9, while slide positions 2, 4, 5, 7, and 10 were accompanied by heart beat sounds which did not vary from the 66 - 72 BPM rate occurring during the rest periods between slides. After the same sequence of slides had been presented to the subjects twice in succession, the apparatus was disengaged and a set of assessment forms was administered to each subject. Upon completion of these forms, the experimenter questioned each subject about the possibility of suspiciousness and
about her interpretation of the heart beat sounds. Finally, each subject was informed about the deception and was thoroughly debriefed about the true purpose of the study.

**Dependent Measures**

**Rating forms.** In the first set of assessments following the two series of slide presentations, subjects were asked to rate each slide in succession as it was projected on the screen. Ratings were made on a 100-point scale ranging from "Not at all" to "Extremely" for the following questions: "How attractive or appealing is this man to you?", and "Does this man excite you or turn you on?". These two general questions were followed by another sequence of slide presentations in which subjects rated each of the 10 slides on particular physical dimensions—namely, face, body build, body hair, pose, muscularity, coloring or tan, and personality or disposition. Each of these ratings was made on an 11-point scale ranging from "Not at all attractive" to "Extremely attractive." These specific ratings were included to determine the degree to which the false heart rate feedback influenced subjects' perception of specific body parts.

Ratings of individual slides were followed by the administration of the Autonomic Perception Questionnaire. The section of the questionnaire used in this study contained 30 scale items concerned with the perception of seven areas of bodily activity: heart rate, perspiration, temperature changes, respiration, gastrointestinal disturbance, muscle tension, and blood pressure. Following Mandler et al. (1958), an overall score for autonomic perception was
obtained by summing across all 30 items. In addition, single scores were derived for both heart rate perception and awareness of body perspiration by summing over the scale items dealing exclusively with these areas.

A final general information questionnaire asked subjects to rate how confident they were in judging the physical attractiveness of males and how much the heart rate feedback influenced their ratings of the slides. Subjects answered each of these questions on an 11-point scale ranging from "not at all" to "Extremely."

Physiological measures. Heart rate responses were analyzed by determining a rate measure in beats per minute for the 18 R-waves occurring immediately prior to stimulus onset and for six intervals of three R-waves each following stimulus onset. The 18-beat interval preceding the slide served as a baseline measure, while the subsequent three-beat intervals were used as measures of cardiac activity in response to the false feedback manipulation. This relatively fine-grained analysis of the data was used in an effort to detect possible changes in the direction (acceleration or deceleration) of the cardiac response at different times during stimulus presentation. In order to avoid the possibility of habituation with repeated viewings of the same slides, heart rate data were analyzed for the first slide presentations only.

Changes in skin resistance were measured for each slide in the first test series by subtracting the highest amplitude GSR (in ohms) occurring during slide presentation from a stable baseline level
obtained prior to slide onset (Edelberg, 1967). These amplitude measures were then summed separately for the increase and no change slides, and these sums were used as the major dependent variables in the data analysis. (The data for one subject were discarded because of difficulties with the recording apparatus.)

RESULTS

Effects of Heart Rate Feedback

Overall rating scales. The mean ratings on the two general scales of evaluation are presented in Table 1. The feedback manipulation was clearly successful in influencing attractiveness ratings, producing significantly higher ratings for heart rate increase slides than for no change slides, \( F(1, 24) = 9.16, p < .05 \). Subjects also reported that they were significantly more "turned on" or aroused by slides associated with an increase in heart rate than by slides for which they heard their heart rates remain constant, \( F(1, 24) = 11.50, p < .01 \). These two measures of arousal and attractiveness were highly correlated (\( r = .96 \) for ratings summed over all ten slides, \( r = .96 \) for ratings summed over five heart rate no change slides, and \( r = .97 \) for ratings summed over five heart rate increase slides).

Comparison of overall rating scales. A more direct test of the relative impact of false feedback on these two overall ratings is provided by an analysis of covariance comparing arousal and attractiveness ratings for heart rate increase slides, with the corresponding
Table 1
Mean Rating per Slide for Feedback Increase and No Change Slides

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Increase</th>
<th>No Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Measures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attractiveness</td>
<td>61.12</td>
<td>43.35</td>
</tr>
<tr>
<td>Arousal</td>
<td>56.16</td>
<td>37.25</td>
</tr>
<tr>
<td><strong>Specific Body Parts Measures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Face</td>
<td>6.79</td>
<td>5.45</td>
</tr>
<tr>
<td>Body Build</td>
<td>7.06</td>
<td>6.07</td>
</tr>
<tr>
<td>Body Hair</td>
<td>5.83</td>
<td>5.29</td>
</tr>
<tr>
<td>Pose</td>
<td>5.96</td>
<td>4.49</td>
</tr>
<tr>
<td>Muscularity</td>
<td>6.61</td>
<td>5.86</td>
</tr>
<tr>
<td>Coloring or Tan</td>
<td>6.00</td>
<td>5.60</td>
</tr>
<tr>
<td>Personality or Disposition</td>
<td>5.39</td>
<td>4.44</td>
</tr>
</tbody>
</table>

*Ratings on each of these dimensions are based on a 100-point scale.
*Ratings on each of these dimensions are based on an 11-point scale.
ratings for no change slides as the covariate. In this analysis the adjusted difference between arousal and attractiveness proved to be nonsignificant, $F < 1$. In addition, when subjects' ratings of their overall confidence in evaluating male physical attractiveness were correlated with their judgments of attractiveness for heart rate increase slides, again with the corresponding judgments for no change slides removed, the resulting semipartial correlation was also nonsignificant, $r = .15$.

**Ratings of specific body parts.** An initial multivariate analysis of variance on the seven different body part dimensions indicated that heart rate increase slides produced significantly higher overall ratings of these characteristics than did no change slides, $F (7, 18) = 5.21, p < .01$. The mean ratings for each of these specific body part dimensions are presented in Table 1. These values indicate that subjects' judgments of the faces, $F (1, 24) = 5.18, p < .05$, body builds, $F (1, 24) = 5.61, p < .05$, and poses, $F (1, 24) = 13.65, p < .01$, were significantly higher for the five heart rate increase slides, whereas false feedback did not have a significant effect on ratings of body hair, $F (1, 24) = 1.16$, muscularity, $F (1, 24) = 3.43$, coloring or tan, $F (1, 24) < 1$, or personality, $F (1, 20) = 4.00$.\(^4\)

**Correlations with APQ**

The relationship between individual differences in autonomic

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\(^4\)Data for the question on personality or disposition were collected from only 21 subjects.
awareness and susceptibility to the influence of false feedback was examined by computing semipartial correlations between subjects' total scores on the APQ, as well as their scores on questions specific to heart rate perception and awareness of body perspiration, and their ratings of overall arousal and attractiveness for the heart rate increase slides, with the corresponding arousal and attractiveness ratings for no change slides removed. None of these correlations proved to be significant. In addition, subjects' own ratings of the degree to which their slide evaluations were influenced by the heart beat sounds did not correlate with the total APQ scores or with scores for specific body parts.

Physiological Measures

The mean heart rates during the baseline and six post-stimulus intervals for the false feedback increase and no change slides are plotted in Figure 1. This graph shows that there was an initial cardiac acceleration followed by a deceleration that is more pronounced for the heart rate increase than for the no change slides. A 2 X 7 analysis of variance, with feedback and intervals as the two factors, yielded significant main effects for both feedback, $F (1, 24) = 5.40$, $p < .05$ (M for increase = 83.49; M for no change = 84.25)\(^5\) and intervals,

\(^5\)These means represent the heart rate per slide for the increase and no change conditions. The data analysis was performed on the sum of the five slides in each condition.
The heart rate data were further analyzed by examining each subject's response to each slide and finding the intervals during which the maximum heart rate (the peak magnitude) and the minimum heart rate (the trough magnitude) occurred (see Lewis, 1974). Each of these two measures was then separately averaged across the feedback increase and the no change slides for that subject. The feedback increase slides showed a significantly lower trough magnitude than no change slides, $F(1, 24) = 7.56, p < .025$, while, as expected, no significant effect was found for the peak magnitude scores, $F(1, 24) < 1$.

The amplitudes of the specific GSR responses obtained for the increase and no change slides were analyzed in a one-way analysis of variance. The difference observed was not statistically significant, $F(1, 23) = 1.53$ (M for increase = 1.58 kilohms; M for no change = 1.42 kilohms).

**Relationship Between Heart Rate and Slide Ratings**

Correlations were also calculated between each of the two overall evaluative scales and a measure of heart rate reactivity, defined as the difference between the baseline measure and the rate occurring at the interval 7 - 9 beats following slide onset. (This particular interval was chosen because it reflected the maximum reliable
difference between the increase and no change slide conditions.)
The overall correlation between heart rate and rated arousal was found to be + .07, and that between heart rate and attractiveness was + .04. In addition, no consistent pattern of correlations was found between these measures across slides, across subjects, or for subjects scoring high or low on the APQ; and the number of significant correlations found for these several comparisons did not exceed that expected by chance.

Discussion

In this study we have demonstrated that female subjects are susceptible to the influence of false heart rate feedback in their evaluations of sexual stimuli, and that both their self-attributions of arousal and also their ratings of the attractiveness of these stimuli are affected by such feedback. We have also found that although false feedback produced a significant change in heart rate, it did not produce a corresponding change in GSR; furthermore, these heart rate changes were not related to either subjective evaluations of the slides or self-attributions of arousal. Finally, scores on the APQ were found to be unrelated to susceptibility to false feedback, and subjects high in autonomic sensitivity did not show greater agreement between their level of physiological arousal and their self-attributions of arousal than did subjects low on the APQ.

Female Subjects' Evaluation of Emotionally Arousing Stimuli and Their Self-Attributions of Arousal

The first of these findings suggests that female subjects do
indeed use information about their level of arousal in making judgments about their emotional states and in evaluating affective material. Although it is obviously difficult to make a direct comparison between the present experiment and the research reported by Leventhal and his associates, this finding nevertheless suggests that in the Valins paradigm at least, informational feedback does have a significant effect on female subjects' evaluations of arousing stimuli. Furthermore, this effect seems to be largely unrelated to subjects' prior conceptions about male physical attractiveness, in the same way that the effects of such feedback on subjects' ratings of arousal are unrelated to their assessed autonomic sensitivity. Both of these latter findings suggest that individual differences in prior knowledge or "self-awareness" may play a relatively minor role in moderating the effects of false feedback.

The failure to find a differential effect of false feedback on arousal vs. attractiveness ratings indicates that, contrary to Harris and Katkin's (1975) suggestion, attractiveness judgments may represent

6The observed potency of the false feedback was further supported by data collected in a final slide presentation in which subjects were asked to indicate whether they remembered hearing their heart rates increase or remain constant for each of the slides during the recording session. An analysis of these recall data showed that subjects incorrectly identified the direction of the actual feedback for 20% of the slides they viewed. Of these slides, 70.5% (31) were incorrectly identified as being associated with increasing feedback while 29.5% (13) were incorrectly identified as being accompanied by no change in heart beats. Analysis of variance of the attractiveness ratings for these slides showed that those recalled as being accompanied by an increase in heart rate were rated as significantly more attractive than slides identified as no change, \( F(1, 43) = 12.40, p < .01. \)

7In one recent article Leventhal and Cupchik (1976) have suggested looking at different types or areas of humor, including sexual humor.
as valid and appropriate a measure—at least in the false feedback paradigm—as more direct assessments of subjective emotional state. Although self-attributions of arousal and ratings of the attractiveness of slides are clearly not equivalent measures, either conceptually or empirically (see Table 1), nevertheless these judgments were highly correlated in the present study; and they appear to be equally sensitive indices of the effects of false feedback. An interesting topic for future research within this paradigm might be to examine how these two measures are related in situations where subjects' evaluations are relatively independent of their feeling states, or on issues where strong vs. weak opinions are involved (e.g., political attitudes and familiar vs. unfamiliar objects and issues).

It is possible to argue that the high correlations found between arousal and attractiveness are due primarily to the fact that these two measures were always administered together; and in fact it is conceivable that the interrelations in general among the several dependent variables examined in this study may have been affected by the constant order in which these measures were presented. It should be noted, however, that subjects always rated the attractiveness of a slide before indicating the degree to which that slide "turned them on"; and thus it seems unlikely that the ratings of arousal per se were a major determinant of subjects' attractiveness judgments. In addition, in the case of subjects' ratings of specific body parts, it is difficult to account for the particular pattern of results reported earlier on the basis of order alone.
Along slightly different lines, a number of investigators (e.g., Valins, 1966; Barefoot & Straub, 1971) have suggested that subjects in false feedback studies typically seek to justify their self-attributions of arousal by searching for features of the stimulus object that might account for such object-specific feedback. The finding in the present study that feedback had a significant effect on subjects' evaluations of some but not all bodily dimensions appears to be consistent with this argument. This finding also suggests that subjects' attributions of arousal do not simply result in an across-the-board raising of their evaluations of the slide in question; subjects do show some discrimination in their ratings.

**Autonomic Arousal and Autonomic Awareness**

The results for measured heart rate and GSR leave the question of the exact relations between actual and perceived arousal unresolved. On the one hand, the finding of significant changes in heart rate in response to false feedback is consistent with the results of earlier studies (e.g., Stern et al., 1972; Goldstein et al., 1972); and the heart rate deceleration is in line with the findings of a recent study by Detweiler and Zanna (1976) within the false feedback paradigm. However, there is some debate in the psychophysiological literature about the exact meaning of heart rate deceleration (cf. Elliot, 1972, 1974; Obrist, 1976; Lacey & Lacey, 1970, 1974); and it is possible that the pattern of acceleration-deceleration observed in the present study can be accounted for in terms of mere
In addition, interpretation of the observed heart rate changes in the present study is complicated by our failure to find corresponding changes in skin resistance. Within the false feedback literature, one previous study (Hirschman, 1975), using highly emotional, traumatic pictures, has reported significant changes in GSR in response to feedback, whereas Stern et al. failed to find a significant difference on this variable in a comparison of feedback change and extraneous noise conditions. It appears that if there are in fact physiological changes that are meaningfully related to false feedback, they are not very robust effects; and they hardly seem potent or consistent enough to account for the observed effects on subjective emotional experience and attractiveness ratings.

Along these same lines, the results of the present study indicate that actual heart rate changes are in fact unrelated to either perceived arousal or rated attractiveness, a finding that is consistent with the nonsignificant relationships reported by Goldstein et al. and by Hirschman. Taken together with the finding that individual differences in autonomic awareness were unrelated to susceptibility to false feedback, this result suggests that subjects did not actually use their own physiological arousal as a source of information about their emotional state. Changes in heart rate may have been one result of our experimental manipulation, but they do not seem to have been a necessary or sufficient condition for either attributions of arousal or judgments of attractiveness. The effects of false feedback appear to have been mediated by cognitive factors
rather than by subjects' physiological activity. It remains a task for future research to determine the exact nature of the cognitive processes mediating the relations among false feedback, perceived arousal, and judgments of attractiveness.
REFERENCES


Harris, V. A., & Katkin, E. S. Primary and secondary emotional behavior: An analysis of the role of autonomic feedback on affect, arousal, and attribution. Psychological Bulletin, 1975, 82, 904-916.


Figure Caption

Figure 1. Mean heart rate (BPM) for the increasing feedback and no change slides.
CHAPTER III

Behaviorally-Specific Report Cards and Self-Determined Reinforcements: A Multiple Baseline Analysis of Inmate Offenses

Philip H. Bornstein, Robert G. Rychtarik, Miles E. McFall, Carol Austin Bridgwater, Lesley Guthrie, and Basil Anton

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Abstract

The present study examined the efficacy of a positive correctional treatment strategy in the modification of institutional offenses among four convicted male felons. Intervention (consisting of behaviorally-specific report cards, self-determined reinforcers, and experimenter-delivered weekly feedback) was evaluated by means of a multiple baseline design across subjects. Throughout baseline and treatment phases, trained correctional officers recorded the occurrence or nonoccurrence of target behaviors on a daily basis. Results indicated substantial decreases in inmate offenses with the sequential application of the treatment package. These findings were discussed with regard to advantages of the current therapeutic program and recommendations were made for continuing investigations in the area.
Behaviorally-Specific Report Cards and Self-Determined Reinforcements: A Multiple Baseline Analysis of Inmate Offenses

The application of behavioral methodology to the treatment and rehabilitation of adult criminal offenders has generated considerable controversy among laypersons and professionals alike (Craighead, Kazdin, & Mahoney, 1976). Specifically, those opposed to utilization of behavior modification techniques in penal institutions appear concerned over: (a) ethical problems associated with the implementation of aversion therapies in prisons per se, and (b) continued prison personnel reliance upon a punishment model which emphasizes the withdrawal of privileges for misconduct (Kennedy, 1976). Indeed, these programs have proven largely unsuccessful in their efforts, frequently producing hostility and resistance among inmate-subjects (DiSpoldo, 1974).

Greater acceptance and generally more favorable results have been reported using token economy procedures to increase inmates' level of productive activity and involvement in educational and vocational opportunities (Bassett, Blanchard, & Koshland, 1975; Milan & McKee, 1974). Unfortunately, token economy programs in penal settings have typically been characterized by high inmate drop-out rates, short-term behavior change, and prisoner dissatisfaction as a result of "coercive participation" (Kennedy, 1976). Moreover, token economies present particular difficulties in prison environments due to the large amounts of time required for training change agents,
scarcity of effective reinforcers, and a tendency on behalf of unsupervised prison personnel to readily abandon positive reinforcement techniques, thereby allowing reinstatement of ill-fated punishment procedures (Bassett & Blanchard, 1977).

Thus, the present investigation sought to develop a practical, alternative correctional treatment strategy based upon positive behavioral principles. Procedural components included the utilization of operationally defined inmate offenses, external observation of daily behavior, and subject selection of self-determined reinforcing events. The approach outlined above was similar to that employed in recent research demonstrating that children's disruptive classroom behavior could be efficiently controlled by making powerful home-based reinforcers contingent upon parental receipt of daily good behavior records from the school (Bailey, Wolf, & Phillips, 1970; Schumaker, Hovell, & Sherman, 1977). Hence, the current program placed control for reinforcement delivery outside the realm of regular prison personnel. Further, changes in institutional routine were not required, additional responsibilities for officers were kept to a minimum, and only small investment of consultant supervisory time was required (Lahey, Gendrich, Gendrich, Schnelle, Gant, & McNees, 1977). Finally, the employment of a multiple baseline design across subjects permitted clear demonstration of functional control over target behaviors.
METHOD

Subjects and Setting

Subjects were all convicted felons incarcerated at Montana State Prison (MSP) and presently housed within the maximum security unit of that institution. Inmates were systematically selected for inclusion in the present investigation on the basis of correctional officer and administrators' reports of highly disruptive and offensive behavior.

Subject 1 was a 25-year-old Caucasian male, convicted of theft and sentenced to 10 years in prison. He had an extensive juvenile record including three years probation for burglary. This inmate had previously escaped from another state's maximum security institution where he was serving a sentence for assault with a deadly weapon. Subject 1 had an extremely poor adjustment record, had twice escaped from MSP, and had been charged with several felonies while out on escape. He had been a continual offender of institutional rules including refusing to obey a lawful order, escape, and possession of narcotics.

Subject 2 was a 20-year-old Caucasian male, convicted of two counts of armed robbery and sentenced to 30 years in prison. He had a previous record for burglary in the State of California and had been found guilty of the following violations while incarcerated at MSP: possession of intoxicants, attempted escape, intentional fire-setting, possession of explosives, and physically resisting correctional officers.
Subject 3 was a 20-year-old Caucasian male convicted of four counts of theft and sentenced to 10 years in prison. Although he had no prior convictions, Subject 3 had attempted to escape three times and violated a variety of institutional rules including being absent from work, intentional property damage, possession of contraband, and threatening another person.

Subject 4 was also a 20-year-old Caucasian male sentenced to 10 years imprisonment as a result of convictions on three counts of theft and four counts of burglary. He had an extensive juvenile record resulting in placement at a state home for youthful offenders and had been found guilty of the following offenses while incarcerated at MSP: refusing to work, destroying state property, assault, escape, and interfering with a staff member in the performance of his duties.

Response Definition and Recording

Since all of the above subjects had repeatedly violated prison regulations, institutional offenses as established by MSP authorities, were modified slightly and used as the dependent measure within the present investigation. These offenses included the following:

1. Use of abusive language toward another person. The directing of any remark, word, or phrase which is insulting or severely critical of another person; use of foul language, terms, or phrases.

2. Refusing to obey a verbal order. Subject either ignores or verbally refuses any direct order given to him by a staff member.
3. Failure to follow written orders. Subject fails to comply with the written operational orders of the housing unit to which he is assigned when he has received a copy of such orders.

4. Threatening another person with bodily harm. Subject directs remarks, words or phrases to others which are physically threatening to them, their family, or friends.

5. Fighting with another person. Subject physically attacks another person and initiates or participates in physical contact.

6. Disturbing other people. Subject either verbally or physically disturbs or disrupts others; other person's disturbance is verbally voiced or indicated by expression or comment.

7. Possession of contraband. Possession of any item not authorized for retention or receipt by the subject.

8. Intentionally damaging or destroying property. Subject intentionally damages or destroys property belonging to himself, others, or issued by the State.

9. Critical or abusive remarks directed toward food service personnel. Subject makes critical or abusive verbal remarks to institutional food service personnel about food delivered during feeding times or makes personal remarks about food service personnel in their presence.

10. Failure to maintain proper personal hygiene. Subject fails to maintain his person in accordance with posted personal hygiene standards such as failure to shave, groom hair, shower as scheduled, etc.
11. Failure to maintain a clean and orderly cell. Subject fails to clean and mop his cell or make his bed on a regular basis; cell is found untidy, messy, or dirty and presents a disorganized appearance.

12. Interfering with staff in the performance of routine duties. Subject verbally or physically interferes with staff members in the performance of routine duties when such interference distracts or delays staff members from said duties.

Since correctional officer-observers were already quite familiar with all potential categories of institutional offenses, the necessity for further training was minimal. Observations were conducted on a continuous and daily basis between 8:00 a.m. and 4:00 p.m. by one correctional officer designated as the primary observer. Covert reliability checks (Taplin & Reid, 1973) by a second correctional officer occurred across 25 percent of all baseline and treatment observation periods. This was accomplished on those days when both observers were jointly available throughout the 8:00 a.m. to 4:00 p.m. shift. Correctional officer-observers independently recorded inmate behavior with regard to the 12 institutional offenses listed above and simply indicated whether or not the behavior had, in fact, occurred during the scheduled period of observation. Any one such occurrence resulted in the scoring of an institutional offense category. Point-by-point comparisons were made and agreements scored when both observers recorded a "yes" or a "no" for the same behavior.
Reliability for each institutional offense was calculated by dividing the number of agreements by the number of agreements plus disagreements for a given inmate and multiplying by 100.

Procedure

A multiple-baseline design (Baer, Wolf, & Risley, 1968) was employed across the four targeted inmates.

Baseline. Following explanation of the observational procedure, officer-observers were given behaviorally specific report cards and asked to fill in cards for the chosen inmates on a daily basis. Observers were instructed to place a check in the "yes" column if an inmate broke a particular rule one or more times during the observation period or to place a check in the "no" column if that rule was followed throughout the day. Observers were requested not to discuss the card among themselves or with inmates. Since a multiple-baseline design was utilized, baseline conditions were in effect for varying lengths of time across the four targeted subjects.

Treatment. At the completion of the baseline condition, the senior author (a clinical psychologist employed at the prison on a part-time consulting basis) visited the inmate's cell, explained the program to him, and asked if he was interested in participating in the project. Inmates were fully informed that their behavior would be monitored on a daily basis (although identity of the observers was not revealed) and that if improvement over baseline occurred, selected privileges and reinforcers could be earned. Amount of improvement necessary for reward was purposefully left vague so as to
promote generalized improvement rather than attainment of a specific goal, per se. Subjects were given the opportunity to define exactly what they were working toward and verbal agreement was reached between each of the individual participants and the experimenter. In all cases, the experimenter by virtue of his position of employment within the institution, had access and control over the reinforcers chosen. Two inmates decided to work for notices placed in their institutional file indicating behavioral improvement, while the remaining subjects arranged to have the experimenter provide recommendation for reclassification contingently based upon the demonstration of substantial progress. Given each inmate's previous institutional history, the above rewards appeared quite acceptable and within the limits imposed by standard operating procedure of the prison. At weekly intervals throughout the treatment period, the experimenter provided feedback to each of the inmates and socially reinforced decreased levels of institutional offenses when appropriate. Finally, both inmates and officers were fully cooperative in their participation and, in fact, appeared highly enthusiastic throughout the conduct of the investigation. Acedotal reports indicated that (a) officers saw this as an opportunity to become more closely involved in clinical rather than security activities, and (b) inmates clearly felt they "had nothing to lose and something to gain".

RESULTS

Inter-observer reliability scores across all 12 categories
ranged from .85 to .98 with a mean of .92. Observer agreement scores for subjects 1, 2, 3, and 4 were .94, .92, .90, and .92 respectively.

Table 1 indicates the percentage occurrence of individual offenses across both baseline and treatment phases. These results indicate that each subject decreased all 12 target behavior occurrence rates from baseline through treatment. Total occurrence of inmate offenses during baseline and treatment are shown in Figure 1. The mean number of categories of daily institutional offenses occurring during baseline for subjects 1, 2, 3, and 4 were 6.29, 7.72, 6.31, and 7.43 respectively. These were reduced to means of 0.54, 1.59, 0.71, and 2.29 during the treatment condition. Thus, overall mean baseline level of daily offense categories was 6.94, with immediate and dramatic decrease to a mean of 1.28 as treatment was sequentially introduced across subjects.

**DISCUSSION**

The efficacy of the present treatment program was clearly demonstrated via substantial decreases in institutional offenses for all subjects. Moreover, that these changes can be attributed to the treatment alone is evidenced by decreases in target offenses occurring across subjects as the report card system was sequentially applied. Thus, daily report cards such as those employed in the current investigation appear to be viable behavior modification procedures for use with incarcerated adult offenders.

The present intervention also appears to have important advantages over previous behavioral procedures employed in penal
Table 1
Percentage Occurrence of Individual Offense Categories Across Baseline and Treatment Phases

<table>
<thead>
<tr>
<th>Offense</th>
<th>Subj. 1</th>
<th>Subj. 2</th>
<th>Subj. 3</th>
<th>Subj. 4</th>
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<td></td>
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<td>Treat.</td>
<td>Base.</td>
<td>Treat.</td>
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settings. As has been noted in similar classroom research with disruptive children (Bailey et al., 1970; Lahey et al., 1977, Schumaker et al., 1977), such programs eliminate the necessity for drastic change in institutional policy/procedure. Because training time, additional personnel, and modification in prison routine are often required when establishing more complex therapeutic strategies, prison administrators and staff may be reluctant to initiate and/or maintain the system. With simple, demonstrably effective procedures such as those presented herein, however, prison routine remains essentially unchanged, training time is limited, and the need for further personnel eliminated. It should be additionally noted that the accurate recording of inmate behavior by officer-observers serves to further obviate the need for extra-agency trained observers.

Among program components, the current investigation placed some emphasis on voluntary participation, operationally-defined response criteria, self-determined reinforcers, and limited control of rewards by regular prison guards. As such, the report card strategy appears to circumvent a number of ethical problems associated with behavior modification in prisons while reducing the potential for abuse, aggression, and hostility often typical of punishment-oriented behavior change correctional programs (Kennedy, 1976). Although the present study was primarily demonstrational in nature, certain aspects of the intervention may warrant further attention as a means of producing sustained behavior change following
program termination. Specifically, (a) delayed feedback of offense rate, and (b) contingency clarification (i.e., increasing awareness of the ultimate consequences contingent upon one's behavior [Blackwood, 1972]) not only appear capable of influencing behavior upon program completion, but are clearly highly appropriate for rehabilitation purposes as well. In fact, given the offender's typical characterization as one who is impulsive and unable to delay gratification (Adler, 1975), report card systems may prove to be particularly useful with adult offender populations. For example, feedback procedures could be progressively faded over greater periods of time (Schumaker et al., 1977) or even administered on a randomized schedule (Turkewitz, O'Leary, & Ironsmith, 1975). In any case, future researchers might be interested in examining the procedure with primary focus upon maintenance of behavioral improvement. Certainly, the present program suggests an efficient and effective approach to the management of prison behavioral problems. Parametric investigations exploring a variety of treatment dimensions and their applicability/utility to extra-prison environments are therefore recommended.
REFERENCES


Figure Caption

Figure 1. Number of daily institutional offense categories occurring across baseline and treatment conditions.
NUMBER OF INMATE OFFENSES

BASLINE

TREATMENT

DAYS

0  10  20

0  10  20
CHAPTER IV

Hypnobehavioral Treatment of Chronic Nailbiting:
A Multiple Baseline Analysis

Philip H. Bornstein, Robert G. Rychtarik, Miles E. McFall,
Jill Winegardner, Rochelle L. Winnett, and David A. Paris

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Abstract

Three highly hypnotizable subjects were administered a hypnobehavioral treatment package in an attempt to alleviate chronic nailbiting behavior. The combined hypnotic and behavioral procedures included standard induction and deepening techniques, motivation enhancement, time-projection, self-reinforcement, aversion-relief, coping self-instructions, and post-hypnotic suggestion. A multiple baseline design across subjects was employed as a means of evaluating the treatment intervention. Results for all subjects indicated immediate and dramatic increase in fingernail lengths concomitant with the introduction of treatment. At three months follow-up, one subject demonstrated a moderate reversal effect while the remaining two subjects continued to indicate substantial progress. These findings were discussed with regard to the efficacy of hypnobehavioral treatment strategies and utilization of single-case experimental designs in future hypnotherapy research.
Hypnobehavioral Treatment of Chronic Nailbiting:
A Multiple Baseline Analysis

Nailbiting is a prevalent problem contributing to considerable physical and/or social distress. Despite frequent reference to the use of hypnosis in the remediation of chronic nailbiting (Kroger & Fezler, 1976; Wolberg, 1948), there is little empirical evidence to support its clinical efficacy. Leshan (1942) administered aversive suggestions (i.e., "My fingernails taste terribly bitter") to boys in a summer camp during their sleep. Following prolonged exposure to the experimental manipulation, eight of twenty boys in the treatment group had successfully stopped biting their nails, while no-treatment control subjects showed no improvement. Unfortunately, other reports of hypnotically-based nailbiting control treatments have been confined to case studies incorporating aversive hypnotic suggestions (Secter, 1961), or psychodynamic hypnotherapeutic techniques (Gruenewald, 1965). Moreover, this literature is extremely limited and clearly lacking in methodological sophistication. Specifically, controls have been weak and measures of nailbiting behavior, other than self-report, have been noticeably lacking.

Behavior therapy interventions for nailbiting have been reported more frequently in the literature, and in many cases have relied upon dependent measures less influenced by demand characteristics (e.g., independent measurement of nail length), with
successful demonstrations having utilized a variety of techniques. Recently, however, the combination of hypnosis and behavior modification has been advocated as valuable treatment for a wide range of behavior disorders (Dengrove, 1973). Within such a hypnобehavioral approach, learning is assumed to be more rapid and durable as a result of imagery enhancement (Kroger & Felzer, 1976). Spanos and Barber (1976), in fact, have stressed the strong similarities between hypnosis and behavior modification, noting that contemporary conceptualizations of both approaches appear to be converging toward the view that cognitive factors (i.e., situation specific attitudes, expectancies, and motivations) may be major mediators of behavior change. Indeed, it is rather surprising that, thus far, hypnобehavioral treatments have been examined on a very limited basis with no reports whatsoever for the target problem of nailbiting.

The purpose of the present investigation was therefore to evaluate the efficacy of a brief multi-component hypnобehavioral treatment program in the modification of chronic nailbiting behavior. Moreover, despite utilization of single-case experimental designs in behavior therapy research (Hersen & Barlow, 1976), such methodology has received little attention in the hypnotherapy literature. Thus, a corollary purpose in conducting the current research was to explore the utility of a within-subjects evaluation strategy in the analysis of hypnotherapeutic interventions.
METHOD

Procedure

Subject selection. Prospective subjects (n=12) responded to an advertisement offering a free treatment program for the control of excessive nailbiting and were scheduled to attend a screening and orientation meeting at the university's Clinical Psychology Center. Upon arrival, the subjects were equally divided into two groups. The groups were then escorted to separate rooms where the subjects were seated in comfortable chairs arranged in a semicircle. A male experimenter was assigned to each group and informed the subjects that although they would all receive treatment for nailbiting, a standard procedure for measuring susceptibility to hypnosis would first be administered so as to select those who might be most efficiently treated by hypnotic as opposed to other available therapeutic modalities. Subjects were provided with the standard introductory and rapport building remarks suggested by Shor and Orne (1962) and response booklets were then distributed. Prior to administering the HGSHS by tape recorded instructions, the experimenter responded to subjects' questions. Following administration of the HGSHS, response booklets were collected and scored while subjects completed a fingernail biting questionnaire as a means of providing historical details of their nailbiting problem, accounts of the situations in which they bit their nails, and five reasons why they wanted to stop nailbiting.
After completing the questionnaires, those subjects (n=3) who proved to be most hypnotizable (i.e., score of nine or greater) were then individually interviewed for the purpose of measuring present fingernail length, gaining consent to return to the clinic at regular intervals for nail length assessment, and scheduling subsequent individual hypnobehavioral treatment sessions. Remaining subjects were re-contacted within a seven-day period and offered a non-experimental behaviorally-oriented group treatment program.

Subject 1 (HGSHS=9), a 24 year old female, estimated she currently bit her fingernails at the rate of once every two hours. She reported having made at least two serious attempts per year to stop nailbiting over the course of the past several years. However, the longest time that she was able to refrain from nailbiting following an attempt to quit was six months. This subject also anticipated that she would have "extreme" trouble quitting her nailbiting habit even with the assistance of treatment.

Subject 2 (HGSHS=10), a 23 year old female, was unable to recall when she first began nailbiting. She reported having made "many" (i.e., at least six) attempts to stop, with six months being her longest period of abstinence. This subject was unable to estimate her daily rate of nailbiting, but recalled that it had been over two years since she had even initiated efforts to stop biting her nails.

Subject 3 (HGSHS=10), a 19 year old female, stated that she had been biting her nails "forever", had made 1-3 attempts per year
to stop biting during the past seven years, and had been able to maintain abstinence for a maximum of 3-4 weeks following her most successful effort to quit. She reported that she bit her nails at the rate of 1-2 times/day, and expected to have "moderate" difficulty in controlling this persistent habit. In summary, all three subjects reported chronic nailbiting problems for which previous attempts at abstinence had proven largely unsuccessful.

Baseline assessment. Following the screening session, experimental subjects returned to the clinic three times weekly (i.e., every other day) until a stable baseline fingernail length had been obtained (Subject 1, six measurement days; Subject 2, seven measurement days; Subject 3, eight measurement days). Assessment was conducted for each finger of the dominant hand with a MG Tool Company brand caliper, providing measurement accurate to .001/inch. Measurements were recorded by graduate students previously trained in caliper use and instructed in the anatomical criteria employed to determine nail length. Fingernails were measured from the cuticle to the center crest of the nail. Covert reliability checks (Taplin & Reid, 1973) on both baseline and post-treatment measurements were conducted on a random basis by a second observer so as to insure accuracy of rater performance (Kazdin, 1977).

Treatment. A multiple baseline design across subjects (Baer,

\[1\]A more detailed account of the treatment procedures can be obtained from the authors upon request.
Wolf, & Risley, 1968) was employed as a means of evaluating the efficacy of the treatment intervention. All subjects were seen for three one-hour individual hypnobehavioral treatment sessions extending over a period of 3-4 days. A brief overview of the combined hypnotic and behavioral treatment procedures is provided below.

During the first treatment session, subjects were administered a standard hypnotic induction (i.e., arm drop technique) and deepening procedure. Motivation enhancement suggestions (Meares, 1961) were then provided stressing increased feelings of self-confidence, strength, personal commitment, and ability to control problematic nailbiting. Personal reasons for quitting nailbiting previously reported on the pre-treatment questionnaire were elaborated, and suggestions that urges to bite nails would decrease in intensity were liberally administered. A representative sample of the suggestions given to clients is provided in the following excerpt:

You are very confident of overcoming the nailbiting habit and you have made a commitment to stop nailbiting. You are in complete control of your nailbiting urges and have decided to stop in order to make your hands more attractive and eliminate the frequent painfulness of torn nails. Since you have decided to stop nailbiting, you'll feel proud of yourself, pleased that you have control over your body, and victorious over the diminishing urges to nailbite.

Imaginal time-projection procedures (Lazarus, 1971) were then implemented by asking subjects to envision themselves having long and attractive fingernails while being engaged in various activities
at future points in time. Specifically, as they imagined themselves in various situations (e.g., "combing your hair in the mirror") at progressively increasing periods of time (one week, four weeks, and three months), subjects' attention was directed toward the increasing length and attractiveness of their nails resulting from having refrained from nailbiting. While imagining these scenes, the therapist suggested that clients use reinforcing and confidence building self-statements (Thoresen & Mahoney, 1974) as a means of rewarding the amount of fingernail growth attained (e.g., "Hey, I'm really doing well at overcoming nailbiting"; "Look at those gorgeous nails!"). Suggestions portraying aversive experiences (e.g., bitter taste) associated with images of nailbiting were subsequently administered, followed by aversion-relief procedures (Thrope, Schmidt, Brown, & Castell, 1964) paired with the termination of each imaginal nailbiting response. The aversion relief component first involved suggesting to clients that they experience pleasant and refreshing sensations once having pulled their hand away from their mouth. Clients were then instructed to actually begin biting their fingernails in the presence of the therapist, apply aversion-relief procedures, withdraw their fingers, and experience the resulting sensations of pleasantness and confidence. Finally, subjects were provided with the post-hypnotic suggestion (Watkins, 1949) that upon cue they would immediately re-enter a deep state of hypnosis in subsequent therapy sessions. The therapy hour was completed by arousing subjects from their hypnotic state and questioning
The second treatment session was begun by having subjects re-enter a deep hypnotic state. As in the first session, subjects were then provided with motivation enhancement and "victory" suggestions, stressing the personal success they had attained in overcoming their nailbiting problem. Suggestions that aversive experiences would be associated with behaviors leading to nailbiting were again provided. However, the major focus of this session was to encourage subjects to emit a variety of coping behaviors in response to nailbiting urges. This was accomplished by training subjects in alternative behaviors (e.g., relaxation, deep breathing, thought-stopping, coping self-statements, etc.) when confronted with imaginally-presented high probability nailbiting situations. It was additionally suggested that reinforcing self-statements and pleasant sensations would follow the dissipation of successfully coped with nailbiting urges. Subjects then practiced overcoming urges to nailbite by actually emitting their newly learned self-control skills in response to personally difficult nailbiting situations. At the end of the hour, subjects were aroused from their hypnotic state and experiences during the treatment session were discussed.

The purpose of the final session was to (a) train subjects in the use of self-hypnosis and (b) provide further practice in employing self-control skills. The therapist first guided subjects in achieving a state of self-induced hypnosis (Cheek & LeCron, 1968), then provided instructions regarding self-administered relaxation,
self-reinforcement, and self-applied aversive consequences contingent upon nailbiting behavior. Instructions for self-relaxation involved teaching subjects to imagine a wave of relaxation flowing from head to foot, as well as deepening their own state of relaxation by progressively stepping down an imaginary staircase. Subjects' ability to use self-applied aversive consequences and self-reinforcements was facilitated by instructing them to administer suggestions to themselves while under self-hypnosis. These included suggestions that nailbiting would be associated with various aversive sensations, and that cessation of nailbiting would be followed by feelings of confidence and personal self-worth. Subjects were again provided the opportunity to practice coping behaviors in response to the onset of imaginally-presented nailbiting urges. While the therapist observed, relaxation/reinforcement/time-projection procedures were then self-administered by the client. Following arousal from hypnosis, the importance of practicing the self-hypnotic technique and other coping skills was stressed.

Post-treatment and follow-up assessments. Following treatment, subjects continued to have their fingernail length assessed on an every-other-day basis. Although one- and three-month follow-up assessments were planned, conclusion of the academic year limited some subject availability for measurement (see Results).

RESULTS

Reliability checks were conducted on 33% of all baseline and post-treatment measurement days. Baseline levels of agreement were
as follows: Subject 1, 96%; Subject 2, 97%; Subject 3, 97%. Post-
treatment interrater reliabilities evinced comparable levels: Subject
1, 98%; Subject 2, 99%; Subject 3, 99%.

Figure 1 represents mean fingernail length for each subject across
baseline and treatment periods. Results indicate the mean length of
fingernails during the baseline condition for Subjects 1, 2, and 3
was .333 in., .398 in., and .392 in., respectively. Following the
initiation of hypnобehavioral treatment there was an immediate and
dramatic increase to mean post-treatment lengths of .375 in. for
Subject 1; .437 in. for Subject 2; and .414 in. for Subject 3. At
one month follow-up, only Subject 1 was available for measurement;
fingernails at that time indicated continued growth to .444 in.
However, at three month follow-up all subjects were re-contacted and
measurement again occurred. These results revealed the following:
Subject 1, .349 in.; Subject 2, .453 in.; and Subject 3, .438 in.

Thus, while Subject 1 demonstrated a moderate reversal effect, finger-
nail lengths for Subjects 2 and 3 indicated substantial follow-up
progress.

DISCUSSION

The results of the present investigation indicate that appli-
cation of a combined hypnosis and cognitively-oriented behavioral
treatment package had immediate and consistent effects within a
chronic nailbiting population. Moreover, for two of the three subjects
studied, follow-up results, as determined by objective measurement,
revealed maintenance of behavioral improvement over time. It should be noted, however, that the current three-month follow-up period was considerably shorter than subjects' previously reported six-month, nontherapeutically assisted periods of abstinence. In addition, at three-month follow-up, one subject did evince a return to near pre-treatment fingernail length levels. Albeit, this subject insisted she (a) was no longer biting her fingernails, and (b) had purposely clipped her nails to a shorter length for reasons of comfort and personal hygiene. There is some anecdotal support for this contention in that measurement assistants had independently commented upon the neat appearance and evident fingernail care exhibited by this subject throughout treatment and follow-up phases. This aside, however, clearly of greater importance was the successful merging of hypnotic and behavioral treatment strategies within the present treatment program. Furthermore, it should be noted that this integration of approaches occurred on procedural (i.e., focus on directly observable, measureable behavior evaluated via a multiple baseline design).

While direct comparisons were precluded by the type of design employed, some support for apparent effectiveness of the hypnobe-havioral treatment was provided by the nine less hypnotizable subjects (HGSBS < 9) who comprised the behaviorally-oriented, nonexperimental group program. This group met once weekly for three consecutive weeks employing a similar cognitive-behavioral treatment as that utilized with hypnobe-havioral subjects. Muscle relaxation exercises,
however, were substituted for hypnotic induction and deepening procedures. While follow-up data was not available for these subjects, no substantial increases in fingernail length occurred during the three-week treatment period. Of some import, however, is the fact that treatments within the present investigation were not administered blindly. As a result, therapist expectancies may have profoundly influenced the differences obtained. Future researchers may therefore wish to further compare the efficacy of the treatment package with and without the inclusion of hypnotic components.

Although single-case experimental designs have rarely been used in hypnotherapy research, recent evidence suggests such methodologies are becoming more widely employed in non-operant fields of endeavor (Kazdin, 1975). This is consistent with Leitenberg's (1973) plea calling for utilization of intra-subject replication designs in the evaluation of applied interventions. While the reader is referred to several treatises with excellent description of such experimental procedures (e.g., Baer, Wolf, & Risley, 1968; Hersen & Barlow, 1976), it may be appropriate to briefly explore the established strengths of this evaluation strategy. Specifically, within-subject designs (a) allow for clear demonstration of functional control between a behavior and its controlling variables (Bandura, 1969), (b) provide intensive examination of intra-subject variability, (c) allow experimental study in situations where between-groups comparisons are considered inappropriate (e.g., heterogeneous subject population, limited sample size, inability to meet statistical
assumptions of group designs, etc.), and (d) eliminate the necessity of attending to inter-subject differences, an effect due to the method of study which only serves to obscure the establishment of lawful relationships (Sidman, 1960). Thus, single-subject designs may be particularly useful in psychotherapy and hypnotherapy research per se, where emphasis had traditionally been placed upon the evaluation of clinically-relevant treatment effects in extra-laboratory outpatient settings (Frankel, 1976).

Finally, the hypnobehavioral treatment package employed in the present investigation was clearly multicomponent in nature. Thus, one cannot exclude simple repeated measurement as a contributing agent of therapeutic change, although there is ample reason to question the maintenance value of such a strategy over time (Davidson & Denney, 1976). In any case, it must be recognized that the present design did not attempt to assess the relative contributions of either hypnotic or behavioral procedures used singly or in combination. Future researchers may, therefore, be interested in further analyzing the program via a components analysis strategy as a means of uncovering the active agents of behavior change. Moreover, systematic replication across subjects varying in level of hypnotizability would appear to be a parametric dimension of significant import. In conclusion, the hypnobehavioral treatment procedure utilized herein generally appears quite successful and thus warrants continued experimental scrutiny.
REFERENCES


Figure Caption

Figure 1. Mean fingernail lengths across baseline and treatment periods.
CHAPTER V

Application of a Social Skills Training Program in the Modification of Interpersonal Deficits Among Retarded Adults: A Clinical Replication

Philip H. Bornstein, Paul J. Bach, Miles E. McFall, Patrick C. Friman, and Patricia D. Lyons

Abstract

Six mentally retarded adults, equally divided into two treatment groups, were provided with individualized social skills training programs. Treatment, evaluated via a multiple baseline design strategy, was sequentially and cumulatively applied across target behaviors over a four-week intervention period. Behavioral observation probes and social validation measures served as the primary dependent variables. Results indicated that (a) treatment was effective for virtually all behaviors across all subjects, (b) improvements occurred for both training and generalization scenes, and (c) behavioral performance was maintained one month following the termination of treatment.
Application of a Social Skills Training Program
in the Modification of Interpersonal Deficits
Among Retarded Adults:
A Clinical Replication

Developmentally disabled adults are frequently deficient in the skills necessary for effective interpersonal functioning (McDaniel, 1960). Consequently, response acquisition models (Goldsmith & McFall, 1975) designed to remediate specific interpersonal deficits have been recently extended to mentally retarded populations. Turner, Hersen, and Bellack (1978), for example, successfully trained both positive and negative assertive responses in a retarded inpatient. Gibson, Lawrence, and Nelson (1976) similarly developed specific component behaviors of verbalization, recreation, and cooperation to improve the peer interaction of three retarded adults. Finally, Rychtarik and Bornstein (in press) engaged three mentally retarded adults in a conversational skills training program that sequentially increased the target behaviors of eye contact, conversational questions, and conversational feedback in a multiple-baseline design.

The purpose of the present investigation was to further extend the application of a social skills training model to interpersonal deficits among mentally retarded adults. Moreover, the design of this study allowed for incorporation of several methodological desiderata, including (a) social validation measures (Kazdin, 1977).
to evaluate the effects of training specific component behaviors on judgments of overall interpersonal effectiveness, (b) assessment of treatment generalization to untrained simulated interpersonal situations, (c) follow-up evaluation of treatment effectiveness, and (d) clinical replication (Hersen & Barlow, 1976) of treatment effects across subjects evaluated via a multiple baseline design strategy (Baer, Wolf, & Risley, 1968).

METHOD

Subjects and Assessment

Based on staff reports of interpersonal skill deficits (e.g., "quiet in interactions with others," "moody," "hard-to-work-with," "self-centered," etc.), six mild-to-moderately retarded sheltered workshop employees (5 females, 1 male) were recruited to serve as subjects in the present investigation. Subjects ranged from 21 to 39 years of age and were presently living either with friend, family, or in a group home situation. All were seen individually in treatment with Group B participants receiving a direct replication of the social skills program six weeks following the baseline condition of Group A.

Six scenes depicting commonly encountered social interactions were selected and modified from Goldsmith and McFall's (1975) Interpersonal Behavior Role-Playing Test and used for both assessment and training purposes. One-half of the scenes were directed toward a male role model and the other half toward a female role model.
In addition, six scenes tapping different content areas than those included in training interactions were chosen to serve as a test for generalization effects of treatment. All phases of the investigation were conducted at the University of Montana Clinical Psychology Center with videotape apparatus providing for unobtrusive recording of subjects' responses to role-played situations. The following target behaviors were selected based upon retrospective ratings of baseline videotapes.

**Number of words spoken** (Subjects $A_1$, $A_2$, $A_3$, $B_2$, $B_3$). Total number of words (i.e., utterances found in standard modern dictionaries) used in responding to prompts.

**Speech latency** (Subject $A_1$). Length of time (in seconds) from termination of prompt to initiation of subject response.

**Inappropriate hand-to-face gestures** Subject($A_1$). Total seconds of inappropriate face-touches (e.g., stroking, picking, stereotypic movements); a ratio was computed dividing the above by corresponding scene response duration.

**Overall interpersonal effectiveness** (Subjects $A_1$, $A_3$). Effectiveness was scored on a five-point Likert-type scale (1=poor effectiveness; 5=highly effective). Prior to conducting ratings, judges were familiarized with Goldsmith and McFall's (1975) scoring manual and previous research definitions of interpersonal effectiveness (Bornstein, Winegardner, Rychtarik, Paul, Naifeh, Sweeney, & Justman, 1979).
Posture (Subjects A₂, B₁, B₂). Sitting posture when responding to each prompt was scored on a five-point scale (1=inappropriate sitting position; 5=highly appropriate sitting position). Judges were asked to pay particular attention to lower-back slouching, stoop shoulders, and leg positioning.

Enunciation (Subjects A₂, A₃, B₁, B₂, B₃). Enunciation was also scored on a five-point scale (1=poor enunciation; 5=excellent enunciation). Ratings reflected both intelligibility of response and crispness of vowel-consonant speech forms.

Inappropriate speech content (Subject A₂). Total seconds of inappropriate speech (i.e., irrational speech [Wincze, Leitenberg, & Agras, 1972]) divided by corresponding speech duration.

Loudness (Subjects A₃, B₂). Loudness was rated on a five-point scale (1=inappropriate levels; 5=appropriate levels). Judges ratings were based upon standard conversational levels of speech.

Inappropriate hand movement (Subject B₁). Seconds of inappropriate hand movements divided by corresponding scene response duration. Raters' evaluations were based upon rigidity of movement and idiosyncratic physical gesturing (e.g., repetitive hand motions).

Intonation (Subject B₃). Intonation was scored on a five-point scale (1=inappropriate; 5=appropriate) based upon pitch and voice quality characteristics (e.g., raspy, smooth, etc.).

Eye contact (Subject B₃). Length of time during which the subject looked directly at the role model divided by corresponding speech duration.
Rate of Speech (Subject B). Speech rate ratios were computed by calculating number of words spoken divided by corresponding speech duration.

Procedure

Baseline and training procedures followed similar formats for all subjects. During baseline, three videotaped probes were conducted during a one-week period. Training was then begun using a multiple baseline design with target behaviors introduced sequentially and cumulatively over the course of a four-week treatment period (Hersen & Bellack, 1976).

Training was conducted by a graduate student in clinical psychology experienced in working with adult retarded subjects and social skill development. Two experimental assistants observed the training interaction on a monitor in a nearby room and videotaped pre-determined selected segments. The actual training package, consisting of instructions, modeling, rehearsal, feedback, and social reinforcement, has been used in previous skill development research (see Rychtarik & Bornstein, in press). Training sessions averaged 50 minutes in duration and were conducted twice per week with practice on each of the six training scenes occurring during each session.

Probes. Probes were conducted twice a week during treatment, independent of and immediately following training sessions, and at one month follow-up. During each probe session, both training and generalization scenes were administered by experimental assistants.
Social Validation

Scenes and responses from Sessions 1, 2, 3, (baseline) and 10, 11, 12 (final two sessions of treatment plus follow-up) were arranged and played in random order to a group of three volunteer raters who had agreed to judge subjects' general social competence. Judges were highly knowledgeable in the area and represented professional fields of psychology, education, and social work. Before viewing the tapes, judges were instructed to evaluate overall interpersonal effectiveness along a seven-point (1="poor", 7="excellent") bipolar semantic differential scale (Osgood, Suci, & Tannenbaum, 1957). In addition, judges were asked not to base ratings on direct comparisons between subjects, to rate independently of one another, and to avoid being influenced by subjects' age, appearance, etc.

RESULTS

Two judges (both of whom had extensive experience in rating similar behaviors) independently rated videotapes for all subjects across baseline and treatment sessions. Results indicated Pearson Product-Moment reliability coefficients ranged from .82-.99 across the 12 target behaviors. In addition, percent agreement and exact agreement on Likert-scale ratings and ratio reliabilities (defined as a ± 5% agreement criterion) were all within acceptable levels (range=.80-1.00).

The results of training are presented in Figures 1 and 2. Since no differences were observed in subjects' responses to male
and female role models, data is presented collapsed across the six training and generalization scenes. Aside from inappropriate speech content for Subject A, all target behaviors demonstrated clear and consistent behavioral improvement. While enunciation and intonation for Subjects A and B respectively, did not evince rapidity of change comparable to that expressed in other target behaviors, mean changes of a therapeutic nature were exhibited for every behavior under study.

Baselines appear to be rather independent in response to treatment although the target behaviors of overall assertiveness (Subjects A and A) tend to increase gradually throughout the training period. In addition to the clear treatment effects for training scenes, generalization scenes evinced similar dramatic improvements. Moreover, one month follow-up data for almost all behaviors indicated maintenance of behavioral improvement over time (exceptions were moderate reversals for Subjects B, [inappropriate hand movement generalization scenes] and B [loudness training scenes]).

Social validation. The mean rating of judges for overall interpersonal effectiveness across all six subjects was: Sessions 1, 2, 3 = 1.72; Sessions 10, 11, 12 = 4.36. Thus, while substantial improvement was noted, subjects' final evaluation allowed for continued improvement.

A Kendall coefficient of concordance (W) was employed to determine the extent of interjudge agreement regarding overall interpersonal effectiveness ratings (Siegel, 1956). This was
accomplished by rank ordering each judges' semantic differential scores from the six sessions evaluated. A resulting $W$ of 31.47 was obtained ($p < .001$), indicating extremely high agreement among judges with regard to overall social effectiveness.

**DISCUSSION**

The results of the present investigation indicate clear behavioral improvement for all subjects across virtually all behaviors targeted for change. Moreover, the apparent success of the interpersonal effectiveness training program was augmented by increases in socially appropriate behaviors for both trained and untrained role-played vignettes. Thus, it would appear that subjects had developed interpersonally competent "styles" rather than idiosyncratic responses to selected problem situations. Furthermore, that improvements in behavioral performance maintained one month following the termination of treatment, attest to the robust nature of a skills training approach in the modification of interpersonal deficits among mentally retarded adults. However, future research must attempt to both assess and program generalization of social skills to naturalistic settings.

Two unique aspects of the present report involve the utilization of a clinical replication design and the assessment of therapeutic change via social validation procedures. While treatment generality and improvement across subjects was clearly demonstrated, judges' overall evaluation of subject performance did not surpass
an "average" level of interpersonal effectiveness. This finding is similar to the results of Rychtarik and Bornstein (in press) and tends to suggest that when working with retarded subjects, instruction in a wide variety of interpersonal skills may be a pre-requisite to the attainment of "socially significant change" levels. In any case, the application of skill-acquisition approaches toward the modification of interpersonal deficits among mentally retarded adults certainly appear worthy of continued investigation. In addition, longer follow-ups and direct, more naturalistic observation of interpersonal behavior would add even greater credibility to the results obtained.
REFERENCES


Footnotes

We are indebted to Jim Atkins, Jim Hatley, Greg Ragee, and staff members of those organizations who aided in the conduct of this research. This project was supported in part by grant #78-154-3001, awarded by the Developmental Disabilities Planning and Advisory Council to the senior author. Requests for reprints should be sent to Philip H. Bornstein, Department of Psychology, University of Montana, Missoula, Mt. 59812.
Figure Captions

Figure 1. Probe sessions during baseline, treatment, and follow-up for Subjects $A_1$, $A_2$, $A_3$. Data are presented in blocks of six scenes.

Figure 2. Probe sessions during baseline, treatment, and follow-up for Subjects $B_1$, $B_2$, $B_3$. Data are presented in blocks of six scenes.
CHAPTER IV

Obsessive-Compulsive Neurosis: A Cognitive-Behavioral Formulation and Approach to Treatment

Miles E. McFall and Janet P. Wollersheim

Abstract

Drawing upon the literature from cognitive and behavioral formulations as well as psychoanalytic theory, a cognitive-behavioral model for conceptualizing and treating obsessive-compulsive neurosis is presented. The proposed model is contrasted with traditional psychoanalytic and behavioral conceptualizations. A variety of cognitive and behavioral treatment techniques are described which attempt to help clients modify their unrealistic cognitive appraisals of threat, test the validity of their fears, and realize resources more effective than symptoms for coping with uncertainty and anxiety.
Obsessive-Compulsive Neurosis: A Cognitive-Behavioral Formulation and Approach to Treatment

Behavioral researchers have considered obsessive-compulsive neurosis from various points of view. For example, obsessions and compulsions have been seen as drive reducing behaviors acquired as a means of escaping punishment (Dollard & Miller, 1950), as conditioned avoidance responses resulting from traumatic experiences (Wolpe, 1958), and as a constellation of behaviors produced by fortuitous positive reinforcement (Ayllon, Haughton, & Hughes, 1965). A variety of behavioral treatments consistent with these formulations have been proposed, including response prevention, positive reinforcement, punishment, systematic desensitization, thought-stopping, covert sensitization, self-monitoring, and biofeedback (see Marks, 1975; Meyer, Levy, & Schnurer, 1974, for reviews). Most of the studies using these techniques, however, are based on uncontrolled case reports, show poor generalization of treatment effects, and do not provide adequate follow-up data. Moreover, in a review of the literature, Yates (1970) reported a nonimprovement rate of approximately 50% for obsessive-compulsive neurosis treated by these traditional behavioral methods.

Recent developments in cognitive-behavior theory suggest alternative ways of conceptualizing and treating obsessive-compulsive neurosis in a manner that accounts for the mediating functions of the
individual. The purpose of this paper is to provide such a formulation of this disorder and a corresponding treatment strategy consistent with a cognitive-behavioral perspective.

A Cognitive-Behavioral Model of Obsessive-Compulsive Neurosis

The model of obsessive-compulsive neurosis developed here is an elaboration and synthesis of the work of Lazarus (1966) and Carr (1974). Central to this formulation is evidence presented by Lazarus (1964, 1966) demonstrating that the experience of threat is generated by an immediate cognitive "primary appraisal" process whereby the individual estimates the danger of an event relative to his perceived resources to cope with it. After the primary appraisal of threat has been made, emotional reactions and behavioral responses are initiated on the basis of the person's "secondary appraisal" of the likely consequences of his efforts to cope with the threat.

Deficits in Primary Appraisal

Carr (1971, 1974) first recognized the etiological significance of unrealistic threat appraisals in obsessive-compulsive neurosis and provided experimental evidence to support his formulation of a cognitive model of this disorder. Briefly, Carr (1974) argued that obsessive-compulsive individuals experience a high degree of threat because they overestimate both the probability and cost of the occurrence of unfavorable events. Thus, a host of events may be perceived by these individuals as unrealistically dangerous, such as erotic or sexual feelings, the consequences of making a "wrong" decision, or
The present authors are in basic agreement with Carr's (1974) notion that obsessive-compulsive neurotics manifest inaccuracies in their primary appraisals of threat. As Carr (1974) points out, however, several important questions remained unanswered in his formulation and are in need of elaboration. In particular, those factors influencing the unrealistic subjective estimates of negative outcomes creating threat are unspecified. The cognitive processes mediating the unique style in which obsessive-compulsive individuals attempt to cope with perceived threat (i.e., secondary appraisals) also require explanation. Finally, the manner in which unrealistic estimates of threat can be modified deserve attention for obvious practical implications. The first two theoretical points will be addressed here, while the treatment recommendations following from this model will appear later in the paper.

It is proposed here that several unreasonable beliefs or assumptions have been learned by obsessive-compulsive individuals that heighten their tendency to overevaluate the dangerousness of events and thus experience threat. Characteristic of the obsessive-compulsive individual are the beliefs that 1) one should be perfectly competent, adequate, and achieving in all possible respects in order to be worthwhile and to avoid criticism or disapproval by others/oneself; 2) making mistakes or failing to live up to one's perfectionistic ideals should result in punishment or condemnation; 3) one is powerful enough to initiate or prevent the occurrence of disastrous outcomes by magical rituals or obsessive ruminating;
and 4) certain thoughts and feelings are unacceptable, having them could lead to catastrophe (e.g., anger will result in homicide), and one should be punished for having them. These unreasonable beliefs are considered to be those most likely to influence the primary appraisal process of the obsessive-compulsive neurotic. It should be noted, however, that the particular constellation of unreasonable ideas will vary between individuals, and that clients may not be consciously aware of their acceptance of these beliefs or the influence these beliefs have upon their perceptions.

Deficits in Secondary Appraisal

Once a primary appraisal of threat has been made, the obsessive-compulsive individual evidences distortion in his secondary appraisal process by underestimating his abilities to cope with the threat in an adaptive or realistic manner. This unfavorable ratio between the perception of threat and one's coping abilities then leads to feelings of uncertainty, loss of control, and anxiety. Empirical support for this latter proposition is provided from several diverse sources. The low tolerance for uncertainty and overly cautious behavior typical of obsessive-compulsive neurotics has been demonstrated by research in which these individuals exhibited less risk-taking behavior (Steiner, 1972) and required more information on decision-making tasks (Milner, Beech, & Walker, 1971; Volans, 1976) relative

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Irrational beliefs 1 and 2 are modifications of beliefs derived from Ellis (1962).
to depressives, phobics, normals, and other psychiatric groups. Moreover, the subjective experience of losing control characteristic of obsessive-compulsive neurotics has been documented in clinical cases (Walker, 1973) and by the theoretical writings of psychoanalysts (Nemiah, 1975; Shapiro, 1965). Finally, laboratory research has shown that anxiety may be precipitated by the self-perception of having lost control (Geer, Davison, & Gatchel, 1970; Pervin, 1963) and that anxiety is also a consequent of threat appraisals for which minimal defenses are available (Lazarus, 1966).

As noted by psychoanalytic writers (Fenichel, 1945) and reiterated by more contemporary theorists (Carr, 1974; Rachman, 1976; Teasdale, 1974), obsessive-compulsive symptoms reduce uncertainty and anxiety and provide the individual with a sense of control. Here, again, the secondary appraisal process of the obsessive-compulsive individual is unrealistic in that he views magical rituals and obsessions as the most effective means available to him for reducing perceived threat (Carr, 1974). It should be noted that most obsessive-compulsive clients recognize the absurdity of their symptoms and realize at an intellectual level that other means exist for dealing with perceived threats. The essential point to be made here is that such individuals experience themselves as helpless to cope with threat (and the intense emotions arising from their faulty judgments) by more adaptive means, and feel that symptoms are their best option for reducing distress. Thus, the individual resorts to coping efforts represented by rituals and ruminations that are in no rational way related to the
removal of threat. The subsequent formation of a conditioned avoidance pattern (Wolpe, 1958) together with the patient's erroneous judgment that his symptoms may somehow prevent the occurrence of feared events can then serve to reinforce and maintain the symptom complex.

The authors have observed several unreasonable beliefs that negatively influence the secondary appraisals or coping efforts of obsessive-compulsive individuals. Again, these beliefs are often operating at a preconscious level of awareness. To be included are the beliefs that 1) if something is or may be dangerous one should be terribly upset by it; 2) magical rituals or obsessive ruminating will circumvent feared outcomes; 3) it is easier and more effective to carry out a magical ritual or to obsess than it is to confront one's feelings/thoughts directly; and 4) feelings of uncertainty and loss of control are intolerable, should make one afraid, and something must be done about them. The patient's adherence to these unreasonable beliefs, as well as those beliefs posited earlier, contributes to explaining a fundamental paradox in obsessive-compulsive neurosis. That is, the obsessive-compulsive individual fears losing control and experiences heightened distress because he feels helpless to cope with perceived threat in a realistic or adaptive manner. Yet at the same time, as psychoanalysts

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2 Irrational beliefs 1, 3, and 4 are modifications of beliefs derived from Ellis (1977).
(Fenichel, 1945) have long noted, he ironically assumes an omnipotent position of power and control whereby he holds himself responsible for preventing the occurrence of potential disasters (e.g., contamination) through the performance of magical rituals or thoughts. (This paradox was first discussed in the context of depressive disorders by Abramson and Sacheim, 1977.)

Although obsessions and compulsions are themselves distressing, the individual may tend to ruminate over his symptoms and consequently heighten his state of anxiety in a manner similar to what Mahoney (1974) has termed "arousal induced arousal." Despite the distress over his symptoms, the obsessive-compulsive neurotic perceives them as being less disturbing than his unacceptable thoughts/feelings, and seemingly prefers these symptoms to the anxiety associated with the catastrophic outcomes he believes may result from the nonperformance of obsessions or rituals. Finally, Rosen (1975) points out that in cases where unacceptable impulses lead to guilt, the discomfort of obsessive-compulsive symptoms inflicts a form of self-punishment that the patient perceives as being more tolerable than the guilt which they reduce.

The primary and secondary appraisal processes discussed here do not necessarily occur within the individual's conscious awareness; rather, these processes may operate at a preconscious level in an immediate, intuitive, and automatic fashion (Arnold, 1960). It could be argued that patients of various other diagnostic
groups similarly manifest inaccuracies in their cognitive threat appraisals. However, the relevance of this phenomenon to obsessive-compulsive neurosis seems particularly compelling in view of the research cited earlier indicating the more cautious and conservative approach of obsessive-compulsive individuals on decision-making tasks relative to other diagnostic groups. These findings have been interpreted by researchers in the field (e.g., Carr, 1974, Lidell, Note 1) as pointing to the greater tendency of obsessive-compulsive individuals to overestimate the possibility of harmful outcomes. Secondly, and suggested on the basis of clinical experience alone, the centrality of the issue of control appears to exert relatively more influence upon the cognitive appraisals of individuals with obsessive-compulsive (and paranoid) symptoms. Third, clinical observations point to the unique way in which obsessive-compulsive individuals attempt to cope with their fear of losing control, namely obsessive rumination and magical and irrational rituals.

**Distinguishing Features**

The model of obsessive-compulsive neurosis advocated here is clearly a first approximation that is of a preliminary and incomplete nature. It was designed, however, to extend previous findings into a more comprehensive and unified cognitive theory of obsessive-compulsive neurosis that "bridges the gap" between traditional behavioral approaches and orthodox psychoanalytic perspectives. Such an approach offers an alternative to behavioral formulations
that give little attention to cognitive processes and psychoanalytic theories that tend to focus upon unobservable constructs difficult to validate through experimental research. On the other hand, it is recognized (see Mahoney, 1974; Wollersheim, Note 2) that if cognitive formulations are to be theoretically sound and pragmatically useful, they must incorporate the rich array of clinical observation accumulated by psychodynamic theories while sharing with behavioral perspectives the commitment of subjecting their theories, techniques, and treatment goals to empirical evaluation. Thus, the manner in which cognitive approaches, including the one presented here, are both similar to and different from these more traditional formulations will be briefly discussed.

Cognitive models in general differ from traditional behavioral perspectives in their attempt to account for the influence of mediational organismic variables on emotion and behavior. More specifically, cognitive approaches are unique from behavioral formulations in their emphasis on understanding the role of the individual's conscious and preconscious beliefs, attitudes, self-statements, and perceptions in determining his feelings and actions. As distinct from behavior therapy, cognitive therapy attempts to correct maladaptive emotional and behavioral patterns by direct attempts to alter the thinking styles and belief systems of troubled individuals. Similar to behavior therapy, cognitive therapies follow a broad-based social learning and educational model, focus on circumscribed treatment goals, attempt to specify and clearly
define treatment techniques, and encourage an active and directive stance on the part of the therapist. Several discussions (Ledwidge, 1978; Mahoney, 1974; Wollersheim, Note 2) present a more detailed comparison between the cognitive approaches and traditional behavioral perspectives.

Likewise, cognitive approaches in general are at the same time similar to and different from traditional psychodynamic formulations in several important respects. First, both views contend that the client's behavior and feelings are significantly influenced by beliefs, assumptions, and attitudes of which he may be immediately unaware. These approaches also correspond by placing major emphasis upon the client's thoughts and feelings during the therapy process. Cognitive therapies, however, assert that the important cognitions creating threat and anxiety are, for the most part, conscious or preconscious, rather than deeply buried in the unconscious. In contrast to traditional psychodynamic views, cognitive therapies also contend that these cognitions, attitudes, and beliefs can be elicited relatively easily if they indeed play a crucial part in the client's present adjustment. Moreover, relative to psychodynamic views, cognitive approaches focus more on the overt symptoms and verbalized complaints of the client as well as on his immediate experiences. In other words, there is little, if any, attention directed toward childhood experiences and memories or traditional personality constructs such as libidinal strivings or infantile sexuality.
Other major similarities and differences between the cognitive approach presented here and psychoanalytic views of obsessive-compulsive neurosis in particular are apparent. Consistent with psychoanalytic notions (see Fenichel, 1945, Nemiah, 1975; Shapiro, 1965), the position set forth here recognizes the central role of anxiety generated by ideas and feelings that the individual considers unacceptable and attempts to block from awareness. Both formulations attend to the specific symptom content as indicative of the problematic area (e.g., an obsessional thought of killing one's wife may symbolically represent the client's unacceptable negative feelings of anger toward her). Likewise, cognitive and psychoanalytic perspectives are in agreement that the individual attempts to cope with and reduce his anxiety by symptoms designed to prevent the feared consequences he irrationally anticipates. In this regard, both positions acknowledge the function of obsessive-compulsive symptoms as a means of providing the patient with a sense of control and protection against some anticipated form of feared consequence or punishment. The use of defense mechanisms such as isolation, undoing, reaction formation, and intellectualization is recognized by both theories, although research by Lazarus and his colleagues (Lazarus, 1966; Lazarus, Opton, Nomikos, & Rankin, 1965) indicates that special emphasis should be placed upon intellectualization as the primary means that obsessive-compulsive individuals employ to distance themselves from their feelings. Finally, the treatment approaches stemming
from both models have a shared goal of helping the patient accept his threatening ideas/feelings and cope with them in a more realistic and adaptive manner.

The central difference between the psychodynamic and cognitive theories of obsessive-compulsive neurosis is that the cognitive model views the source of threat and anxiety not as deeply unconscious primitive drives, but rather as unacceptable ideas and feelings much closer to the individual's conscious awareness. It is argued here that these ideas and feelings are experienced as threatening because of the individual's active cognitive appraisal or evaluation of them which, in turn, is influenced by maladaptive beliefs occurring at a preconscious level. Consistent with this view, the cognitive model contends that the source of threat can be elicited relatively quickly by direct focusing methods (e.g., inquiring about a client's self-statements pertaining to a problem area) rather than requiring longer, less direct methods such as free association or dream analysis.

Psychoanalytic and cognitive views of the development of obsessive-compulsive neurosis are also quite divergent. In this respect, psychoanalysts assume that character traits consistent with an anal-sadistic orientation are fundamental to the development of obsessive-compulsive neurosis, and that analyzing the childhood experience underlying these traits should be the focus of therapy. However, research findings (see Slade, 1974) have not supported the idea that anal-sadistic personality characteristics are significantly
associated with this disorder; hence, the present model adopts a social learning formulation of obsessive-compulsive neurosis (Bandura, 1969; Teasdale, 1974) that has received at least modest research backing and which promotes a focus on more current life-experiences during therapy. Finally, the cognitive model advocated here develops from a synthesis of experimentally demonstrated research findings, whereas psychoanalytic formulations in this area have remained essentially unconfirmed and difficult to assess by current methods (Beech, 1974).

In summary, a cognitive-behavioral theory of obsessive-compulsive neurosis is provided based upon an integration and extension of previous research and theoretical findings. This model places greater emphasis upon the role of cognitive mediators in obsessive-compulsive disorders than do more traditional behavioral formulations. Although recognizing the contributions of many psychoanalytic concepts in understanding obsessive-compulsive neurosis, the theory offered here avoids the emphasis psychoanalysts place upon the role of primitive unconscious drives, the importance of eliciting historical material during therapy, and the formulation of hypotheses that are not subject to evaluation by current research methods.

**Cognitive-Behavior Therapy for Obsessive-Compulsive Neurosis**

The position of the present authors is consistent with that of researchers (e.g., Carr, 1974; Ullmann & Krasner, 1975; Wolpe, 1958) who distinguish obsessions and compulsions only on the basis of their
mode of expression. This conception is based upon evidence suggesting
that both obsessions and compulsions are experienced as occurring
beyond the client's volition, serve to reduce his anxiety, and pro-
vide him with a sense of control (Carr, 1974; Nemiah, 1975). Although
obsessions and compulsions themselves arouse anxious concern (and
often are the reason for seeking therapy), they both nevertheless
distract the client from and defend him against the greater anxiety
that would result from confronting the real sources of threat—e.g.,
feelings of aggression, worthlessness, etc. Finally, the common
occurrence of obsessions and compulsions together in the same
individual (Kolb, 1973) suggests that these two modes of coping stand
in close relationship to one another. Although the model proposed
here is viewed as applicable to understanding both obsessions and
compulsions, the reader will readily identify certain treatment
strategies as more appropriate to one or the other of these symptoms.

Therapeutic intervention for obsessive-compulsive disorders
should focus on 1) altering the patient's primary cognitive appraisal
process so that he makes more realistic appraisals of threat in
relation to his coping resources, and 2) modifying his secondary
appraisals in a manner whereby he ceases to view magical symptoms
as his most effective means for coping with threat and gains con-
fidence in the use of more adaptive and realistic ways of confronting
perceived danger. The essential process underlying the modification
of these cognitive appraisal systems is a fundamental change in the
patient's unreasonable beliefs, particularly those pertaining to his

Enhancement of Self-Worth

As previously suggested, the obsessive-compulsive individual defends himself against unacceptable ideas and feelings largely because he believes they diminish his value as a human being. His symptoms, then, serve to protect him from the punishment and condemnation that he anticipates will result from his perception of himself as an essentially "bad" or "worthless" person. This formulation parallels the emphasis psychoanalysts place upon the client's "harsh, sadistic superego" in the genesis of obsessive-compulsive disorders (see Cameron, 1963). Throughout therapy it is thus important to expend considerable effort enhancing the client's sense of worth and self-esteem.

One method of encouraging this is to help the client become more accepting of his negative and positive feelings and thoughts, as well as other facets characterizing him as a complex human being. In the authors' clinical experience, the therapist's repetition of statements such as the following often help the client value himself more: "Heavens!—Having sexual and hostile feelings and thoughts is not bad but simply evidence that you are a thinking, feeling person and part of the human race. What counts is what you do about these feelings and thoughts. When you learn not to upset yourself so much for having them, you'll realize that, indeed, you do have control over them and won't act them out. Further, when you quit upsetting yourself for being a human being with these feelings and thoughts, you'll see that they'll probably decrease in frequency,
Another means of encouraging the client to accept the thoughts and feelings causing him anxiety or guilt is to provide him with information and support (e.g., facilitating attributions of normality by assuring him that most people have sexual and aggressive thoughts). Helping the client discriminate between privately having a thought or feeling and overtly acting upon it may also increase his sense of control and willingness to be more accepting of these thoughts and feelings internally. In this regard the client needs to first of all be convinced that he possess the resources and internal controls to experience what he considers "unacceptable" feelings and thoughts without acting upon them. Furthermore, as Ellis (1962) notes, clients must accept the idea that although undesirable consequences might ensue from the overt expression of some thoughts/feelings, they would not necessarily be catastrophic. In other words, it must be conveyed that a feared action or expression of feeling may make one's behavior less acceptable, but would not make one less worthwhile as a human being. The client must ultimately realize that it is unlikely that he will lose control and give overt expression to inappropriate feelings or thoughts. However, in the improbable event that this should occur, it must be stressed that the situation would not be intolerable unless he chose to define it as such.

Finally, by providing warm acceptance and assuming a non-judgmental attitude the therapist can contribute to altering the client's self-perceptions of "badness" and attitudes that he is someone deserving punishment for his feelings, thoughts, and actions.
This point cannot be overemphasized since the therapeutic context provides a powerful medium for the client to experience his worth in a relationship with another human being who accepts those aspects of himself that he denies. This experience provides an emotional basis for the client's learning to value himself more highly. Providing such an emotional relationship experience may be facilitated by the therapist's willingness to spontaneously express his own feelings and disclose appropriate material. The type of relationship qualities advocated here are more consistent with Rogers' (1951) notion of unconditional positive regard, rather than the development of a transference neurosis in the psychoanalytic sense of the term.

**Initiating Specific Behavioral and Emotional Changes**

It is well known to practitioners that obsessive-compulsive individuals tend to be highly verbal and rely predominantly on defenses of intellectualization to guard against the experience and expression of feelings. Moreover, the research of Lazarus (1964) cited earlier suggests that individuals with obsessive-compulsive tendencies employ intellectualization as the primary means of coping with threat appraisals. A traditional verbal or cognitive therapy by itself may consequently have certain limitations in that the client could continue merely to intellectualize about his problems in therapy without being forced to make substantial behavioral or emotional changes. In order to circumvent this possibility, the therapist should help the client focus on and identify
his feelings and moods as they occur both within and outside the therapy setting. The exercises described below are designed to aid the client in identifying and discriminating a broad range of feeling states for the purposes of 1) generally enriching his life experience, 2) encouraging a greater sense of self-acceptance, and 3) subsequently using his feeling states as a cue to initiate cognitive restructuring procedures.

One method of training clients to become more aware of their feelings is to have them practice Salter's (1961) technique of "feeling talk" whereby they are instructed to label their feelings 20-40 times daily in a variety of situations. Clients are encouraged to simply focus on identifying their feelings as pleasant or unpleasant as they go about their daily business, but are cautioned not to dwell on these feelings or analyze them at the time they are being experienced.

A second means of preventing intellectualization is for the therapist to begin relatively early in therapy to encourage the client to make some graduated behavior changes throughout treatment, such as thinking anxiety provoking thoughts (e.g., sexual or aggressive), refusing to engage in a compulsive ritual for a certain period of time, or deliberately performing less than perfect on a mildly threatening task. The techniques of response prevention, flooding, positive reinforcement, and thought-stopping may aid the client in making specific behavior changes. At first some of these
changes can be initiated in the therapist's office, but gradually the therapist should encourage the client to commit himself to completing graduated behavioral assignments in contexts other than the therapy hour. Self-monitoring of the completion of these behavior change assignments may be employed to provide the therapist and client with a daily record of progress in therapy.

Treatment should also help the client reconstrue himself as an individual without symptoms and as having more favorable personal characteristics for interacting with his environment (Fransella, 1974). A procedure for effecting changes in both specific symptomatic behaviors and in how the client construes himself is a modified version of Kelly's (1955) fixed-role therapy. In employing this method, the client and therapist together write a character sketch of how they presently view the client's personality and behavior. The sketch is written in the third person, giving the client some new fictitious name. Such a tactic helps distance the client from his situation, and also makes commitment to change less threatening as he can more easily assume an "as if" role playing position. The sketch of the client as he is presently should be written from the view of a knowledgeable but caring and sympathetic friend. This sketch is then openly discussed in order to help the client gain a more objective perspective of his current sources of distress. Following this procedure, a second character sketch is constructed, again using the assumed name and writing in the third person.

However, the second sketch represents a description of how the
client would be thinking, behaving, and feeling without his obsessive-compulsive symptoms. It is important that the second sketch be realistic and describe the individual as a well functioning, but certainly not a perfect, human being. The new character description emphasizes those attitudes and strengths which would alleviate the distress the client is currently experiencing, but the new role also includes faults and imperfections in order to help the obsessional individual accept his own shortcomings as normal and forsake his demands for perfection. Requesting the client to assume and actually live this new role in his everyday life on a temporary "as if" basis can provide him with a chance to behave as he feels a worthwhile individual would behave, without engendering anxiety about permanently committing himself to the behavioral changes.

This technique may well enable the client to engage in feared thoughts and/or prevent the performance of magical rituals so that, in essence, he will be testing the reality bases of his unreasonable assumptions and will be altering through direct experiential feedback his cognitive expectancies that dreaded events will occur. In the experience of the second author, it is best to start having the client assume this new role on a very gradual basis, beginning with assignments of one day per week for a time and then gradually increasing the number of days per week that the client is to assume the role. Those who respond to this technique usually report that some aspects of the role seem more natural to them, and that the role
begins to lose its "make-believe" quality as the client incorporates aspects of the role into his actual perceptions of himself.

Cognitive Restructuring

After the client becomes more adept at recognizing his emotions, the therapist can focus on the unreasonable assumptions that generate the client's distress. The process may be facilitated by first having the client discriminate and expand upon his feelings as they occur in conjunction with his description of unrealistically fearful events during therapy. A form of implosion (see Stampfl, 1967) may be employed to assist this process whereby the client would be asked to engage in his castastrophic fantasy or think "unacceptable" thoughts during therapy in an exaggerated form. The ensuing feelings of anxiety or guilt are then identified so that the therapist can query the client as to the unreasonable assumptions which underlie his immediate sense of discomfort. Rational emotive procedures of encouraging the patient to become aware of his fear generating self-statements, to examine the illogical and unreasonable nature of his beliefs, and eventually to supplant these beliefs with more reasonable ones can subsequently be employed. (See Ellis, 1962, for a detailed discussion of rational emotive procedures.) Ultimately, the goal of this exercise is to have the client use his own feelings of anxiety/guilt as cues to initiate a self-examination of his unreasonable beliefs or self-statements which he could then challenge and replace by more adaptive ideas or attitudes (see Goldfried, Decenteceo, & Weinberg, 1974).
During the cognitive restructuring phase, several points deserve special emphasis. First of all, since obsessive-compulsive symptoms generally represent an effort to gain control of uncertainties, it should be stressed to clients that they have more effective means available than their symptoms for coping with uncertainty. Related to this proposition is the need to emphasize that all human beings live in a probabilistic rather than a certain world. Through skillful questioning and encouragement to examine the validity of their beliefs the therapist can help clients realize that although they want certainty they do not need it, and that they can cope with a probabilistic world far more effectively without employing magical rituals or ruminating obsessively.

Secondly, it can be pointed out to the client that he is in control to the extent that he makes a choice not to act upon his feelings or perceptions of needing to carry out a compulsive ritual. In other words, the necessity to enact his symptoms should be presented as existing only as an idea or feeling that can be disputed, rather than as a fact of reality. In this regard, providing clients with an armamentarium of alternative cognitive coping and behavioral skills will help modify their expectation that catastrophic outcomes will result from the nonperformance of their symptoms. To illustrate these points, the second author successfully treated a 35 year old male who felt compelled to steal women's undergarments from dormitories. Treatment consisted of stressing to the client that although he felt he needed these articles, in
reality he only wanted them and that he could resist stealing them. In addition, several graduated behavioral tasks were given to the client. For example, he was asked to read advertisements on ladies' underthings while telling himself that he only wanted to steal the garments, but that he did not really need to steal them. Later, the client was assigned to tell himself the same things as he performed more threatening tasks such as walking near the undergarment section of a women's clothing store.

An effort should also be made to mitigate the client's extreme perfectionistic strivings. This is particularly important since these strivings themselves reduce his efficiency in living while failure to attain his unrealistic expectations is often used as evidence for further self-punishment. Instead, the client can be aided in realizing that to strive for constant improvement is a sane and normal part of the process of life. On the other hand, the self-defeating nature of demanding to be perfect and denying one's fallability and "unacceptable" feelings and thoughts should be stressed.

A modification of the cognitive modeling procedures advocated by Meichenbaum and Cameron (1974) have also been found useful in our clinical practice for helping clients adopt a more realistic and adaptive cognitive style. The procedure involves first identifying a problem area (e.g., decision making difficulty) and then asking the client to reconstruct this situation in imagination.
As he does this, the client provides a running account of his thoughts and feelings as he approaches the threatening event. After terminating the scene, the therapist and client should discuss the unreasonable ideas and erroneous cognitions generating the distress associated with the imagined event. Next, the therapist imagines the same scene while "thinking out loud" (modeling) a more reasonable cognitive style for dealing with the problem situation. This technique is most effective if the therapist portrays a coping model (Kazdin, 1973), verbalizing first his feelings of anxiety as he approaches the stimulus followed by a growing sense of self-confidence as he defines the task in manageable terms, locates alternatives, evaluates the consequences, confronts the situation, and finally rewards himself for successful performance.

In conclusion, the goal of the cognitive restructuring exercises is to first of all help the client ferret out the unreasonable cognitions underlying his distressing emotions elicited both within and outside the therapy hour. A coping-skills approach is then employed to provide the client with more effective means for dealing with his perceptions of threat.

SUMMARY

A cognitive-behavioral model is presented in which obsessive-compulsive symptoms are viewed as the individual's attempt to cope with uncertainty and anxiety. The experience of uncertainty and anxiety arises from faulty appraisals of threat and erroneous
evaluations of one's abilities to cope adaptively with threat.
Cognitive therapy with these individuals should focus on making
specific behavioral improvements as well as on identifying the un­reason­able beliefs influencing his appraisals of the world as threat­ening and punishing. To use Beck's (1970) terminology, these tech­niques serve to "de-center" the client from the omnipotent idea that
he is powerful enough to cause calamities simply by having certain
thoughts or by failing to perform a magical ritual. Special emphasis
is given to helping clients understand that obsessions and compulsions
are not their most effective means of dealing with threat, and that
they have more adaptive means of solving problems at their disposal.
This process, however, should be supplemented by clients' gaining an
increased acceptance of the diverse aspects of themselves and thereby
enhancing their overall sense of self-worth. Finally, when relapses
in therapy occur, clients should be encouraged to accept this as a
new challenge and as part and parcel of living, rather than heighten­ing their state of arousal by obsessing over the resurgence of
symptoms.
Reference Notes


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CHAPTER VII

A Methodological Evaluation of
Treatment Outcome Studies in Depression

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Abstract

The literature pertaining to the treatment of depression with psychotherapy and behavior therapy is summarized and evaluated. Controlled and uncontrolled case reports as well as experimental studies are reviewed. Many traditional behavioral treatments have achieved only moderate results, perhaps because they have not addressed the full range of cognitive, autonomic-affective, and behavioral facets of depression. However, behavioral self-control treatments have received greater experimental support. The evidence suggests that cognitive therapy is more effective than pharmaco-therapy, and is at least as effective as behavioral treatments. Moreover, the combination of cognitive and behavior therapies yields more positive effects than either treatment in isolation. Drug therapy and psychotherapy appear to influence separate areas of clinical functioning, but they have no adverse effects on one another when used in combination. Future research should utilize multiple outcome criteria and assess the interaction of different treatments with various subject characteristics and subtypes of depression.
A Methodological Evaluation of Treatment Outcome Studies in Depression

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Since the National Institute of Mental Health released its report concluding that "Depression now rivals schizophrenia as the nation's number one health problem" (Secunda, Katz, Friedman, & Schuyler, 1973, p. 3), the management of affective disorders by psychotherapeutic methods has received increasing research attention. Although the efficacy of pharmacotherapy in alleviating depressive symptomatology has been well documented (see Morris & Beck, 1974), only recently have psychological forms of treatment been systematically explored as an alternative or supplementary means for treating depression. This article summarizes the major research findings and provides a methodological evaluation of psychotherapy and behavior therapy outcome studies in depression. Although a number of uncontrolled case studies have been reported, the review focuses primarily on controlled case reports as well as experimental studies comparing one or more treatments with one another or with appropriate control groups. Of the studies surveyed, only those which specifically described the procedures involved in the treatment process were included for evaluation. The studies meeting this criterion are discussed according to the nature of the techniques employed and/or the theoretical rationale underlying their development.
Traditional Behavior Therapy

Included in this section are studies aimed at modifying depressed behavior primarily by operant methods of reinforcement and punishment, as well as by imaginal behavior therapy techniques. Despite the divergent methods employed the goal of all behavioral approaches to treating depression is to facilitate an adequate rate of positive reinforcement by directly or indirectly altering the activity level of patients and the quality of their interpersonal interactions (Lewinsohn, 1975). The studies reviewed in this section update and expand upon discussions of behavioral approaches to treating depression presented elsewhere (see Lewinsohn, 1975; Seligman, Klein, & Miller, 1976).

Premack Principle

According to Premack (1959), high frequency behavior may reinforce low frequency behaviors. Using the Premack Principle in a series of uncontrolled case studies as well as a controlled experimental investigation, Lewinsohn and his colleagues (Johansson, Lewinsohn, & Flippo, Note 1; Lewinsohn, Weinstein, & Shaw, 1969; Robinson & Lewinsohn, 1973a) found that making depressed clients' high rate "depressed conversation" during therapy contingent upon low frequency "healthy talk" and productive career related activity outside therapy increased the frequency of these previously low rate behaviors. None of the research findings on the Premack Principle reported in the literature provide data regarding the maintenance or
generalization of treatment effects. The efficacy of this method of behavior change with a population other than mildly depressed college students similarly remains untested by controlled research. Assessment criteria employed in the case studies relies solely on global subjective therapist judgments, while the single experimental study (Robinson & Lewinsohn, 1973a) supporting the procedures only assessed the content of the clients' speech. Of greater concern is that Lewinsohn and his colleagues do not specify how reducing depressed talk affects other areas of clinical functioning or symptomatology. Finally, conditioning explanations implicit in the proposition that low frequency nondepressed behavior is reinforced by high frequency "depressed talk" are unsupported, as simply restricting the flow of clients' depressive verbalizations by therapist demand may account for results obtained. Research, in general, has not established the Premack Principle as an effective means for treating depression.

**Contingency Management**

In three controlled case reports contingency management procedures have been used to increase nondepressed target behaviors and decrease depressive symptomatology. The use of A-B-A reversal designs in these studies demonstrated functional control over specific depressive behaviors by operant techniques. Robinson and Lewinsohn (1973b) treated a depressed male who exhibited an excessively low rate of speech by making increased therapy time
contingent upon the patient's emitting a specified number of words per minute during therapy. In addition, punishment procedures were implemented by subtracting therapy time and sounding an aversive buzzer when the patient's speech rate fell below the criterion level during therapy. After nine sessions of treatment, the patient's rate of speech increased 66 percent over baseline, and significant others reported that these effects generalized to extratherapeutic situations. Subsequent removal of the experimental controls resulted in a significant drop in speech rate, while reinstatement of the contingencies was again accompanied by an increase in the target behavior. The use of a token economy to manage depressive behaviors was first reported by Reisinger (1972) in the treatment of a chronically depressed female inpatient. In this study, token reinforcement for smiling and response cost for crying were demonstrated to increase and decrease these behaviors, respectively, over baseline assessment. Functional control over target symptoms was established by extinguishing smiling and increasing crying with token withdrawal, and by later reinstating contingencies with the anticipated effect. Subsequent fading of the token procedures was successful to the extent that smiling responses were maintained solely by social reinforcement. During the 14 months after discharge, the patient had not been referred for additional hospitalization or treatment, suggesting efficacy of treatment. In a similar use of token procedures Hersen, Eisler, Alford, and Agras (1973) reinforced three depressed
inpatients for on-ward behaviors classified as work. Compared to baseline assessment, the token administration phase resulted in a significantly increased number of talking, smiling, and motor responses. Although the target behaviors returned to baseline following withdrawal of the token procedure, reintroduction of the experimental contingencies was prevented by the early discharge of one patient and changes in medication of the other two patients. No follow-up assessments were obtained upon the patients' discharge.

Support for the efficacy of contingency management in treating depressive disorders is limited by the absence of controlled experimental research employing between group designs. Although the case studies cited here establish functional control over specific depressive behaviors, these reports are nevertheless based on the treatment of a total of five individuals. In addition, these studies did not provide adequate follow-up assessments and neglected to evaluate areas of depressive symptomatology (e.g., subjective mood and cognitive functioning) other than a few overt target behaviors. Moreover, the implications of modifying specific behaviors, such as speech rate or smiling, were not clarified in terms of the entire constellation of cognitive, affective, and behavioral manifestations of depression. Finally, the results of the Hersen et al. (1973) study are confounded by the fact that all patients were medicated, while the medication status of patients in the Reisinger (1972) and Robinson and Lewinsohn (1973b) studies was not reported.
Imaginal Behavior Therapies

A number of uncontrolled case studies indicate that flooding procedures facilitate resolution of grief reactions and help reduce anxiety associated with depressed states (Beutler, 1973; Dengrove, Note 2; Gauthier & Marshall, 1977; Hogan, 1968). In an experimental evaluation of these procedures, Hannie and Adams (1974) assigned 21 female inpatients suffering from "anxiety depression" to flooding, nondirective-control, or no-treatment conditions. The flooding treatment required patients to imagine emotionally arousing or personally relevant traumatic scenes, while in the nondirective-control condition patients discussed their current symptoms, relationships, and social-developmental history. Following nine sessions of treatment, only the flooding group showed significant pre-posttreatment change on a self-report measure of specific behaviors and symptoms (Mental Status Schedule). Both the flooding and no-treatment control conditions manifested significant pre-post improvements on an affect adjective checklist, while all three groups improved on a fear survey schedule and the WAIS-digit symbol. Comparisons between groups revealed that subjects receiving flooding benefited significantly more than nondirective and no-treatment control subjects on the Mental Status Schedule, but were superior only to nondirective controls on the affect adjective checklist.

In conclusion, it appears that flooding procedures have obtained at least some support from uncontrolled case reports and from one
controlled experimental study. Although follow-up measures were lacking in this latter study, results suggest that imaginal techniques such as flooding may prove useful in cases where anxiety accompanies depressive symptomatology. The application of other anxiety reduction procedures, such as systematic desensitization, to the treatment of depression awaits future research. The improvement noted by the nondirective-control group in the Hannie and Adams (1974) study is a finding replicated in studies reviewed later. Such results suggest that merely discussing one's problems with another may provide some relief from depression.

Treatments Designed to Directly Increase Activity Level

The research of Lewinsohn and his colleagues (Lewinsohn & Graf, 1973; Lewinsohn & Libet, 1972) has demonstrated mood is positively related to the number of pleasant activities engaged in, and that depressed individuals involve themselves in such rewarding activities at a relatively low rate. Consequently, these investigators proposed that directly increasing patients' participation in pleasant events may be an effective treatment for depression.

In an investigation of this hypothesis, Padfield (1976) reported treatment (consisting primarily of making therapy time contingent upon participation in pleasant activities plus patients' self-ratings of mood level) decreased therapist rated depth of depression in a population of clinically depressed women. These effects were not obtained for patients receiving nondirective-supportive therapy involving noncontingent reinforcement and
reflection of feelings. However, the two groups did not significantly differ in their pre-posttreatment changes on the number of pleasant activities engaged in, self-reports of mood, or self-rated level of depression. Although statistical analyses were provided only for between group comparisons, inspection of the means indicates some improvements were made for both the experimental and nondirective therapy groups on all measures. Of additional interest was the finding that women of the lowest socioeconomic status improved significantly more than women from working class backgrounds in therapist-rated depression, regardless of the counseling approach used. Corroborating support for the efficacy of psychotherapy with lower socioeconomic patients suffering from depression is provided by Deykin, Weissman, Tanner, and Prusoff (1975). Interpretation of the Padfield (1976) study is limited by the lack of follow-up assessment, the failure to include a no-treatment control group to assess spontaneous remission, the exclusive reliance upon self-report and therapist ratings of improvement, and the fact that all treatments were administered by the same therapist.

In a more direct test of the hypothesis that increasing activity level is effective in treating depression, Hammen and her associates (Hammen & Glass, 1975; Hammen & Goodman, Note 3) conducted three studies in which depressed subjects were instructed to simply engage in more pleasant activities while monitoring their mood states. The results of one study revealed that although
increasing activity level, depressed subjects did not decrease in their level of dysphoria. The remaining two studies indicated subjects, in fact, became more despondent in mood at posttest compared to controls. Hammen and Glass (1975) interpret these findings as signifying that mood affects activity level, rather than vice versa as Lewinsohn claims, and that cognitive factors intervene to influence mood by positively or negatively evaluating the activities in which the individual engages. The correlational studies conducted by Lewinsohn do not reveal the direction of the relationship between activity level and mood, while the evidence reviewed here indicates that simply increasing activity level by itself is not well established as an effective means of treating depression. However, increasing activity level may interact with other variables (e.g., cognitive appraisals) to elevate mood.

Multimethod Behavioral Approaches

The studies reported here employ a combination of several behavioral methods to treat depressive symptoms. In a controlled case study involving the treatment of a 38-year-old male suffering from both acute depression and impulsive outbursts of physical and verbal aggression, Novaco (1977) employed an extension of the stress inoculation package (see Meichenbaum, 1975) to control the anger component underlying the client's depression. In this procedure, the client was first given a conceptualization of his anger processes as representing a combination of emotional arousal and provocation-related self-statements which defined his reaction as anger. He was
then trained in progressive relaxation and cognitive self-instruction skills enabling him to cope with provoking situations. The skill acquisition phase also involved encouragement to develop empathic responses with the provocateur, therapy for changing maladaptive personal constructs, the use of humor as a response incompatible with anger, and problem-solving training aimed at the appropriate assertion of angry feelings. Finally, the client rehearsed these coping skills to imagined scenes of personally relevant provoking experiences. Following 11 sessions of treatment, the client's self-report of anger arousal to provoking items on an inventory measure was significantly reduced from pre-treatment assessment. As therapy progressed, behavioral ratings by hospital ward personnel of the client's expression of interpersonal anger reflected significantly fewer aggressive and more appropriately assertive responses until the remission of his depression permitted discharge from the hospital. Finally, the client's self-recording of anger arousal at home and at work reflected a substantial decrease in anger outbursts and a greater ability to manage occurrences of provocation compared to pretreatment baseline. According to Novaco (1977), this study represents a multifaceted treatment of anger arousal and depression influencing the cognitive, autonomic-affective, and behavioral aspects of emotional disturbance. This study is exemplary in its use of multiple assessment criteria, elucidation of the role of anger in depression, and implications for the prophylactic management of depression via stress-innoculation procedures.
In another investigation, Shipley and Fazio (1973, Experiment I) compared a multifaceted treatment approach (involving development of problem-solving skills, graduated task assignments, instructions to engage in pleasurable activities, encouragement to express anger, and restrictions on expressions of depressive complaints) to waiting-list controls in a pre-posttest design. After three one-hour sessions, depressed undergraduates receiving this treatment showed significantly decreased MMPI-D scale scores relative to pretreatment scores, whereas no such effects occurred for controls. In a more rigorously controlled study, Shipley and Fazio (1973, Experiment II) again found significant pre-posttest reductions in MMPI-D scale scores for subjects receiving the same treatment previously described, while subjects in interest-support and expectancy-manipulation control groups showed no such improvements. Although suggesting the efficacy of supplying an array of methods from which subjects may choose those most personally effective, this study suffers from a variety of methodological difficulties. The use of a student population limits the generality of results to clinical patients while the reliance upon MMPI-D scale scores neglects assessments of changes in other facets of the depressive symptom picture. The lack of follow-up assessment and the fact that all treatment and control conditions were administered by the same therapist threatens the internal validity of the study. Future research with such comprehensive approaches might focus on discovering which components
are most effective according to particular patient characteristics, such as subtype of depression. Although both this study and the report by Novaco (1977) indicate procedures focusing on the anger component of depression may be effective, the systematic use of assertiveness training to facilitate appropriate expression of anger has yet to be explored as an effective treatment for depression.

**Group and Marital Therapy**

Lewinsohn and his colleagues (Lewinsohn & Atwood, 1969; Lewinsohn, Weinstein, & Alper, 1970; Libet & Lewinsohn, 1973) argued that depressed individuals lack the social skills necessary to maintain a sufficiently high rate of response-contingent social reinforcement. To assess deficits in social skills, these investigators developed a sophisticated coding system for quantifying several dimensions of interpersonal behavior in group and family settings (e.g., range of interpersonal interactions, number of positive reactions toward others, and latency of response to input from others). Using this coding system, Lewinsohn, Weinstein, and Alper (1970) identified the particular behavioral deficits for each member participating in a therapy group, and then presented the group with information about each member's behavior at regular intervals during therapy. Treatment consisted of educating the group as to the concepts of reciprocity, positive and negative reinforcement, range of interactions, establishing individual behavioral goals for improved group interaction, and therapist and peer reinforcement for achievement
of these goals within the group. After 18 sessions spread over three months, a highly significant correlation between the number of behaviors directed toward group members and their emission of behaviors toward others in the group (reciprocity) was found relative to pretreatment assessment. Mean scores on the MMPI-D scale, the Feelings and Concerns Checklist, and the Interpersonal Behavior Scale showed improvement compared to pretreatment, although no statistical analyses were performed on the data. Follow-up data were not reported, and there was no inclusion of no-treatment or attention-placebo controls.

Several case studies have been reported where similar interventions into the deviant (low reinforcing) communication patterns of marital couples have reduced depression in one of the partners (Lewinsohn & Atwood, 1969; Lewinsohn & Shaffer, 1971; Lewinsohn & Shaw, 1969; Liberman, 1970; Liberman & Roberts, 1974). The value of these studies, as well as the Lewinsohn et al. (1970) project, lies in the application of a systematic behavioral assessment procedure to identify deviant interpersonal interaction, define treatment goals, and evaluate behavior change. In addition, they point to the potential efficacy of modifying social skill deficits (especially as they exist within marital interaction) and encourage involvement of significant others in the patient's treatment. It should be noted, however, that none of these studies demonstrated that depression is caused by skills deficits, nor did they rule out the
possibility that treatment served primarily to help patients perform existing behaviors and skills temporarily inhibited by dysphoric mood.

The efficacy of marital therapy in alleviating depression has received further support from two controlled experimental studies. McLean, Ogston, and Grauer (1973) provided clinically depressed patients with marital therapy consisting of (a) training in social learning principles, (b) practice on a task in which couples provided immediate feedback to one another regarding their perceptions of their verbal interactions, and (c) training in the construction and use of reciprocal behavioral contracts. Relative to subjects in a comparison group who received varying treatments ranging from group therapy to medication, the marital therapy group reported improvements in the original problematic behaviors related to depression (e.g., withdrawal and sleep disturbance), changed significantly on Depression Adjective Checklist scores, and improved their verbal communication style with their partner in a manner reflecting greater interpersonal reinforcement and support. Although not specifying the details of treatment, Friedman (1975) similarly found marital therapy for depressed individuals superior to no-treatment controls in enhancing marital role performance, decreasing hostility within the relationship, and improving attitudes toward the marital relationship. Although it would have been desirable for these authors to have employed follow-up assessments, the generality of their results seems feasible as both studies employed clinically
depressed populations. In any event, the results obtained appear consistent with Coleman and Miller's (1975) finding that depression and marital maladjustment are positively related, and again argue for considering the involvement of the depressed individual's family or spouse in the treatment process.

Reinforcement for Anger Expression: The Antidepressive Program

Following the psychoanalytic notion that depression represents hostility turned inward, Taulbee and Wright (1971) reformulated in learning theory terms the related proposition that expression of anger may serve to relieve depression. Accordingly, these investigators developed the "Antidepressive" program (AD) which involves providing depressed inpatients with impersonal treatment and aversive work activity until they "blow up" into an angry rage; then, they are given social reinforcement for assertiveness and expressions of anger and are permitted to engage in meaningful activities.

In two pilot studies Taulbee and Wright (1971) report that patients subjected to this treatment, in contrast to patients assigned to supportive therapy plus medication, improved significantly more on the MMPI, Tennessee Self-Concept Scale, self-report of depression, and ability to admit psychological problems. In a more extended research report, these investigators (Taulbee & Wright, 1971) demonstrated that depressed inpatients receiving AD treatment improved over a supportive therapy plus medication control group by showing less posttreatment passivity and dependency as assessed by the MMPI.
and Leary's (1957) Interpersonal Checklist. Moreover, at six months follow-up, the AD group maintained these gains and also showed less depression, anxiety, somatic complaints, and obsessive ruminations compared to controls. Finally, Wadsworth and Barker (1976) report that relative to traditional treatment involving medication, group therapy, and supportive contacts with staff, neurotic patients in the AD program showed significant improvements after three weeks of treatment in the severity of their depression and self-report of meaningful life experiences. Psychotic patients, on the other hand, tended to fare better in the traditional program, although the results for this group showed no significant difference between the two treatments.

In general, the AD program has received encouraging support from experimental studies. Again, the role of anger in the etiology and treatment of depression has been substantiated as an important variable to be considered. The Treatment X Subject interaction found in the Wadsworth and Barker (1976) study has important implications for guiding future research to assess possible differential treatment effectiveness with varying subtypes of depression. The studies reported here supporting the AD program generally suffer because no-treatment control groups and expectancy manipulations have not been employed. Moreover, the lack of follow-up assessment in all but one of the studies considered is also a delimiting factor. Although the practical restrictions of the AD program with outpatients is obvious, it may prove effective for neurotic inpatients who are able
to integrate and to gain insight into the emotional discharge precipitated by the treatment. The enhanced sense of assertiveness maintained by the treatment suggests that traditional assertiveness training procedures may be effective for depression associated with anger management difficulties.

**Summary of Findings**

The modification of overt behaviors by the Premack Principle has not received adequate theoretical or experimental support. Although functional control of specific depressive behaviors via token economies has been established in controlled case studies, the implications of modifying these target behaviors for the clinical phenomenon of depression has not been clarified. On the other hand, at least one controlled experimental report and a number of case studies support the use of flooding procedures when anxiety or grief accompanies the clinical manifestation of depression. Despite the correlational evidence indicating that a low rate of activity is related to depression, outcome studies in general suggest that treatments aimed at exclusively increasing patients' activity level do not necessarily result in corresponding relief from dysphoric mood. The utility of multimethod behavioral approaches has been substantiated through a controlled case study and experimental research. The effectiveness of these approaches may be due to their addressing the full range of cognitive, autonomic-affective, and behavioral facets of depression. In addition, the significance
of including anger management procedures as adjuncts to psychotherapy
with depressives has been suggested by these procedures as well as
by the positive findings supporting the Antidepressant program.
Depression has been reliably associated with deficits in family and
marital interaction patterns, as well as with marital conflict.
Involvement of the patient's spouse in the treatment process and
efforts to enhance mutually reinforcing social-communication skills
have proven largely successful.

The experimental studies reviewed thus far have offered
several unexpected yet illuminating results. Most notable are
findings that method of treatment interacts with subject character­
istics such as diagnosis, and that nondirective/supportive tech­
niques often employed in nonspecific "control" groups have beneficial
effects, though not to the degree of formal behavioral treatments.
Contrary to traditional assumptions that lower class patients are
inappropriate for psychological treatment, there is modest support
indicating that depression in these patients may be alleviated by
both nondirective/supportive therapy and behavioral intervention.
Many of the studies reviewed in this section could have more clearly
demonstrated efficacy of treatment by including no-treatment and
attention-placebo control groups to assess effects due to spontaneous
remission and expectancy. Moreover, a more detailed and explicit
description of the treatment procedures employed would facilitate
replication of findings.
Behavioral Self-Control

Behavior therapies cast within a self-control framework are considered separately here because of their emphasis on developing the self-regulatory functions of the individual so that treatment gains will generalize to extra-therapeutic situations. According to Rehm (1977), depression may be best conceptualized as a deficiency in one or more self-regulatory functions. First of all, depressives demonstrate inaccuracies in self-monitoring in that they selectively attend to negative outcomes. Secondly, the depressed person's inaccurate attributions of causality and unrealistic expectations for performance reflect deficits in self-evaluation. Finally, low rates of self-administered reinforcements and high rates of self-punishment characterize the depressive. Self-control treatments therefore have focused on correcting or retraining depressed individuals in these critical areas of functioning.

Fuchs and Rehm (1977) compared a comprehensive treatment program attacking all three areas of deficient self-regulatory functioning to nonspecific therapy and waiting-list control conditions in a pre-posttreatment design. The self-monitoring phase of the experimental treatment consisted of having patients record their daily activity level and associated moods for the purpose of identifying pleasant activities. Self-evaluation involved establishing specific behavioral goals and criteria for successful performance as well as training in the accurate self-evaluation of performance. Finally, the self-reward aspect provided education in social learning principles,
instruction in the identification and use of potential reinforcers, and encouragement to use positive covert self-reinforcement. The nonspecific therapy, on the other hand, involved eliciting discussion from group members about past and current problems, engaging in group interaction, and reflection and clarification of feelings. Following six weeks of treatment, the self-control treatment was found superior in reducing depression compared to nonspecific therapy and waiting-list controls as assessed by MMPI-D scale scores, total MMPI elevation, and a group behavioral interaction measure. Although both self-control and nonspecific groups improved more than waiting-list controls on the Beck Depression Inventory (BDI), the two treatment conditions did not differ significantly at posttreatment on this measure. Subjects receiving the self-control treatment engaged in more pleasant events and initiated more self-reward at posttest relative to the two comparison groups. Both self-control and nonspecific therapy conditions remained superior to waiting-list controls at six weeks follow-up, but the two treatments did not differ from one another on the BDI, total MMPI elevation, and Pleasant Events Activity measure. Moreover, it appears that these follow-up assessment results were due to the nonspecific treatment subjects having improved, rather than the self-control group having regressed in clinical status.

This study was reported in some length here because the generality of the treatment results was enhanced by employing clinically depressed patients (as determined by MMPI and BDI scores).
Furthermore, a waiting-list control group was included in this study to assess effects due to spontaneous remission. It appears that the self-control treatment did facilitate clinical improvement over and above the comparison groups, although nonspecific therapy was again shown to precipitate a significant reduction in symptoms which nearly matched the experimental treatment on some measures at follow-up assessment. Although previous research cited in this paper questioned the effectiveness of increasing activity level as a method of treatment in-and-of itself, it appears that when supplemented with the other manipulations described in the self-control therapy condition, increased activity may acquire potency as an effective therapeutic agent. In general, research has supported the notion that depressed patients manifest deficits in self-reward and self-evaluative functions (Loeb, Beck, & Diggory, 1971; Loeb, Beck, Diggory, & Tuthill, 1967; Rosenberry, Weiss, & Lewinsohn, Note 4). Therefore, it is not surprising that the treatment programs cited here which emphasize the development of accurate self-monitoring, self-evaluation, and self-reinforcement skills have been effective in alleviating depression. Future research in this area might attempt to isolate the differential contribution of enhancing the various self-regulatory functions. The assumed advantages of self-control therapy, i.e., maintenance of treatment gains, still needs experimental verification.

Cognitive Therapy

Correlational and experimental research indicates depression is characterized by a cognitive deficit manifesting itself in patients'
negative view of the self, the world, and the future (see Beck, 1974; Blaney, 1977; Loeb, Beck, & Diggory, 1971; Loeb, Feshbach, Beck, & Wolf, 1964). The manipulation of depressive mood states by altering cognitive processes (Averill, 1968; Strickland, Hale, & Anderson, 1975; Velten, 1968) has further supported a mediational theory of depression. Consequently, Beck's (1974, 1976) development of a treatment strategy for directly intervening into the distorted cognitive processes of depressed individuals has stimulated considerable research. In many of these studies, the cognitive treatment has followed Beck's (1974, 1976) procedure of helping patients (a) recognize the relation between cognition, affect, and behavior, (b) identify unreasonable thoughts and beliefs, (c) examine the evidence against distorted cognitions and challenge the validity of unrealistic assumptions, and (d) substitute more adaptive and reality-based interpretations and beliefs in place of unreasonable ones. Eventually, patients learn to carry out the cognitive restructuring process themselves by identifying and modifying dysfunctional beliefs and misinterpretations of experiences. It appears that the cognitive deficits posited by Beck parallel to a degree the operant analysis of dysfunctions in self-monitoring, self-evaluation, and self-reinforcement proposed by advocates of self-control behavioral programs.

A number of case studies (Beck, 1974; 1976; Rush, Khatami, & Beck, 1975) combined cognitive and behavioral techniques (instructions to increase activity level) to effect positive changes in self-esteem,
general attitudes, and overall clinical functioning. Although un-
controlled investigations, they suggest that prescriptions to increase
activity by completing behavioral assignments may be effective pro-
vided cognitive clarification of misconceptions, misattributions, and
distorted interpretations associated with the activities is provided.

Several studies have been recently reported in which cognitive
therapy has been compared to control groups or to other established
forms of treatment. Comparing cognitive therapy to treatment in which
patients were established on antidepressive drugs, Rush, Beck,
Kovacs, and Hollon (1977) found that both groups achieved significant
decreases in clinical symptomatology as assessed by the BDI,
Hamilton Rating Scales for Depression and Anxiety, and Raskin
Depression Scale. The cognitive therapy group, however, was super-
iior to chemotherapy on the BDI and Hamilton and Raskin Rating Scales
for Depression. Moreover, results for the BDI revealed that the
cognitive therapy group attained clinically significant improvement
compared to the medication condition. The improved clinical status
of patients receiving cognitive therapy as opposed to medication
was further illustrated by the finding that 79 percent of the former
compared to 23 percent of the latter patients showed marked improve-
ment or complete remission of symptoms at posttreatment. Finally,
eight patients dropped out of the pharmacotherapy condition compared
to one from the cognitive therapy group. Follow-up assessments
at three and six months revealed that the posttreatment gains
were maintained; in addition, 69 percent of patients receiving pharmacotherapy re-entered treatment for depression compared to 16 percent for the cognitive therapy condition.

This particular study appears to have some unique advantages in that a clinically depressed population was employed with whom clinically significant findings were demonstrated for cognitive therapy. The positive follow-up assessments at both three and six months support the robust nature of the treatment gains made by patients receiving cognitive therapy. Unfortunately, therapist ratings of improvement on the clinical scales were not blind, and no-treatment and attention-placebo controls were lacking so that effects due to expectancy and spontaneous remission were unassessed. Another confounding factor was the greater therapist contact obtained by patients in the psychotherapy group. Nevertheless, the efficacy of cognitive therapy as an alternative to pharmacotherapy has received controlled experimental support in this study. As Rush et al. (1977) noted, the clinical potential of combining the two treatments remains to be determined.

Other comparative studies have tested the differential effectiveness of cognitive therapy and behavior therapy in alleviating depression. In a study reported by Shaw (1977) the effects of cognitive therapy were contrasted with behavior modification based upon Lewinsohn's method of using activity schedules, verbal contracts, and behavior rehearsal aimed at enhancing communication and social reinforcement skills. In addition, a waiting-list control and non-directive
therapy group (reflection of feeling and discussion of problems) were included in the design. Following four hours of treatment, only the cognitive group showed significant improvement over the nondirective therapy and waiting-list control groups on the BDI and Hamilton Rating Scale for Depression (HRSD). Upon assessments taken after eight hours of treatment the cognitive group was again superior to the nondirective and waiting-list conditions as well as to the behavior modification group on the BDI and HRSD. Although patients in both the behavior modification and nondirective therapy groups improved significantly over no-treatment patients on the BDI, comparison between these two therapy groups on this measure was nonsignificant. On the HRSD neither the behavior modification nor the nondirective therapy groups showed significant improvement at posttest. At one month follow-up, no differences between the behavior modification and cognitive therapy conditions were found on any of the dependent measures. Unfortunately, comparisons with the nondirective therapy group were not made at follow-up.

In general, results from this study indicate cognitive therapy was most effective in reducing clinical symptomatology, while the nondirective treatment achieved effects equivalent to behavioral treatment. The authors explain the failure to find a difference between the groups at follow-up as being due to the relapse of one patient in the cognitive therapy condition subsequent to his being rejected from an intimate relationship. The treatment effects appeared to hold, however, when evaluating the clinical significance
of the improvements obtained, as five out of eight subjects in the
cognitive therapy condition were considered nondepressed on the
basis of posttreatment BDI scores compared to two subjects out of
eight receiving a nondepressed classification in each of the other
two treatment groups. Although the inclusion of a no-treatment
control provided a measure of effects due to assessment alone and
spontaneous remission, the short duration of the follow-up period,
use of depressed college students, and administration of all treat­
ments by one therapist presents obvious methodological difficulties.

Taylor and Marshall (1977) similarly assigned depressed
students to six sessions of either cognitive therapy, behavior therapy,
a combination of cognitive and behavior therapy, or a waiting-list
control group. In this study behavior therapy consisted of formulat­ing a situational analysis of patients' depression, social skills
training for effective social reinforcement, therapist modeling and
role-playing, and use of the Pleasant Events Schedule to increase
activity level. Results indicated all treatment groups improved
significantly over waiting-list controls on the BDI, MMPI-D scale,
and Visual Analogue Scale (a measure of self-rated mood). Post­
treatment assessment also yielded significant improvement of the
combined treatment on the BDI over either of its treatment compon­
ents in isolation, although the cognitive and behavior therapy
conditions did not differ from one another on any of the measures.
These results were maintained at five week follow-up assessment
with the exception that the combined treatment attained additional
significant improvement on the MMPI-D scale compared to cognitive and behavioral groups alone. The same pattern of results was replicated for measures of self-esteem and self-acceptance taken from Kelly's (1955) Repertory Grid.

The results of this study support the efficacy of a combined cognitive and behavioral approach to treating depression. These findings should be cautiously interpreted, however, as the generality of effects is limited by the reliance on a college student population rather than clinically depressed patients. Furthermore, outcome criteria were exclusively of a self-report nature and there was no attempt to evaluate expectancy effects by including an attention-placebo control. The short-term follow-up period and the fact that all treatments were administered by the same therapist pose further obstacles to interpretation. Moreover, the equivalence of Beck's cognitive therapy approach to the one applied by Taylor and Marshall (1977) is questionable since these investigators principally trained their subjects in positive self-statement modification and covariant control procedures (the reinforcement of positive self-statements by pairing them with high frequency behaviors). This procedure appears to differ substantially from Beck's approach which advocates undermining the client's unreasonable belief system by skillful questioning and presentation of contradictory evidence so that more reasonable philosophies are adopted.

Additional support for the efficacy of a combined cognitive and behavioral treatment approach has been provided in a dissertation
by Gioe (Note 5). Briefly, Gioe found that a combination of cognitive self-statement modification plus group therapy emphasizing relaxation and positive reinforcement for social-skill development was superior to either treatment alone in decreasing depression. These results were interpreted to mean that reinforcing environmental changes can only have full impact after the client's negative cognitive set has been modified to make him receptive to assimilating rewarding experiences. Conversely, an alteration of cognitive distortions may be unlikely without genuine changes in environmental reinforcers. As noted earlier, Hammen and Glass (1975) provided indirect support for this notion by suggesting that rather than patients' activity level per se being the critical element in alleviating depression, it is how they evaluate these activities that is most central.

In conclusion, the efficacy of a cognitive approach to treating depression has been supported by experimental research employing appropriate comparison groups. Preliminary evidence suggests cognitive therapy may be more effective than pharmacotherapy, although further research is required to establish any consistent differential influence of the two forms of treatment. Cognitive therapy appears to have more immediate and potent effects than Lewinsohn's behavioral approach, but this advantage may be of only short-term duration. The consistent findings of studies comparing these two forms of treatment may reflect the nonequivalence of the cognitive therapies employed in different investigations. Research clearly supports combining cognitive and behavioral treatments into a comprehensive
approach. Presumably, a positive cognitive set may facilitate clients' receptivity to rewarding environmental contingencies brought about by behavioral manipulations. As a consequence of the controlled research conducted in this area, further evidence emerged supporting the therapeutic value of "nondirective" treatment approaches that enable depressed patients to benefit by merely talking to an empathic individual. The effects due to cognitive therapy, however, appear to extend beyond benefits derived from nondirective treatment-control manipulations. Finally, the inclusion of no-treatment controls in these studies has established that effects due to spontaneous remission cannot account for the treatment gains obtained. The employment of clinically depressed patients in at least some of the studies cited here gives added support for the generality of cognitive therapies to other than analogue research populations.

The Comparative Effectiveness of Psychotherapy and Chemotherapy in the Treatment of Depression

Psychotherapy and Chemotherapy as Primary Treatments

The results of research comparing the effectiveness of medication and psychotherapy as primary treatments for depression are equivocal. Covi, Lipman, Derogatis, Smith, and Pattison (1974) report that antidepressant medication was superior to psychoanalytic group therapy, supportive-contact controls, and a pill-placebo group on self-ratings of moods and clinical symptoms following 16 weeks of treatment. Moreover, psychotherapy did not reduce depressive symptoms
more than supportive contact alone, nor did it facilitate the effectiveness of drug therapy when the two were used in combination. In another report, Lipman, Covi, and Smith (1975) found although both psychoanalytic group therapy and medication improved more than minimal-contact controls on measures of mood, the drug condition obtained significantly more favorable ratings over psychotherapy in reducing clinical symptoms, increasing activity level, and improving feelings of general "well-being." The results of the Rush et al. (1977) study discussed earlier, however, found that cognitive psychotherapy was more effective than chemotherapy in treating depression.

These inconsistent outcomes may be explained, in part, by the fact that in the Covi et al. (1974) and Lipman et al. (1974) studies dependent measures which exclusively assessed clinical functioning were employed. The significance of this procedure lies in findings to be discussed later indicating that effects of psychotherapy may not become immediately manifest on measures of clinical symptom reduction, but instead have their strongest influence on measures tapping social adjustment. Moreover, the unspecified form of "psychoanalytic group psychotherapy" employed in the Covi et al. and Lipman et al. studies may not have been the most effective form of psychotherapy for treating depression. Thus, the inconsistencies between these and the Rush et al. study may be due to the greater potency of cognitive therapy over psychoanalysis as a method of
treated the specific symptoms of depression. Another major difference between these studies is that patients in the Covi et al. and Lipman et al. investigations were all women, while Rush et al. employed both males and females. It is unfortunate that Rush et al. did not analyze their data to discover if a Sex X Treatment interaction was present, especially since recent research indicates there are sex differences in the effects of anti-depressant drugs on symptom reduction and psychological functioning (Raskin, 1974). The implication that the effectiveness of drug therapy and psychotherapy may be a function of the patient's sex remains to be explored. Finally, the fact that only 55 percent of patients recruited for the Covi et al. study completed treatment suggests that discrepancies between this and the other investigations could be attributed to unspecified differences in subject samples due to selection factors.

There have been some attempts to define relevant subject characteristics which interact with the administration of drug or psychotherapeutic forms of treatment. For example, the Wadsworth and Barker (1976) study discussed earlier presents evidence that psychotic depressives respond better to medication plus supportive therapy, whereas neurotics benefit more from psychotherapy. In a review of the literature, Berger (1975) concluded that endogenous depressions are more easily influenced by anti-depressant medication relative to reactive depression which is more amenable to psychotherapy. In yet another interactive study, Covi, Lipman, Alarcon, and
Smith (1976) used a multiple regression equation to predict outcome effects associated with "group psychotherapy" and drug therapy conditions. Measuring outcome on a variety of psychiatric self-ratings and therapist ratings of mood and clinical status, these investigators found that a lower level of interpersonal sensitivity and a positive attitude toward psychotherapy held by a significant other predicted a better response to psychotherapy. On the other hand, estrogen maintenance treatment and lower levels of IQ predicted better response to drug therapy. Although providing a flavor of the type of interactive research that needs to be conducted with depression, these investigators failed to specify the nature of the psychotherapy and did not provide direct comparisons between outcome measures for the two treatment conditions.

The important finding that chemotherapy and psychotherapy influence different aspects of patients' functioning was illustrated in an investigation by Friedman (1975) who compared marital therapy with establishment on antidepressant medication. Although the results of this study are complex because of the multiple assessment criteria employed, both drug and marital therapy were found superior to controls in alleviating clinical depression. However, drug therapy was generally more effective in providing symptom relief while marital therapy had consequences for improving patients' social and marital adjustment. An additional finding of importance was that maintenance on drug treatment did not interfere with motivation for psychotherapy or with the psychotherapeutic process in general.
The research cited here seems to support the notion that the differential effectiveness of psychotherapy and drug therapy depends upon important subject characteristics, most notably the subtype of depression under consideration. Moreover, the Friedman (1975) study indicates these two treatment modalities may in essence operate on two independent spheres of functioning—that is, drugs effect symptom reduction while psychotherapy improves social adjustment. The results of the research cited here must be interpreted cautiously, however, since with exception of the Rush et al. (1977) study, the nature of the psychotherapy involved was inadequately specified.

The Effects of Drug Therapy and Psychotherapy on Social Adjustment and Symptom Relapse

In 1968 the Boston-New Haven Collaborative Depression Project (cf. Weissman, Klerman, Paykel, Prusoff, & Hanson, 1974) was undertaken to evaluate the effects of maintenance psychotherapy and drug treatment on the social adjustment and symptom relapse of 150 neurotically depressed female outpatients. These subjects were selected for the study from a larger sample of 278 depressed patients because they had shown the most symptomatic improvement after being treated with amitriptyline (Elavil) for a period of four to six weeks. Prior to the study, all 150 patients scored seven or more on the Raskin Depression Scale and were judged to have been depressed for at least a two week duration. Patients were required to have shown an improvement of at least 50 percent on the Raskin
Depression Scale at the end of the initial medication period for subsequent admission to the eight months maintenance treatment phase. In the maintenance phase, an equal number of patients were assigned to either a high-contact individual supportive psychotherapy treatment or a low-contact assessment condition. These patients were further randomized so that within each contact group, one-third continued on amitriptyline, one-third received a placebo, and one-third knowingly withdrew onto no medication.

The results of these maintenance treatments on symptom relapse rate were reported by Klerman, Dimascio, Weissman, Prusoff, and Paykel (1974). The dependent measures used to assess symptom relapse were "global clinical judgments" and a self-report measure based on a modification of the Hamilton Rating Scale for Depression. Relapse rates for the relevant treatment groups were 36 percent for the low-contact/no-pill group, 12 percent for both high and low-contact/active drug groups, 16.7 percent for the high-contact/no-pill group, and 28 percent for both high and low-contact placebo groups. Using these data, the authors concluded that both psychotherapy alone and drug maintenance alone are effective in preventing relapse, but that only drug therapy produced a significant reduction in symptom relapse compared to placebo and no-pill conditions. However, it was left unclear whether the relevant statistical comparisons between the psychotherapy alone and the drug therapy alone conditions were performed. Finally, the combination of drugs and psychotherapy (high-contact/active drug) did not significantly reduce
symptom relapse over and above either treatment condition alone, leading the authors to conclude that "psychotherapy did not offer any additional therapeutic benefit over the maintenance drug therapy in the prevention of relapse" (p. 188).

The effects of maintenance therapy on the social adjustment of this sample are reported by Weissman and her colleagues (Weissman, Klerman, Paykel, Prusoff, and Hanson, 1974; Weissman, Prusoff, and Klerman, 1975). The Social Adjustment Scale (Paykel, Weissman, Prusoff, & Tonks, 1971) consisting of six subscales assessing performance in various social roles was the major dependent variable used on which patients were rated by independent judges. Assessments after two, four, and eight months of treatment indicated there were no positive effects of drug maintenance on social adjustment. However, compared to the low contact group, those receiving psychotherapy showed significantly less impaired work performance, less interpersonal friction, better interpersonal communications, and less anxious rumination. These effects were not apparent after two and four months of treatment, but were obtained only for analyses performed at the eight month assessment.

In summary, findings of this research were that maintenance drug treatment was superior to psychotherapy in preventing symptom relapse, although psychotherapy still reduced symptom relapse to half that compared to patients receiving virtually no treatment (low-contact/no-pill). On the other hand, only maintenance psychotherapy appeared to have a significant effect on social adjustment ratings,
but these effects were dependent upon prior sustained symptom reduction and a sufficient period of time (Weissman et al., 1975). No negative interactions between maintenance drug and psychotherapy treatments were observed, suggesting that these two forms of treatment may be used simultaneously without exerting harmful effects on one another. These studies support the notion that drugs and psychotherapy influence separate areas of functioning, and thus point out the necessity of including multiple outcome criteria assessing both clinical symptom reduction and social adjustment. Finally, the authors note that their findings were obtained on a population of lower class patients, serving to dispel the notion that such individuals are resistant to psychotherapeutic forms of intervention.

Despite these initial encouraging results, the conclusions drawn from the study must be interpreted cautiously for a number of reasons. First of all, Weissman et al. (1974) note that the procedure of including in the maintenance phase only those patients who responded to previous medication introduced several sources of bias which served to underestimate the effects of psychotherapy. For example, after achieving initial success with drug therapy, patients may have only reluctantly changed to a new and uncertain form of treatment, and may have continued attributing to drugs any additional effects accruing from psychotherapy. Secondly, the dependent measures used to assess symptom relapse and social adjustment relied exclusively upon subjective reports from the patient or therapist. Even the social adjustment scale is based solely on information provided by the
patient and, as Weissman et al. (1974) note, could have been improved upon by employing some naturalistic or behavioral criterion of change. Concerning the criteria for symptom relapse, Klerman et al. (1974) did not specify how the data from the "global clinical judgments" and the patients' self-ratings were statistically combined or weighted to arrive at a judgment of relapse. The fact that only women were involved in the study necessarily limits the generality of the findings to other populations. Finally, at one year follow-up after the maintenance treatment ended, Weissman, Kasl, and Klerman (1976) report nearly 60 percent of the patients who participated in the study manifested depressive symptoms and re-entered therapy. No differential effects of the drug and psychotherapy treatments were observed at follow-up. At four years follow-up on a selected sample of the original group, Bothwell and Weissman (1977) report that a similar percentage continued to show clinical symptoms and social adjustment deficits. Although long-term effects from drug maintenance were not expected, it was anticipated that those treated with maintenance psychotherapy would show more enduring changes. This rather weak effect for the psychotherapy condition may have resulted from it being merely "supportive" in nature (Weissman et al., 1976). Such forms of treatment, as noted previously in this article, have generally proven less powerful than more active treatments designed to change maladaptive cognitive styles and behaviors.
Future Research

It appears that controlled psychotherapy research with depression is only in the beginning phases of development, leaving several important issues yet unexplored. For example, the interpretation of treatment outcome studies may be clarified if investigators employ a standard measure of depression to identify research populations. Also encouraged are research designs accounting for the interaction of treatment modality with important patient characteristics as depth and subtype of depression, age level, and gender. Although development of global treatment packages is valuable during initial research efforts, future work should focus on isolating the essential components of those treatments proving effective. The critical nature of depression as a clinical problem often makes research employing large-scale between group designs unfeasible. However, functional control over depressive target symptoms can still be demonstrated through application of any one of a number of single case designs (see Hersen & Barlow, 1976). Regardless of the particular research design used, multiple assessment criteria tapping the cognitive, affective-autonomic, and behavioral facets of depression should be employed.
Reference Notes


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CHAPTER IIX

Nonverbal Components in the Communication of Assertiveness

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Abstract

Male and female subjects, viewing only the nonverbal behavior of high/low male and female models, rated model behavior according to (a) the degree nine body parts conveyed information regarding level of assertiveness, (b) overall assertiveness, (c) a semantic differential scale, (d) a RAS, completed by subjects instructed to place themselves in individual model's roles, and (e) narrative forms indicating means by which various body parts communicated information regarding models' level of assertiveness. Results indicated high from low assertive models were distinguished for all dependent measures on the basis of nonverbal cues alone. Moreover, nonverbal behaviors revealed more information regarding level of assertiveness for male than for female models. In addition, particular body dimensions (i.e., hands, arm position, and overall body cues) were found significantly more salient than others in the communication of assertiveness. These findings were discussed with regard to research and practice in assertion training.
Nonverbal Components in the Communication of Assertiveness

Early research into assertion training focused on defining and modifying explicit verbal content of assertive responding (Rich & Schroeder, 1976; Serber, 1972). Recently, however, there has been increasing recognition that the interpersonal communication of any message is a multichannel process heavily influenced by both verbal and nonverbal (kinesic) behaviors (Waxer, 1978). The significance of kinesic components has been repeatedly demonstrated in a broad range of investigations where nonverbal-expressive cues have accounted for one to four times more variance than verbal forms of communication (Argyle, Alkema, & Gilmour, 1971; Birdwhistell, 1970; Bugental, Kaswan, & Love, 1970; Eakins & Eakins, 1978; Mehrabian & Ferris, 1967; Tepper & Haase, 1978). Investigators have similarly found visual cues to be more reliably and accurately interpreted than auditory input (Berman, Shulman, & Marwit, 1976; Levitt, 1964). Furthermore, the delicate balance between verbal and nonverbal messages has been illustrated by research indicating judgments tend to be made on the basis of visual rather than auditory input when discrepant channel information is presented (DiPaulo, Rosenthal, Eisenstat, Robers, & Finkelstein, 1978; Posner, Nissen, & Klein, 1976), and that content-appropriate verbal messages are undermined by contradictory nonverbal cues (Graves & Robinson, 1976; Haase & Tepper, 1972; Tepper & Haase, 1978). Extrapolating these findings to the area of assertiveness suggests a complex interaction between verbal
and nonverbal components in the communication of assertive behavior. Moreover, it would appear that nonverbal cues must be congruent with verbal content for an assertive message to be accurately conveyed.

There have been several recent attempts to define nonverbal components of assertiveness on an intuitive or rational basis (e.g., Alberti & Emmons, 1978; Serber, 1972; Wolpe & Lazarus, 1966). Characteristics such as eye contact, facial expression, body expression, gestures, fluency of speech, interpersonal distance, and loudness of voice have typically been included in these formulations. However, McFall (1977) has criticized reliance on intuitive judgment as a means of defining component behaviors, arguing that the effectiveness of assertion training programs depends to a large degree upon the empirical validity of the responses targeted for change.

The subsequent identification of socially valid components of assertiveness has been provided by Eisler and his colleagues (Eisler, Hersen, & Miller, 1973; Eisler, Miller, & Hersen, 1973; Pachman, Foy, Massey, & Eisler, 1978). These investigators distinguished high from low assertive subjects on a number of component behaviors: duration of eye contact, duration of reply, latency of reply, compliant statements, requests for new behavior, loudness of speech, and affect. Similarly, by systematically varying components in role-play interactions, Rose and Tryon (1979) recently demonstrated assertiveness to be a function of voice loudness, latency of reply, speech content, gestures, and voice inflection. However, with the
exception of eye contact and gestures, the component behaviors isolated in these studies represent verbal/content and paralinguistic channels rather than nonverbal or kinesic behaviors (i.e., body movement resulting from muscular and skeletal shift including physical action, autonomic reflex activity, gestures, and facial expressions [Key, 1977]). In fact, limited research on kinesic cues in the assertion training literature is all the more surprising in view of findings suggesting that verbal (Mehrabian & Ferris, 1967) and paralinguistic (Waxer, 1978) cues may represent the weakest source of channel information in the communication of many attitudes and emotions. Thus, a primary purpose in conducting the present research was to assess the role of kinesic behaviors in the perception of overall assertiveness.

The extent to which an individual is perceived as assertive on the basis of nonverbal dimensions may depend upon several gender-related variables. Rose and Tryon (1979), for example, found that females were judged more highly assertive than male actors when a number of behavioral components were varied, although actors/actresses actually performed in an equivalent manner. Gender differences certainly may exist in the expression of assertiveness, however, in that a number of studies have indicated males and females differ on the dimensions of eye contact (Argyle, 1969), facial expression (Eakins & Eakins, 1978), body orientation (Mehrabian, 1969), and arm position (Mehrabian, 1969) during interpersonal interaction. The sex-of-the-receiver or observer has similarly been found to influence the interpretation of interpersonal behaviors. In an
investigation of sex-related influences in the perception of
assertiveness, Hess, Bridgwater, Bornstein, and Sweeney (in press)
reported that female as opposed to male observers perceived both
male and female actors more assertive, aggressive, and masculine in
their response style. In fact, Hall (1978) has concluded that
females are generally more accurate and reliable than males in
decoding nonverbal emotional cues. Thus, a second major purpose
of the present research was to (a) determine possible gender dif­
ferences in the nonverbal expression of assertiveness, and (b) investi­
gate sex-of-viewer variables in the perception of nonverbal assertive
behavior.

METHOD

Videotaped Materials

Two male and two female actors/actresses were solicited from
a professional theatrical group to serve as models in the current
investigation.¹ Actors/actress were caucasian adults ranging from
25-35 years of age. Three days before filming it was explained to
the models that they would be videotaped while role-playing either
assertive or unassertive characters in a variety of stimulus
situations. Written descriptions of six situations depicting real­
life interpersonal conflicts were provided (McFall & Lillesand, 1971;

¹We are indebted to Jim Caron, Judy Donham, Neal Lewing, and
Carol Sinclair, without whose aid this research could not have been
conducted.
McFall & Marston, 1970). Furthermore, models received written statements (derived from Lange & Jakubowski [1976] and Carmody [1978]) defining assertive verbal responses in terms of salient characteristics, content, and paralinguistic aspects. It is important to note that models were instructed only in the delivery of assertive/unassertive verbal responses, and were kept blind as to the actual nature of the present report (i.e., nonverbal components of assertive behavior). Finally, models were asked to familiarize themselves with materials provided prior to the filming date.

Upon their subsequent arrival at the university recording studio, the models chose among themselves who would role-play the assertive/unassertive male and female characters. It was decided beforehand that the models would appear on the tape in the following randomly determined order: low assertive male, high assertive female, high assertive male, low assertive female. Each model was individually filmed as he/she responded verbally to the six scenes which were read aloud consecutively by the experimenter. While being filmed, the model stood directly in front of a Sony model AVC 3260 video-camera that was visibly focused on his/her upper body so that detailed movements of the face, head, torso, hands, and arms could be recorded. After responding to the scenes, the models completed the Rathus Assertiveness Schedule (Rathus, 1973) under instructions to answer in a manner consistent with the role they played (i.e., high or low assertive). The models were then debriefed by being
informed that the study was primarily concerned with their nonverbal behavior, and their permission to utilize the videotaped responses was obtained.

Validation of the models' responses to the scenes was obtained from 15 upper division undergraduates enrolled in a Principles of Behavior Modification course. Judges were kept blind as to the actual nature of the investigation and were provided with definitions of assertiveness identical to those previously given to the models. Scene descriptions were briefly read aloud by a narrator, following which the judges were shown both audio and visual portions of each individual model's response to the six consecutive assertion-eliciting situations. After viewing each response the judges rated it on a 5-point scale ranging from 1 = "very unassertive" to 5 = "very assertive". An analysis of variance was subsequently performed on the ratings obtained for each of the six scenes, comparing high versus low assertive models. Results indicated that all analyses were highly significant (ps < .001), demonstrating that the different models' responses could, in fact, be discriminated according to level of assertiveness. Finally, when questioned about the models' responses, none of the raters suspected they were viewing professional actors or felt that their responses appeared unnatural or overly dramatic.

As a final step in constructing the videotape, two independent raters viewed only the video portion of each model's responses, rank-ordering them according to the degree of nonverbal expressiveness.
The three scenes to which all models were ranked as most nonverbally expressive were selected for inclusion in the final version of the videotape. Perfect agreement was obtained between the two judges' rankings of these three scenes. The resulting videotape was then edited for sound and, in final form, portrayed four models who each silently role-played responses to the same three scenes.

**Subjects**

Subjects rating the videotapes were 30 undergraduates (15 males and 15 females) at the University of Montana who received experimental course credit for their participation. Subjects were scheduled to arrive at the laboratory in two separate groups of approximately equal size for the purpose of administration of experimental procedures.

**Dependent Measures**

Subjects evaluated each model on a seven-point semantic differential rating scale consisting of 26 bipolar adjective pairs. Items comprising the scale (Osgood, Suci, & Tannenbaum [1957]) were rationally determined on the basis of their relationship to the construct of assertion-nonassertion.

Judgments of the models' nonverbal behavior were made for each of the three stimulus scenes across nine body dimensions, including forehead/eyebrows, eyes, mouth, head/neck position, shoulder position, arm position, hands, torso position, and overall body cues. Subjects were instructed to make their ratings according to the degree to which
each body part conveyed information about the model's level of assertiveness/nonassertiveness. All ratings were made on 11-point scales (modified from Waxer [1977]) where -5 = "conveyed a great deal about assertiveness," 0 = "conveyed no information," and +5 = "conveyed a great deal about nonassertiveness." After rating all three scenes for a model, subjects provided a written narrative indicating how each body part conveyed relevant information about the model's level of assertion. Subjects also provided ratings of each model's overall performance across all three stimulus scenes on a 10-point scale ranging from 0 = "not at all assertive" to 10 = "highly assertive."

The final measure required subjects to complete a Rathus Assertiveness Schedule (RAS) (Rathus, 1973) for each model according to how they imagined that model would respond to the items on the inventory (see Hess et al., in press). In other words, subjects were instructed to place themselves in the role of the model and indicate how characteristic or descriptive they perceived inventory items to be of the respective models.

**Procedure**

Subjects were provided with the rationale that the present study was concerned with "investigating various nonverbal aspects of human behavior." Four semantic differential rating forms were then distributed and instructions for completing the scales, based on Osgood et al. (1957) were provided. Subjects then viewed the
videotape of the four models each responding to three situations. A Sony model VO-2600 videotape recorder was used in combination with a 17-inch monitor to playback the videotape of the four models responding to each of three situations. Before each model's response was played, the experimenter read aloud a description of the situation to which the model was responding. Subjects completed their ratings of each model immediately after they had viewed his/her response to all three scenes.

After completing their ratings of all four models, a brief definition of assertiveness (omitting any reference to nonverbal components) derived from Lange and Jakubowski (1976) was then read aloud to subjects. Each subject received a booklet containing the body-part rating scales, the summary sheets on which to provide their written narratives, and the scales for judgment of models' overall assertiveness. In addition, subjects were provided with the following instructions for completing their assessments:

To help us identify the nonverbal aspects of assertiveness, we are going to ask that you again view the same videotaped sequences that you have just seen. After viewing each scene, you are to rate on the scales provided the extent to which several different body parts may have conveyed to you information regarding the individual's level of assertiveness or unassertiveness. Here (in your booklet) is a sample scale identical to the one you will use to rate the degree of information conveyed by each body part about the person's assertiveness or unassertiveness. On this scale, a rating of zero (center point) means that a particular body part was of no

\[\text{2Copies of the booklet containing these dependent measures may be obtained from the authors upon request.}\]
value to you in determining the person's level of assertiveness or unassertiveness. A rating of +5 means that the particular body area communicated a great deal of information to you about the person being unassertive. On the other hand, a rating of -5 means that the particular body part conveyed a great deal of information regarding the person's assertiveness. After completing your ratings of all three scenes played by a particular person, you will be asked to provide, on the Written Description Form, a written account of exactly how or in what way each particular body part communicated information to you regarding the person's degree of assertiveness or unassertiveness. Finally, after completing the written description for a particular individual, please rate on the scale provided your impression of the individual's overall or general level of assertiveness as conveyed to you from watching him/her in the three scenes.

Once it was clear that subjects understood the instructions, they were again shown the videotape. The tape was stopped after each scene so that subjects could provide their body part ratings. At the conclusion of all three scenes for each model, longer pauses were allowed for subjects to complete written narratives and overall judgments of assertion ratings.

For the final assessment, four copies of the RAS were distributed to each subject. The videotape was again played and, following each model's final scene, subjects were instructed to complete the RAS by placing themselves in individual model's roles.

RESULTS

Models' Self-Ratings on the RAS

Models obtained the following scores on the RAS: low assertive male (-66), low assertive female (-72), high assertive female (+78), high assertive male (+48). Using norms for the RAS established on
college students (Nevid & Rathus, 1978), scores for both male and female low assertive models were below the first percentile, while high assertive male and female models each fell above the 95th percentile. Clearly, models' subjective report of their level of assertiveness during the videotaped situations was consistent with their respective roles.

Factor Analysis of Measures

A principle components factor analysis was conducted on all 12 dependent measures, revealing a single factor (Assertiveness). The following factor loadings were obtained for the dependent measures: overall body cues (.99), arm position (.95), forehead/eyebrows (.94), mouth (.93), hands (.93), head/neck position (.85), torso position (.85), shoulder position (.83), overall rating of assertiveness (.83), RAS (.72), and semantic differential (.63).

The amount of variance accounted for by the factor ranged from 40 percent (semantic differential) to 97 percent (overall body cues) with a mean of 76 percent for all dependent measures. Moreover, an obtained eigen value of 9.16 for the derived factor provided further evidence that the various dependent measures tapped a unitary concept.

Effects Due to Models' Level of Assertion

Separate three-way analyses of variance with one between groups factor (sex of viewer) and two repeated factors (sex of model and level of model assertiveness) were performed on each of the
dependent measures (Kepple, 1973). Highly significant main effects were found for models' level of assertiveness on all dependent measures. Table 1 summarizes the means and F ratios for these main effects. For overall measures (semantic differential, overall assertiveness, and RAS), high assertive models were judged significantly more assertive than low assertive models (all ps < .001). Similarly, high and low assertive models differed also on the degree to which the various body dimensions conveyed information regarding level of assertiveness or unassertiveness, respectively (all ps < .001).

Effects Due to Viewers' Gender

A significant sex of viewer X sex of model interaction was found for the measure of overall assertion, F (1, 28) = 5.66, p < .05. A Newman-Keuls comparison revealed the interaction was due to female viewers' having rated female models more assertive than did male viewers (M for female viewers = 5.00; M for male viewers = 3.83, p < .05). However, comparisons involving this variable for the remaining dependent measures were all nonsignificant (ps > .15), suggesting the above effect may have resulted simply from the large number of analyses conducted.

Interaction Effects

The central finding of the study was a consistent interaction between sex of model and level of model assertiveness. Table 2 presents the means and F ratios of this interaction effect for both overall measures and body dimension ratings. Newman-Keuls analyses of
Table 1
Main Effect Means and F Ratios for Models' Level of Assertiveness

<table>
<thead>
<tr>
<th>Measure</th>
<th>Level of Assertiveness</th>
<th>F^a</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Overall Measures</td>
<td></td>
<td></td>
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<tr>
<td>Semantic Differential</td>
<td>79.33</td>
<td>119.89</td>
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<tr>
<td>Overall Assertiveness</td>
<td>2.90</td>
<td>6.15</td>
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<tr>
<td>RAS</td>
<td>-30.17</td>
<td>39.07</td>
</tr>
<tr>
<td>Body Dimensions^b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forehead/Eyebrows</td>
<td>3.48</td>
<td>-4.63</td>
</tr>
<tr>
<td>Eyes</td>
<td>3.77</td>
<td>-5.47</td>
</tr>
<tr>
<td>Mouth</td>
<td>3.68</td>
<td>-4.80</td>
</tr>
<tr>
<td>Head/Neck Position</td>
<td>3.38</td>
<td>-3.88</td>
</tr>
<tr>
<td>Shoulder Position</td>
<td>3.00</td>
<td>-2.78</td>
</tr>
<tr>
<td>Arm Position</td>
<td>5.22</td>
<td>-3.95</td>
</tr>
<tr>
<td>Hands</td>
<td>4.97</td>
<td>-4.70</td>
</tr>
<tr>
<td>Torso Position</td>
<td>2.93</td>
<td>-2.77</td>
</tr>
<tr>
<td>Overall Body Cues</td>
<td>5.28</td>
<td>-4.87</td>
</tr>
</tbody>
</table>

^a df = 1, 28

Negative values for the body dimension ratings indicates information was communicated about the models' level of assertiveness. Positive values indicate information was communicated about models' level of unassertiveness. Means are based on scores summed across subjects' ratings of all three stimulus situations.

***p < .001
Table 2
Means and F Ratios for Sex of Model X Level of Assertiveness Interaction

<table>
<thead>
<tr>
<th>Measure</th>
<th>Low Assertive Model</th>
<th>High Assertive Model</th>
<th>F&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Overall Measures</td>
<td></td>
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<tr>
<td>Semantic Differential</td>
<td>78.1</td>
<td>80.50</td>
<td>123.40</td>
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<tr>
<td>Overall Assertiveness</td>
<td>2.27</td>
<td>3.53</td>
<td>7.00</td>
</tr>
<tr>
<td>RAS</td>
<td>-46.40</td>
<td>-14.0</td>
<td>42.7</td>
</tr>
<tr>
<td>Body Dimensions&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forehead/Eyebrows</td>
<td>5.03</td>
<td>1.93</td>
<td>-5.50</td>
</tr>
<tr>
<td>Eyes</td>
<td>5.17</td>
<td>2.37</td>
<td>-6.90</td>
</tr>
<tr>
<td>Mouth</td>
<td>5.00</td>
<td>2.37</td>
<td>-5.73</td>
</tr>
<tr>
<td>Head/Neck Position</td>
<td>4.43</td>
<td>2.33</td>
<td>-4.43</td>
</tr>
<tr>
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<td>4.90</td>
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<tr>
<td>Arm Position</td>
<td>7.43</td>
<td>3.00</td>
<td>-6.37</td>
</tr>
<tr>
<td>Hands</td>
<td>6.53</td>
<td>3.40</td>
<td>-7.73</td>
</tr>
<tr>
<td>Torso Position</td>
<td>4.50</td>
<td>1.37</td>
<td>-4.33</td>
</tr>
<tr>
<td>Overall Body Cues</td>
<td>7.27</td>
<td>3.30</td>
<td>-6.73</td>
</tr>
</tbody>
</table>

<sup>a</sup><sub>df = 1, 28</sub>

<sup>b</sup>Negative values for the body dimension ratings indicates information was communicated about the models' level of assertiveness. Positive values indicate information was communicated about models' level of unassertiveness. Means are based on scores summed across subjects' ratings of all three stimulus situations.

*<sup>p</sup> < .05

**<sup>p</sup> < .01

***<sup>p</sup> < .001
the interaction for the overall assertiveness rating and RAS indicated the low assertive male was judged significantly less assertive than the low assertive female model ($p < .05$). However, the high assertive male was rated as significantly more assertive than the high assertive female model on these same dependent measures ($p < .05$).

The significant interaction effects obtained for body dimensions of forehead/eyebrow, eyes, shoulder position, arm position, hands, torso position, and overall body cues are graphically depicted in Figure 1. The range of the means for males' and females' body dimensions is represented by vertical bars in the figure. The diagonals represent the mean ratings of male and female models across all body dimensions on which a significant interaction was observed. Newman-Keuls comparisons revealed a highly similar interaction pattern for all body dimensions. Specifically, body dimensions for the low assertive male model provided subjects with significantly more information about his level of unassertiveness than did body dimensions for the low assertive female model ($p < .05$). Similarly, a significantly greater amount of information about the high assertive male model's level of assertion was communicated via the various body dimensions than was true for the high assertive female model ($p < .05$). In summary, more extreme scores were obtained for male models, indicating body dimensions communicated more information about assertiveness and unassertiveness of male as opposed to female models.
To identify those body dimensions most important in communicating information about models' level of assertiveness, the data was subjected to a $2 \times (2 \times 2 \times 9)$ analysis of variance with body dimension as the additional repeated measure. Results revealed the expected sex of model X level of model assertiveness X body dimension interaction, $F(8, 224) = 6.26, p < .001$.

Separate Newman-Keuls comparisons were then conducted between the body dimension means for low assertive male, low assertive female, high assertive male, and high assertive female models. For the low assertive male model, arms and overall body cues conveyed more information about his unassertiveness than did eyes, forehead/eyebrows, mouth, shoulder position, torso position, and head/neck position ($p < .01$). Moreover, hands were found more expressive than torso position and head/neck position ($p < .05$). With respect to the low assertive female model, hands and overall body cues conveyed more unassertiveness than did shoulder position ($p < .01$) and torso ($p < .05$). In addition, arm position was a more important determinant of this model's unassertiveness than was her shoulder position ($p < .05$). The high assertive male model communicated greater assertiveness through hands as opposed to mouth, forehead/eyebrows, head/neck position, torso position, and shoulder position ($p < .01$). Moreover, this model's eyes, overall body cues, and arms each communicated more information about assertiveness than head/neck position, torso position, and shoulder position ($p < .01$). Finally, the mouth, eyes, and forehead/eyebrows for the high assertive female each conveyed more information about her assertiveness than did
shoulder position ($ps < .05$), torso position, hands, and arms ($ps < .01$). In addition, head/neck position was more important in conveying assertiveness for this model than were hands, arm position, and torso position ($ps < .05$), while overall body cues were more significant in this respect than was torso position ($ps < .05$).

In summary, shoulder position and torso position were found less expressive of level of assertiveness for all models. This finding is corroborated by the fact that these body dimensions received the smallest loadings of any of the body areas involved in the factor analysis. The various body dimensions of the head and face were most expressive of assertiveness for the high assertive female model. For the remaining models, however, hands, arm position, and overall body cues were consistently viewed as body dimensions most expressive in communicating information regarding level of assertiveness.

Content Analysis of Written Descriptions

A content analysis of subjects' written narratives examined how the various body dimensions communicated information to viewers about the models' level of assertion. Since no qualitative difference between male and female models emerged, this analysis was conducted by subjects' comments on the various body dimensions for high and low assertive models.

Inspection of subjects' comments for assertive models ongoing (through silent) speech revealed that salient features of the hands, arm position, overall body cues, mouth, head/neck position, and
shoulder position included "smooth," "fluid," "steady," "controlled," and "purposive" movement. However, when models were not speaking, these body dimensions remained "quiet" and "nonconspicuous," characterized by an absence of unnecessary or superfluous activity. The models' torso position, shoulder position, and head/neck position were also described as being "straight," "square," "upright," "direct," and "still" with a minimum of extraneous movement. Finally, eyes were distinguished by a "direct," "steady" gaze that remained "fixed" while looking at the viewer. Such purposeful gesturing, termed illustrator (Ekman & Friesen, 1968) or signalling (Waxer, 1977) activity, facilitates communication and has been found typical of normal or healthy psychological functioning (Ekman & Friesen, 1974a).

Features found most salient for all body dimensions of low assertive models were "jerky," "fidgety," "shaky" and other extraneous movements unrelated to ongoing speech. In addition, these models exhibited frequent "shifts" of the eyes and avoided direct eye contact with the viewer. The forehead was described as "wrinkled" and the eyebrows as "animated" and constantly moving "up and down." Head/neck position was characterized by "up and down nodding" and "tilting from side to side." The "stooped," "shrugging," and "hunched" shoulder position, the "fidgety" and excessive manipulative activity of the hands, and the "rotating," "rocking," and "squirming" activity of the torso also served to communicate an impression of the
models' unassertiveness. Such superfluous activity often interferes with the flow of verbal communication and has similarly been associated with pathological states of anxiety (Waxer, 1977) and depression (Ekman & Friesen, 1968).

**DISCUSSION**

Results of the present investigation clearly reveal that judges are able to discriminate high from low assertive models solely on the basis of nonverbal behaviors. As such, the current report serves to experimentally confirm the hypotheses of earlier researchers (Alberti & Emmons, 1978; Serber, 1972; Wolpe & Lazarus, 1966) and further extend the influence of kinesic behaviors into additional diverse areas of psychological inquiry (Waxer, 1978). Of particular interest, males obtained bilaterally more extreme scores than female models on the vast majority of dependent measures. Given no differences were found on pre-experimental (i.e., combined verbal and nonverbal) judgments of assertiveness, these findings thus suggest that males are perceived as conveying more salient nonverbal information regarding assertiveness/unassertiveness than their female counterparts. Moreover, for both males and females it would appear as though nonverbal components tap a unitary concept comprised mainly of assertive body movements.

Within the present report consistent effects were found for gender differences in the expression of nonverbal assertive behavior. While these results tend to complement the findings of recent verbal
assertion investigations (Hull & Schroeder, 1979; Woolfolk & Dever, in press; Mullinix & Galassi, Note 1), they may again serve to highlight the situational specificity of assertive behavior. Collectively these studies suggest that both verbal and nonverbal forms of assertion are functionally related to circumstantial or prevailing conditions influenced by interacting persons, objects, and events. Although previous research (Hess et al., in press) has demonstrated sex of viewer variables influence the perception of verbal assertiveness, similar findings regarding nonverbal cues were not found in the present study. These discrepant results suggest that nonverbal cues may not be as central as verbal behavior in determining gender-related differences in the perception of assertiveness. Future research must nevertheless attempt parametric and systematic replication of the present findings across a variety of subjects and stimulus situations.

While previous research (Waxer, 1974, 1977) has suggested that nonverbal cue patterns for anxiety (i.e., hands, eyes, mouth, and torso) differ from that of depression (i.e., eyes, mouth, angle of head, and hands), the current investigation has focused on yet another constellation of body areas. Specifically, for all but the high assertive female model, hands, arms, and overall body cues were identified as the most salient nonverbal body dimensions. Moreover, content analysis subsequently revealed judges’ evaluations of assertiveness to be highly influenced by controlled, smooth, steady, and purposive movement as opposed to shifty, shaky, fidgety, extraneous
body activity. In this respect, as was previously revealed with descriptions of anxiety, unassertiveness appears directly related to increases in such extraneous "nonsignaling gestures" (Waxer, 1977). These findings thus indicate that while nonverbal displays in different body parts may characterize the expression of different human emotions (Darwin, 1965), similar classes of "emotional leakage" (Ekman & Friesen, 1974b) may occur across diverse affective states. Further support for such a contention must, however, await further empirical report.

In conclusion, the present study must be considered rather preliminary in nature. Although discrete nonverbal characteristics were found highly associated with assertiveness/unassertiveness, future investigation must attempt to directly manipulate varying body dimensions as a means of examining their effect upon judges' ratings of assertion. Furthermore, it would be of theoretical and practical import to isolate the relative contribution of verbal, nonverbal, and paralinguistic cues in the communication of assertiveness. In any event, the present results clearly are of some clinical utility in (a) facilitating the accurate identification and diagnosis of nonassertive individuals, and (b) providing guidance as to the components to be targeted in assertiveness training programs. For both theoretical and clinical purposes, it is therefore recommended that future investigations examine the wealth of nonverbal assertion information potentially available to experimental researchers.
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Ekman, P., & Friesen, W. V. Detecting deception from the body or face. Journal of Personality and Social Psychology, 1974, 29, 288-298. (b)


Figure Caption

Figure 1. Mean ratings of assertiveness across body dimensions for which significant sex of model X level of assertiveness interaction effects were observed. Negative values indicate information was communicated about models' level of assertiveness, while positive values mean information was communicated about level of unassertiveness.
MODELS’ LEVEL OF ASSERTIVENESS

MEAN ASSERTIVENESS RATING

LOW  HIGH

MALE
FEMALE
CHAPTER IX

The Effects of Therapy Rationale and Problem Severity Upon
Perceptions of Psychological Problems and Counseling Approaches

Janet P. Wollersheim, Miles E. McFall, Scott B. Hamilton,
Sue Hickey, and Mark C. Bordewick


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Abstract

This study examined the two variables, different therapy rationales and problem severity, upon subjects' attitudes concerning various counseling approaches, psychological problems, and counselor characteristics. Subjects were exposed to one of four different therapy rationale conditions (psychoanalytic, behavior therapy, rational emotive, or a no-rationale control) described for the treatment of clinical problems (snake phobia, test anxiety, depression, schizophrenia) ranging according to severity. Subjects then rated the therapy rationale they perceived, the problem and patient depicted in their case description, and the counselor presenting their respective rationale on a number of dimensions. Results indicated that preference for a counseling approach was a function of problem severity, and that subjects conceptualized psychological problems in terms of the rationale provided. These findings are discussed with respect to research concerning the influence of pretherapy information on attitudes and expectations toward treatment.
The Effects of Therapy Rationale and Problem Severity Upon Perceptions of Psychological Problems and Counseling Approaches

Potential clients seeking psychotherapeutic forms of treatment are often misinformed about the counseling process and hold unrealistic conceptions of their presenting problems (Aronson & Overall, 1966; Heitler, 1976). An important means of clarifying clients' perceptions of their problems and the treatment process is to provide them with an explanation or rationale for therapy prior to actually beginning counseling (Dibner, Palmer, Cohen, & Gofstein, 1963; Frank, 1973; Orne & Wender, 1968; Traux & Wargo, 1969). According to Frank (1973), this rationale may itself help serve as a "curative factor" provided it (a) explains the source of the client's problems, (b) defines an explicit procedure for alleviating his distress, and (c) is viewed as reasonable and credible. The efficacy of these procedures have been supported by a number of studies demonstrating that clients receiving a pre-therapy rationale describing the nature and purpose of their treatment improved markedly on a number of process and outcome measures relative to those who received no such information (Bednar & Parker, 1969; Devine & Fernald, 1973; Hoehn-Saric, Frank, Imber, Nash, Stone, & Battle, 1964; Nash, Hoehn-Saric, Battle, Stone, Imber, & Frank, 1965; Sloane, Cristol, Pepernik, & Staples, 1970; Parrino, 1971). The therapy rationale may facilitate the treatment process by reducing ambiguity concerning the purpose of the
therapeutic task (Parrino, 1971), by providing a "cognitive set" within which the client may assimilate new information (Sloane, Cristol, Pepernik, & Staples, 1970), and by giving the client a means of conceptualizing his problems (Frank, 1973; Meichenbaum, 1977). Most importantly, the rationale serves to enhance expectations of being positively influenced by treatment, and reduces the discrepancy between what the therapist and client anticipate to be the course and duration of therapy as well as their respective roles throughout treatment (Frank, 1973; Heitler, 1976; Sloane et al., 1970).

The rationale given to clients typically conveys information consistent with the theoretical orientation of the particular counseling method to be employed (Meichenbaum, 1977). However, recent research suggests that the rationales or descriptions associated with different forms of counseling vary in their perceived effectiveness and desirability. Holen and Kinsey (1975), for example, found that behavioral modes of counseling were rated more preferred and potentially effective than either psychoanalytic or client-centered approaches. On the other hand, there have been at least two studies (Boudewyns & Borkovec, 1974; Fancher & Gutkin, 1971) indicating that descriptions of insight therapies (psychoanalytic and client-centered) were considered more appealing and preferred than behavioral therapies (systematic desensitization and implosion). In another investigation, Woolfolk, Woolfolk, and Wilson (1977) found that therapeutic interventions labeled as "humanistically" oriented were perceived more
effective by observers than identical interventions labeled "behavior modification." In an attempt to determine the effect of individual differences in self-disclosure on subjects' preferences, Kowitt and Garske (1978) reported that high self-disclosing subjects preferred accounts of client-centered therapy to systematic desensitization, while the reverse was true for low self-disclosing subjects. Finally, Devine and Fernald (1973) found that snake phobic clients who were exposed to examples of a number of different treatments and were later administered their preferred form of therapy demonstrated significantly more fear reduction than did clients not assigned to their treatment of choice. Taken together, these studies suggest that clients have clear preferences for different forms of counseling, and that they may benefit more from treatment concerning which they have positive attitudes.

An important dimension that may influence clients' attitudes toward a particular counseling approach is the nature of the problem for which they seek help. Although the potential effects of this variable have not yet been systematically examined in studies investigating subjects' preferences for various treatments, preliminary evidence (Fancher & Gutkin, 1971) suggests that the perceived effectiveness of different treatments may depend upon the severity of the problem under consideration. Conversely, it has been argued that how a client construes his problem may be reciprocally influenced by the particular therapy rationale he receives (Meichenbaum, 1977). To
date, there has been no experimental demonstration that different therapy rationales do, in fact, influence how clients conceptualize their problems. Since clients often harbor unrealistic and inaccurate beliefs about their problems (Aronson & Overall, 1966), it is of central importance to demonstrate that clients' perceptions of their problems are influenced in a manner consistent with the theoretical rationale offered by the therapist. Thus, the purpose of the present study will be to extend previous research by examining the effects of both rationales for different counseling approaches and the degree of problem severity on subjects' attitudes toward various treatment approaches, psychological problems, and counselor characteristics.

METHOD

Overview

Each subject served in one of 16 experimental conditions formed by the 4 x 4 experimental design. Levels of the first factor, therapy rationales, included the following: classical psychoanalysis, traditional behavior therapy, rational emotive therapy, and no-rationale. The second factor, problem severity, depicted the following disorders: snake phobia, test anxiety, depression, and schizophrenia. In each experimental condition, subjects read a case history describing one of four problems and then heard an audio-taped presentation by a psychologist giving the general treatment rationale of psychoanalytic, rational emotive, or behavior therapy. Subjects in the no-rationale
condition were not presented with a therapy rationale. Following these experimental manipulations, subjects rated their attitudes toward the therapy rationales, psychologist, and various aspects of the problem and adjustment of the patient depicted in the case history.

Subjects

Subjects were 240 male and female undergraduates at the University of Montana who participated in the experiment for credit in an introductory psychology course. Introductory students were selected as subjects because of their relatively unsophisticated knowledge of the theories and techniques of the various methods of psychotherapy under consideration. Subjects were initially assigned on a random basis to one of four therapy rationale conditions. They were then further randomized with respect to the particular case history (problem) distributed to them.

Materials

Therapy rationales. Descriptions of the theories and techniques of classical psychoanalytic therapy (PA), traditional behavior therapy (BT), and rational emotive therapy (RET) were selected from various graduate level psychology textbooks. The major sources from which the rationales were derived were Davison and Neale (1974), Fenichel (1945), Rimm and Masters (1974), Ellis (1962), and Rychlak (1973). Each description focused on providing a concise overview of the theoretical rationale and general method for treating nonspecific
psychological disorders. For example, the rationale for PA described psychological difficulties as resulting from unresolved unconscious conflicts dating back to childhood, and as involving disharmony between instinctual libidinal forces and the demands of both reality and the superego. Psychoanalytic treatment was presented as a combination of methods (free association, dream analysis, analysis of resistances and transference, and interpretation) for the purpose of making unconscious material conscious, thereby reducing tension caused by conflicting intrapsychic forces. The rationale for traditional BT explained maladaptive behavior as a learned reaction to cope with stress rather than as a symptom of some deeper cause in the personality. Moreover, several BT interventions were described (systematic desensitization, aversive conditioning, contingency management, response extinction, and modeling) that emphasized the assessment and modification of specific observable target symptoms. Finally, the RET rationale provided a conceptualization of pathology as due to the patient's tendency to harbor unreasonable beliefs which in turn lead to the unrealistic interpretation of experiences. RET interventions were further described as focusing on the patient's current life situation, and as involving identification of the patient's distress-producing self-statements/interpretations, the challenging of his unreasonable beliefs, and assistance in discovering more realistic ways of perceiving formerly disturbing events.

The therapy rationales were each approximately 600-700 words in length and were written to be easily understood at the introductory
level. In order to insure that the therapy rationales were representative, three clinical psychology faculty members at the University of Montana who identified themselves as being either rational emotive, psychoanalytic, or behavioral in orientation reviewed the descriptions and made appropriate modifications. Finally, tape recordings were made of each of the rationales so that they could be presented to subjects in both audio and written format. The same male doctoral student in clinical psychology made the audio recordings for each rationale to insure equivalency of voice quality.

Case descriptions. Subjects were provided with one of four different descriptions of a fictitious patient. The case descriptions were all similar in that they depicted a female college freshman who encountered "psychological difficulties" during the first year of college. In addition, the social history and background information for all four case descriptions was identical. All the case descriptions were presented in a written format and were of approximately equal length (412-470 words). The dimension on which these descriptions varied, however, was the type and severity of the problems for which treatment was recommended. Abbreviated versions of the case descriptions employed in the study are provided below.

Case #1 was depicted as suffering from a fear of snakes (snake phobia). Her condition was limiting to the extent that she became reluctant to participate in hikes in the woods, avoided picnics with friends, and began cutting a physical education class involving outdoor activities.
Case #2 was depicted as suffering from test anxiety, in that she became jittery and panicky as midterms approached. Moreover, during the examinations she became nauseous and dizzy and, although well prepared, her mind would "go blank" to the extent that she failed to complete two midterm exams.

Case #3 was described as depressed, becoming increasingly discouraged and self-deprecating as the quarter progressed. She suffered from sleep difficulties and loss of appetite; also, she withdrew from social activities and contemplated suicide.

Case #4 was characterized as experiencing persecutory and grandiose delusions concerning a professor's plagiarizing her ideas in his research. She was described as attempting to remove the professor from his teaching position and as vowing to remain in her dormitory room until the professor confessed and credited her with her ideas.

**Dependent Measures**

The dependent measures employed in this study consisted of 17 10-point scales on which subjects rated their attitudes regarding the treatment described by the rationale (questions 1-4), the patient and her problems (questions 5-14), and the psychologist presumably conducting the treatment (questions 15-17). Several of these items were derived from those originally developed by Borkovec and Nau (1972). Subjects receiving therapy rationales made ratings on the following dimensions:
1. "If you were experiencing a problem similar to the one described in the case history, would you be willing to undergo such treatment?" (The rating scale ranged from 1 = definitely not to 10 = yes, definitely.)

2. "How logical does this treatment seem to you in light of the problem described in the case history?" (The rating scale ranged from 1 = not at all logical to 10 = extremely logical.)

3. "How confident would you be that this treatment would be successful in eliminating the described problem?" (The rating scale ranged from 1 = not at all confident to 10 = extremely confident.)

4. "How confident would you be in recommending this treatment to a friend who was experiencing a problem similar to that described in the case history?" (The rating scale ranged from 1 = not at all to 10 = extremely confident.)

5. "How much will this individual be able to improve without psychological treatment?" (The rating scale ranged from 1 = will not improve to 10 = completely improve.)

6. "How long will this individual have to remain in treatment before the problem described is eliminated?" (The rating scale ranged from 1 = 4 years to 10 = 1 month.)

7. "If this individual shows complete improvement following therapy, how likely is it that at some future time she will experience a relapse?" (The rating scale ranged from 1 = certain she will to 10 = certain she won't.)
8. "Rate the severity of the problem described in the case history."
(The rating scale ranged from 1 = certain she will to 10 = certain she won't.)

9. "In your opinion, how much was this individual's problem actually caused by faulty habits of thinking?" (The rating scale ranged from 1 = not at all to 10 = totally.)

10. "In your opinion, how much was this individual's problem actually caused by deep-seated personality conflicts?" (The rating scale ranged from 1 = not at all to 10 = totally.)

11. "In your opinion, how much was this individual's problem actually caused by environmental factors?" (The rating scale ranged from 1 = not at all to 10 = totally.)

12. "In your opinion, how much was this individual's problem actually caused by physiological factors?" (The rating scale ranged from 1 = not at all to 10 = totally.)

13. "Rate the adjustment of the individual described prior to the onset of the present problem." (The rating scale ranged from 1 = extremely maladjusted to 10 = superior adjustment.)

14. "How much control does this individual have in overcoming the described problem?" (The rating scale ranged from 1 = no control whatsoever to 10 = complete control.)

15. "How competent do you feel this psychologist is in handling this type of problem?" (The rating scale ranged from 1 = totally incompetent to 10 = extremely competent.)
16. How well do you feel the psychologist's conceptualization of the individual's behavior fits the problem described in the case history?" (The rating scale ranged from 1 = doesn't fit at all to 10 = fits extremely well.)

17. "How much experience do you feel this psychologist has had in treating psychological disorders?" (The rating scale ranged from 1 = no experience whatsoever to 10 = substantial experience.)

Subjects in the no-rationale condition (NR) rated versions of items 1, 3, 4, and 15 modified so that they referred to "psychological treatment" or "clinical psychologists" in general rather than making reference to specific forms of treatment administered by a specific psychologist. In addition, they completed items 5-14 which were identical to those administered to subjects receiving active treatment rationales.

Procedure

The experimental procedures were administered in large classrooms to groups of 20 - 25 subjects. After subjects were assembled, they were given a packet of materials which contained the following items: (a) a cover sheet on which to provide basic demographic information, (b) six pre-experimental rating scales on which subjects rated their knowledge of the three therapy approaches and judged how effective they believed each approach to be, (c) one clinical case description, and (d) the dependent measures. Subjects were first asked to complete the information on the cover sheet and then to rate their knowledge or familiarity with the various therapeutic
approaches as well as their perceptions of the effectiveness of each approach on 10-point scales. Those subjects assigned to the three active therapy rationale conditions (PA, BT, and RET) studied the clinical case description contained in their packets, and immediately thereafter listened to an audiotaped presentation of the appropriate rationale given by a psychologist who was described as treating the case under consideration. Additionally, a written version of the therapy rationale was provided for subjects to read while they listened to the tape. After the therapy rationale tape was completed, the experimenter collected the written therapy descriptions and instructed subjects to make their ratings on the scales provided.

Subjects in the NR condition similarly completed the cover sheet and pre-experimental rating scales. However, they then simply read the clinical case description contained in their packet and completed their ratings without being presented with a therapy rationale. Subjects in this condition evaluated the client solely on the basis of the information provided in the case description. Finally, all subjects were thoroughly debriefed as to the nature and purpose of the investigation.

RESULTS

Pre-Experimental Measures

Separate one-way repeated measures analyses of variance were performed on subjects' pre-experimental ratings of the three forms
of treatment. Significant differences were obtained for subjects' pre-experimental knowledge of the various therapeutic approaches, $F(2, 448) = 178.42, p < .001$. Newman-Keuls comparisons of this effect indicated subjects were significantly less knowledgeable of RET compared to both PA and BT ($p < .01$), but that the latter two forms of treatment were not rated significantly different from one another. With respect to subjects' ratings of the effectiveness of the various treatments, significant effects were similarly found, $F(2, 448) = 97.27, p < .001$, with subjects rating RET less effective than either PA or BT ($p < .01$) while at the same time judging BT as more effective than PA ($p < .01$). However, separate 4 X 4 analyses of variance for independent groups performed on the pre-experimental ratings of subjects assigned to the different conditions showed no significant effects (all $p > .10$). Thus, although subjects rated the various treatments differently on the pre-experimental dimensions of knowledge and perceived effectiveness, these effects were consistent across all experimental conditions.

Perceptions of the Treatment Approach

All dependent measures were analyzed by 4 X 4 analyses of variance (with therapy rationale and problem severity as between group factors) and Newman-Keuls tests for significant differences among means. The mean ratings for subjects' perceptions of the treatment rationales are presented in Table 1. Significant effects for problem severity were obtained on question 1 assessing subjects'
Table 1
Mean Subject Ratings of the Patient and Problems,
Treatment Approach, and Psychologist

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Perceptions of the Patient and Problem

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Perceptions of the Psychologist

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\(^a\)Therapy rationales are abbreviated so that PA = classical psychoanalysis, BT = traditional behavior therapy, RET = rational emotive therapy, and NR = no-rationale.

\(^b\)Patient problems are abbreviated so that SP = snake phobia, TA = test anxiety, D = depression, and SC = schizophrenia.
willingness to personally undergo the treatment described to them as if they were to experience a problem similar to the one described in their respective case histories, $F(3, 224) = 4.04, p < .01$. Newman-Keuls comparisons revealed this overall effect was due to subjects exposed to the problem of schizophrenia being more willing to undergo their respective treatment than those whose patient's problems were described as either snake phobia or test anxiety ($p < .05$). Of more central concern was the significant interaction observed between the therapy rationale and problem severity conditions, $F(9, 224) = 3.32, p < .001$. Table 2 presents the means for this interaction effect. Newman-Keuls comparisons revealed that subjects receiving NR for the problem of test anxiety indicated less willingness to undergo treatment than subjects given a BT rationale for test anxiety ($p < .05$), a PA rationale for schizophrenia ($p < .05$), a RET rationale for depression ($p < .05$), or NR for schizophrenia ($p < .01$). Moreover, RET given for depression and NR provided to subjects exposed to the problem of schizophrenia were each more likely to be considered for subjects' personal treatment than was PA as applied to snake phobia ($p < .05$). On the remaining questions (2, 3, and 4) pertaining to subjects' attitudes toward the particular treatment rationale they received, no significant main effects or interactions were observed (all $p > .05$).

**Perceptions of the Patient and Problem**

Table 1 also presents the means for those questions pertaining to subjects' perceptions of their respective patient and her problems.
Table 2

Mean Ratings for the Therapy Rationale X Problem Severity Interaction for Questions 1 and 10

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Therapy rationales are abbreviated so that PA = classical psychoanalysis, BT = traditional behavior therapy, RET = rational emotive therapy, and NR = no-rationale.

Patient problems are abbreviated so that SP = snake phobia, TA = test anxiety, D = depression, and SC = schizophrenia.
Subjects' perceptions of how much the patient could improve without psychological treatment (question 5) were significantly influenced by the particular therapy rationale received, $F (3, 224) = 2.83, p < .05$. Newman-Keuls analyses of this effect revealed that those receiving NR felt the patient was more likely to improve than did subjects in the BT and RET rationale conditions ($p < .05$). Also, a main effect for problem severity was found, $F (3, 224) = 11.96, p < .001$, indicating that schizophrenia was a condition judged less likely to improve without treatment than snake phobia, depression, and test anxiety ($p < .01$). The interaction effect between therapy rationale and problem severity was nonsignificant, $F (9, 224) = 1.31$.

A main effect was similarly obtained for subjects' estimates of how long the patient would have to remain in treatment before the described problem was eliminated (question 6), $F (3, 224) = 5.27, p < .01$. Newman-Keuls comparisons of the means revealed that RET was perceived to result in a shorter duration of treatment than was PA ($p < .05$). In addition, subjects in the NR condition estimated that less treatment would be necessary than for recipients of PA ($p < .01$) and BT ($p < .05$). The nature of the patient's presenting problem was also found to be a significant factor in subjects' differential ratings of required treatment length, $F (3, 224) = 14.29, p < .001$. Specifically, schizophrenia was viewed as a problem requiring more extensive treatment than either depression, snake phobia, or test anxiety ($p < .01$). Depression was a disorder also viewed as requiring
significantly longer treatment than either snake phobia or test anxiety ($p < .05$). Again, no significant interaction between therapy rationale and problem severity was observed, $F(9, 224) = 1.20$.

Question 7, assessing subjects' estimates that the patient would relapse following successful treatment, was significantly influenced by the severity of the problem described, $F(3, 224) = 3.05$, $p < .05$. Specifically, patients described as suffering from schizophrenia were judged significantly more likely to relapse than those with depression or snake phobia ($p < .05$). Main effects for the therapy rationale factor and the rationale X problem severity interaction were all nonsignificant ($F < 1$).

Subjects' ratings of the severity of the problem described in the case history (question 8) were found to be significantly influenced by the therapy rationale received, $F(3, 224) = 5.78$, $p < .01$. In particular, subjects in the NR condition perceived the patients' various problems as less severe than did subjects receiving rationales for PA ($p < .01$), RET ($p < .01$), and BT ($p < .05$). Also observed was a main effect for problem severity, $F(3, 224) = 18.10$, $p < .001$, indicating that both schizophrenia and depression were considered more severe than test anxiety and snake phobia ($p < .01$), but were not significantly differentiated from one another in rated severity. Nonsignificant results were obtained for the interaction between therapy rationale and problem severity ($F < 1$).

Finally, analyses of questions 9-12 were performed for purposes of clarifying whether or not different therapy rationales, in fact,
differentially influenced subjects' conceptualization of the psychological problems presented to them. In response to question 9, assessing subjects' attributions of faulty thinking styles as determinants of patients' problems, a main effect was found for the therapy rationale factor, $F(3, 224) = 3.19, p < .05$, revealing that subjects in the RET condition were more likely than those receiving NR to ascribe the patient's problems to faulty habits of thinking. A main effect for problem severity was also observed, $F(3, 224) = 4.63, p < .01$, indicating that although faulty thinking styles contributed equally to the cause of schizophrenia and depression, these disorders were both viewed as being characterized more by faulty thinking relative to snake phobia and test anxiety ($ps < .05$). With respect to subjects' perceptions of the degree to which deep-seated personality conflicts caused their respective patient's problems (question 10), a main effect for problem severity, $F(3, 224) = 11.09, p < .001$ revealed again that schizophrenia and depression were both attributed more to personality conflicts than snake phobia and test anxiety ($ps < .01$). However, of greater importance was the significant interaction observed between therapy rationale and problem severity, $F(9, 224) = 1.95, p < .05$. The means for this interaction effect are presented in Table 2. Newman-Keuls comparisons of the means revealed that subjects exposed to the RET rationale for the problem of test
anxiety viewed the patient's problem as less due to deep-seated personality conflicts relative to subjects in the PA, BT, RET and NR conditions who made judgments of the problems of schizophrenia (ps < .01) and depression (ps < .05). Also noted was the greater attribution of deep-seated personality conflicts to those in the PA rationale for test anxiety condition relative to subjects receiving the RET rationale for test anxiety (p < .05). As expected, subjects given a PA rationale for the problem of schizophrenia rated it as caused more by personality conflicts than snake phobia for which a PA rationale was provided (p < .01), snake phobia explained by BT (p < .01), and test anxiety for subjects in the NR (p < .01), and BT (p < .05) conditions. However, no significant main effects of interactions were obtained for subjects' judgments or the degree that patients' problems were caused by environmental factors (question 11) (Fs < 1) or physiological influences (question 12) (Fs < 1). The remaining questions (13 and 14) assessing subjects' perceptions of the patient and her problem revealed no significant main effects or interactions (all ps > .05).

Perceptions of the Psychologist

Included in Table 1 are also the means for questions (15, 16, and 17) assessing how the experimental manipulations influenced subjects' perceptions of the competence of the psychologist describing the therapy rationales. Analyses revealed no significant effects for any of these measures (all ps > .05). Apparently, the effects of the
manipulations were specific to subjects' perceptions of the patients' problems and their attitudes toward the various treatment approaches.

DISCUSSION

Ratings on the pre-experimental measures indicate that subjects were differentially familiar with the various therapeutic modalities and had initial expectations that some of the approaches were more effective than others. In the present study these differences were equivalent for all experimental conditions and did not appear to exert any systematic bias in the results obtained for the therapy rationale factor across the dependent measures. These findings nevertheless support Rosen's (1975) suggestion that comparative outcome research (a) include an assessment of subjects' pretreatment knowledge and expectations of the various therapeutic approaches, and (b) control any observed differences by providing sufficient pretreatment information.

Moderate support for the notion that preference for a therapeutic approach is a function of problem severity was obtained in the present study. In particular, subjects' perceived effectiveness of the various approaches (as assessed by their rated willingness to personally undergo their respective treatments) was such that behavior therapy was judged most preferred for the problem of test anxiety, rational emotive therapy most preferred for depression, and psychoanalysis more preferred for the problem of schizophrenia. The treatment of snake phobia (the least severe disorder) by
psychoanalysis was additionally viewed as less desirable than was rational emotive therapy for depression. Thus, behavior therapy may be most appealing for relatively mild disorders perceived less due to faulty thinking styles or deep-seated personality conflicts, rational emotive therapy may be seen most effective for treating moderately severe disorders attributed to faulty thinking and personality conflicts, while patients with more severe disorders viewed as having roots in disturbed thinking habits and deep-seated personality conflicts may prefer psychoanalytic forms of treatment. These findings provide further support for the suggestion that therapists heed clients' differential preferences for various therapeutic approaches and anticipate that these preferences will vary according to the nature of the presenting problem.

Subjects' judgments of the adjustment of the patient and her problems were more consistently influenced by the severity of the disorder than by any particular therapy rationale. Specifically, subjects viewed schizophrenia as a condition less likely to improve without treatment, as requiring a longer duration of treatment, as having a greater likelihood of relapse, and as more severe relative to the other disorders. Depression, too, was seen as requiring more extended treatment and as being more severe than either test anxiety or snake phobia. It thus appears that relatively psychologically unsophisticated undergraduates viewed the disorders as ranging in severity as do professionals, and have more pessimistic expectations regarding the prognosis of severe as opposed to mild disorders.
The particular therapy rationale received by subjects had primary importance in determining the manner in which they conceptualized their respective patient's problems. Specifically, subjects given the rational emotive and psychoanalytic rationales were more likely to conceptualize their patients' difficulties consistent with these theoretical orientations. These findings are consistent with Meichenbaum's (1977) suggestion that one function of the therapeutic encounter is to positively influence what clients "say to themselves" about their problems and provide them with a conceptual framework to understand their difficulties. Some support was obtained for the notion that providing subjects with a therapy rationale may also stimulate a greater willingness to enter treatment. This was demonstrated for the disorder of test anxiety where it was found that a behavior therapy rationale generated greater motivation in subjects' rated willingness to enter psychological treatment than was exhibited by subjects who received no therapy rationale.

A rather unexpected finding was that subjects receiving no therapy rationale rated their patients' problems as less severe, as requiring a shorter duration of treatment, and as more likely to improve without treatment compared to subjects exposed to the active therapy rationales. In other words, contact with any type of therapy rationale seemed to make a problem appear more severe than receiving no rationale for the problem. These findings suggest, on the one hand, that therapists should guard against "overpathologizing" a client's disorder and provide some clients with the opportunity to
attribute aspects of their problem to external sources (Calhoun, Pierce, Walters, & Dawes, 1974). On the other hand, the more optimistic view of the patient and her problems assumed by subjects in the no-rationale condition may reflect an unrealistically naive evaluation of the situation. If such is the case, then judgments of greater problem severity, anticipated length of treatment, and unlikelihood of improvement without treatment made by subjects receiving therapy rationales may reflect a more realistic grasp of the nature of psychological problems and the requirements of treatment. To convey such accurate information about these aspects of the problem and treatment is, after all, the very purpose of providing a rationale. The increased awareness of the magnitude of their problems and the positive potential of psychotherapy conveyed by the rationale may further serve to motivate clients to become involved in psychological treatment.

It is a well-established finding that discrepant client-therapist expectations concerning their respective roles in therapy and how treatment is to be conducted contribute to high attrition rates and adversely affect the process and outcome of counseling (Heitler, 1976; Lorion, 1978). Corresponding efforts to educate clients prior to therapy via formal "socialization" (Orne & Wender, 1968) and "role-induction" (Hoehn-Saric et al., 1964) interviews have positively influenced clients' attendance, involvement in the treatment process, and progress through therapy (Baekeland & Lundwall, 1975; Lorion, 1978). The present investigation implies that the nature of the
therapy rationale (specifying the cause of the client's difficulties and the length and kinds of procedures involved in treatment) may also be a potentially important vehicle shaping the manner clients conceptualize their problems and their expectations and motivations for therapy. Furthermore, it would seem that making the rationale for counseling explicit and early in the course of treatment would maximize clients' expectations for positive gain and provide them with the necessary information on which to base a decision of whether or not to continue with the mode of treatment offered them. In keeping with the increasing trend to tailor therapy to the needs and characteristics of the patient rather than the reverse (Strupp, 1978), it would also seem desirable to expose potential clients to a number of possible treatments (via brief rationales) and assign clients the treatment toward which their expectations had been assessed as being most favorable (Baekeland & Lundwall, 1975). The present research, however, suggests that these expectations may depend to a degree on the nature of the client's presenting problems.

Clearly, a number of limitations extant in the present investigation require clarification through future research. In particular, the following questions remain to be answered: (a) Do clients with different problems show differential preferences for actual counseling behaviors rather than just descriptions of these approaches? (b) Will clinically disturbed clients whose problems range according to severity have differential expectations and preferences toward
various counseling approaches? (c) Might therapy rationales tailored to the specific disorders of the client be a more realistic and convincing means of influencing their expectations than the more general rationales employed here? and (d) What other important individual difference variables (e.g., locus of control) enhance clients' perceived plausibility of some therapeutic approaches and not others? To explore such questions in depth may contribute to our understanding of the particular therapeutic modalities to implement according to the specific needs and problems of the client.
REFERENCES


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