FOCUSED ATTITUDE CHANGE IN NEUROTIC PATIENTS

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During recent years research in psychotherapy has begun to pay increased attention to the role of the therapist within the treatment process. Among the ways in which the therapist exercises active influence on the patient are the desensitization of negative feelings (23), the reinforcement of desired behavior (1) and his help in reorganizing the patient’s assumptive world by changing his inappropriate attitudes and expectancies through persuasion (5).

Traditionally, research on attitude change has been the domain of social psychology. Lewin conceptualized that an attitude has to be “unfrozen” first, then moved and finally “frozen” in a new position (13), the process of unfreezing being associated with an increased uncertainty about the attitude (24). Investigators succeeded in changing attitudes by manipulating the cognitive as well as the affective aspect of an attitude, that is, through rational and emotional appeals (19).

Strong attitudes, whether they appear as “fundamental beliefs” in “normal people” or as dynamically important attitudes in psychoneurotic patients, are often anchored emotionally to such a degree that logical arguments do not seem to affect them, but change can be induced or accompanied by strong emotional arousal (6). In some situations the anxiety is aroused by the realization of a cognitive incongruity (9). Clinical evidence, however, suggests that arousal of sufficient intensity renders the subject more susceptible to external influence, whereby the cause of arousal by itself seems to be of secondary importance (20). The nature and, perhaps, the timing of a suggestion under arousal seems to be of great importance in shaping the attitude, since emotional arousal in the form of an abrasion without suggestion appears of very limited influence (8) and mainly decreases the affectivity of a specific attitude (14).

Sargent, who bases his thinking on Pavlov’s work, believes that sufficient excitation leads to “ultra-paradoxical inhibition,” a physiological state during which the nervous system is very susceptible to the implantation of new patterns (20). A different explanation can be derived from Schachter’s work (21). Schachter demonstrated that people under heightened arousal search for an explanation of their feelings, when the cause of the arousal is not obvious to them. Under such circumstances they become very susceptible to environmental cues and, therefore, increasingly suggestible. The explanations lead to a reduction of the tension if they appear plausible to the subject, whether or not they are correct (7).

Methods employed to unfreeze emotionally fixated attitudes range from encouragement in reliving past traumatic experiences (18, 22) to the use of dis-

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inhibiting and disorganizing drugs (3); from the mild stress of partial sensory and social isolation of the Morita therapy (11) to the physical and mental tortures of brainwashing (3, 4). The free association technique combined with the ambiguity of the psychoanalytic treatment situation (10) seems to be a particularly refined way to increase the anxiety and uncertainty in a cooperative patient and thereby his susceptibility to the therapist's influence.

In spite of the clinical evidence, attitude changes of psychoneurotic patients under high emotional arousal have not been investigated in a systematic way. This study is concerned with developing a method which would permit a quantifiable evaluation of the effects of emotional and cognitive manipulations on clinically relevant attitudes. For this purpose neurotic patients were exposed to suggestions in low and high arousal sessions. It was predicted that a successful therapy session containing a directive suggestion would influence primarily the concepts which express the attitude to be changed, and affect less the more tangential or unrelated attitudes. Suggestions given during the high arousal session were expected to be more effective than those during the low arousal session. Since the attitudes on which the suggestions focused expressed long standing neurotic malfunction, it was expected that a change would be only partially maintained during the exposure to the accustomed way of life between the therapy sessions.

METHODS

PATIENTS

The sample consisted of seven psychoneurotic outpatients in whom we were able to define an important attitude central to their illness which was unlikely to change as a result of environmental changes. Excluded were patients with concurrent physical illness, and those suspected of an underlying psychosis or of acting out behavior. Graduation from high school was the minimum educational requirement. Three patients were male and four female, with an average age of 27 (22 to 39). They were told that we were evaluating treatment which was said to be beneficial because it permits the release of emotionally important but repressed experiences.

DESCRIPTION OF THE TREATMENT PLAN

Patients were selected and treated by two senior psychiatrists. They were seen once a week for five or more exploratory sessions to determine those attitudes toward himself, persons important to him or particular relationships to these persons which seemed to be linked to their maladaptive behavior. Examples would be “my oversensitivity,” “my mother,” “my mother's influence on me.” Following Osgood (17), we have termed them “concepts.” The therapist in consultation with the research team selected the concept that seemed explicitly pertinent and incorporated this in the Semantic Differential which was used for determining changes as described below. He also defined an actual suggestion designed to evoke a stipulated change in attitudes of one of the selected concepts. The suggestion was imbedded in a dynamic interpretation which offered an explanation for the origin of the attitude, indicated its inappropriateness in the patient's present life situation and, finally, presented the patient a more constructive attitude.

The crux of the experiment consisted of seven sessions at weekly intervals. During the first and the second session regular therapy continued, but in the second session the therapist introduced the same suggestion as the patient was to receive in the subsequent arousal session. In the subsequent three sessions the patient was
emotionally aroused with the help of ether and the suggestion was given during and after arousal. The sixth and seventh sessions were follow-up sessions. Thereafter the patients continued regular treatment with their therapist as indicated in each individual case.

AROUSAL SESSIONS

Arousal was introduced with the help of ether, which was chosen because of its relative safety and the ease with which it permits regulation of the depth of anesthesia. A session lasted 1 1/2 to 2 hours. The therapist, another psychiatrist who administered the ether, and an observer were present during the sessions. The patient lay on a bed with his eyes covered with a towel. Ether was administered slowly by the open drip method until his voice became slurred or until he showed great excitement. Ether was temporarily discontinued from time to time, particularly when a patient abreacted, complained of discomfort or became too drowsy. The therapist attempted to bring the patient to a state of arousal several times each session. At first he talked with the patient about recent events, gradually approaching areas which he knew to be of emotional importance to the patient. He then encouraged the patient to react vividly the emotions of a past significant experience. The suggestion was given whenever the patient seemed most receptive. Care was taken to incorporate the material of the session with interpretations in which the suggestion appeared as the logical endpoint.

RATING INSTRUMENTS

Attitude ratings: All concepts representing attitudes were rated on Osgood’s Semantic Differential (15, 17). The therapist identified one concept, the focal concept, which was most closely related to the attitude to be changed. In addition, he chose four concepts which were psychodynamically related to the focal concepts (tangential concepts) and five concepts which had personal importance to the patient but did not appear directly related to the focal attitude (nonrelated concepts). The patient was not aware that one of the concepts was singled out for change. For example, the concepts for one of the patients were: focal concept “my mother’s influence on me”; tangential concepts, “my father’s influence on me, my husband, sex, and myself”; and non-related concepts, “my own poetry, Chopin, my university, etc.” Each concept was rated on a scale consisting of 20 pairs of adjectives representing an evaluation factor, a potency factor and an activity factor. The pairs of adjectives were given in random order and the order varied on subsequent rating sheets. Focal and tangential concepts were rated alternating with nonrelated concepts.

Each subject filled out a semantic differential set for the purpose of training. Subsequently he rated it before and after each of the seven experimental sessions.

MEASURES OF IMPROVEMENT

Target complaints: Target complaints (2) were obtained from the patients, who rated them for severity on a 13-point scale before the actual experiment, at the end of the third ether session and before the second follow-up session.

Global improvement ratings: Patients rated their estimation of improvement on a 5-point scale after the third ether sessions and before the second follow-up session.

*Evaluative factor: clear-hazy; fair-unfair; healthy-sick; good-bad; kind-cruel; honest-dishonest; fresh-stale; bright-dark; clean-dirty; beautiful-ugly; sweet-sour. Potency factor: large-small; rough-smooth; hard-soft; deep-shallow; strong-weak. Activity factor: hot-cold; active-passive; full-empty; sharp-dull.
RATINGS OF AROUSAL

Pulse was taken before each session, then every 15 minutes during the session and any time the patient showed marked arousal.

OBSERVATIONAL RATINGS OF AROUSAL BEHAVIOR

Attention was paid to the patient's emotional expression and his organization of interaction with the therapist. Arousal was rated by the therapist and one observer on the following 5-point scale:

As compared to patient's general behavior in therapy the patient shows:

0 = No change in emotional behavior and interaction with therapist.
1 = Mild increase of emotional expression: no change in interaction with the therapist. The patient shows some anxiety or irritation but not more than acceptable in ordinary social situations. He continues to talk with the therapist in an organized way.
2 = Moderate to strong increase in emotional expression; no change in interaction with the therapist. The patient shows definite anxiety or anger; he yells, cries or shouts. Such behavior would be inappropriate or embarrassing in ordinary social situations. The patient is, however, very aware of his environment and his emotional outbursts are directed toward an audience. He responds quickly to the therapist.
3 = Strong increase in emotional expression; definite decrease in organized interaction. The patient is strongly aroused, as described in Point 2. In addition, the patient is very preoccupied with his emotional experience, he pays little attention to his environment and responds only to stronger or repeated interventions from the therapist.
4 = Extreme increase in emotional expression; no organized interaction. The patient is in a panic, he yells, screams, may fight the therapist. He is confused, and does misinterpret his environment for short periods of time.

RESULTS

EFFECT OF SUGGESTION ON PATIENT'S CONCEPTS DURING ORDINARY THERAPY SESSION AND UNDER EMOTIONAL AROUSAL

All data describing changes of concepts are based on ratings of the Semantic Differential. Because of unequal number of word pairs in the three factors (the evaluative, potency and activity factors), we calculated the arithmetic mean of the ratings on each factor and used the differences of these means from one test to the next as the change score of the factor. Thus we obtained change scores for each individual factor as well as for a combination of all three factors.

Variability of the concepts: Figure 1 presents the average change occurring in the focal, the tangential and the nonrelated concepts during an ordinary therapy session with suggestion, during the three arousal sessions with suggestion, and between the sessions. The figures present the change of the combined three factors; they do not reflect the direction of the change.

The greatest degree of change within and between therapy sessions over the duration of the entire experiment was demonstrated in the focal concept. There was less change in the tangential concepts, and the least in the nonrelated concepts \((P = 0.79, 2, \text{ and } 12 \text{ df}, p < .05)\). The difference between different classes of concepts was not present between the first and second ratings but became evident during the course of the experiment. The focal concept changed consistently more within sessions than between sessions; the nonrelated concepts showed no definite pattern. There was no appreciable difference in the degree of variability of the focal or other concepts during the ordinary session with suggestion and during the arousal session with suggestion.
Fig. 1. Variability of concepts. Changes of concepts (focal, tangential and unrelated concepts) on the Semantic Differential during and between therapy sessions. The values present the change of the combined three factors and disregard their direction. TSS therapy session with suggestion; E1, 2, 3, ether-arousal sessions with suggestion; B1, 2, 3, 4, 5, changes between sessions.

TABLE 1

Direction of Change from the Low Arousal, Low Suggestion Period to the High Arousal, High Suggestion Period

The figures present the degree of unidirectional change of the concepts for each factor as well as for the combined three factors.

<table>
<thead>
<tr>
<th></th>
<th>Focal Concepts</th>
<th>Tangential Concepts</th>
<th>Unrelated Concepts</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined factors</td>
<td>0.70</td>
<td>0.47</td>
<td>0.32</td>
<td>6.503</td>
<td>&lt;.025</td>
</tr>
<tr>
<td>Evaluative factor</td>
<td>0.80</td>
<td>0.56</td>
<td>0.28</td>
<td>6.517</td>
<td>&lt;.025</td>
</tr>
<tr>
<td>Potency factor</td>
<td>0.89</td>
<td>0.43</td>
<td>0.33</td>
<td>4.310</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Activity factor</td>
<td>0.75</td>
<td>0.46</td>
<td>0.34</td>
<td>2.581</td>
<td>N.S.</td>
</tr>
</tbody>
</table>

Direction of change: The results of the first analysis demonstrated that the focal concepts changed more than the two other types of concepts but did not reveal the direction of the change, that is, whether the concepts moved in one direction or merely oscillated around a point. One would expect that an effective suggestion would lead to a unidirectional shift of the focal concepts, which would be greater than the shift of the tangential and of the nonrelated concepts.

The second analysis divided the experiment period into the phases before and after the first arousal session, thus obtaining a period of lesser and of greater exposure to suggestion and arousal. Table 1 presents differences between the mean ratings of these two periods for the three types of concepts. The figures are obtained by averaging the ratings obtained at the beginning of the first and the second ordinary session and before the first ether session. This average was then compared to the average of the ratings obtained before the second and third ether session and at the beginning of the follow-up session. The degree of change was calculated for the combined three factors as well as for each of the three factors.
As predicted, the degree of unidirectional change was greatest for the focal concept, less for the tangential concepts and least for the nonrelated concepts. The difference in degree of change between the three types of concepts was statistically significant for the combined three factors, the evaluative, and the potency factors (p < .05), but was not significant for the activity factor.

Changes of focal concept in predicted direction: It was predicted that a suggestion given under arousal would be more effective in changing attitudes than a suggestion given in an ordinary therapy session. This change was expected to be greatest immediately after a session and to dissipate partly but not completely between sessions.

The formulation of the suggestion permitted a reasonable prediction of the direction of change on each factor of the focal concepts, but no definite predictions for change of the tangential concepts. Therefore, the effectiveness of the suggestion to alter an attitude in a specified direction was analyzed for the focal concepts only. The degree of change in the predicted direction was obtained by assigning a positive value to changes in the expected direction for each factor, and a negative value for a change in the opposite direction. The change of the three factors within and between sessions were then summed and averaged.

Figure 2 presents the changes of the focal concepts in the predicted direction over the duration of the experiment. The effectiveness of the suggestion appeared to be small in the ordinary session and greater in the arousal sessions. The difference between the degree of change in the ordinary session and the combined three arousal sessions was statistically significant (p < .05), although the difference between the ordinary and first arousal session was not significant. Between sessions the focal concepts tended to regress toward their original position. Some effect of the suggestion, however, was preserved between sessions, leading to a step-by-step shift of the attitude in the desired direction. This was in part maintained over the follow-up period.

RELATIONSHIP OF ATTITUDE CHANGE TO OUTCOME MEASURES

All patients rated themselves improved on target complaints and on a global improvement scale after the third ether session. The global improvement was fully or partially maintained in the follow-up period, but two patients rated themselves relapsed on target complaints. The correlations of the degree of change between global improvement and target complaints with change of focal concept were low.

GENERAL OBSERVATIONS

The present sample is too small to permit generalizations, but some of the observed patterns appear promising enough to be examined in future research.
The effect of the suggestion seemed to depend on the personality of the patient, the quality of the suggestion, the intensity and quality of arousal, and the number of sessions. Patients of greater lability fluctuated considerably on their ratings on the Semantic Differential, even in rating of nonrelated concepts. Such patients responded strongly to suggestion, but relapsed between sessions to a greater extent than more rigid patients who showed moderate, more stable change in the session. Patients responded better to those suggestions which gave them a good rationale and which also clearly conveyed the therapist's conviction that the patient was able to change. The degree and type of arousal varied greatly and unpredictably among patients, but the reaction remained fairly constant within the same patient in repeated sessions. It seemed that arousal characterized by cognitively structured verbalizations, particularly expressing "justified" anger, made a patient less amenable to suggestion than arousal in which the patient felt bewildered and confused. Patients also seemed to be more susceptible to the therapist's influence after the peak of arousal had passed than during maximal excitation. In the latter period they might have been so preoccupied with the experience that they were relatively inaccessible. After the acute phase wore off, they seemed more dependent, eager to talk about themselves and very receptive to the therapist's comments. Repeated exposure to sessions in which suggestion was given seems to have made patients more susceptible to it.

Finally, the stability of a new attitude appeared to depend largely on the patient's personality as well as on environmental support.

**DISCUSSION**

The primary aim of the study was the development of a method which would permit the systematic investigation of selectively induced attitude changes in psychoneurotic patients.

To summarize the results, there is little doubt that for the most part the patients received the intended message during the therapy sessions and that they expressed a positive response to the suggestion in their rating of the Semantic Differential. The focal concepts changed more in the desired direction than the control concepts; the latter tended to fluctuate randomly, rather than change in a given direction. The tangential concepts which were often touched on during a therapy session and were, at least to some degree, influenced by the therapy, took an intermediary position between the focal and the unrelated concepts. The influence of the therapist in shifting a patient's attitudes in a desired direction was greatest during an ether session. Between sessions this shift diminished without being lost entirely, permitting the continuation of a subsequent session with an advantage. Thus the data confirm our hypothesis that even strongly ingrained maladaptive attitudes yield selectively to a concentrated emotional and cognitive attack.

The ratings of the Semantic Differential fluctuated considerably between the first few applications of the test on the dynamically important as well as on the control concepts. The ratings became more stable after repeated administrations of the test, perhaps because of an increased "understanding" of the meaning of the scales in the mind of the patient.

Although the amount of change in concepts, regardless of type, was the same on the average in the sessions with and without ether arousal, the focal concept changed more in the desired direction in the ether sessions.

One extremely important question remains open—namely, to what degree do the changes on the Semantic Differential reflect true attitude change or merely a compliance of the patient to the demand.
might have been greater if our rating instruments had focused on those behavior sectors most pertinent to the attitude change, rather than dealing with global improvement or with target complaints which often were not directly related to the focal concept.

That a considerable degree of arousal may be necessary to increase suggestibility significantly is suggested by the negative findings of a subsequent study in which, using the same basic design, an attempt was made to shift focal concepts by suggestion in nine patients, each of whom received either amphetamine, 5 mg; chlorpromazine, 25 mg; or placebo before each of three sessions in a double-blind design. Each patient served as his own control. Although the interaction of psychotherapy and amphetamine produced a detectably greater behavioral arousal than the other two conditions ($\chi^2 = 6.02, p < .02$), it was not sufficient to affect the pulse rate and did not lead to a significantly greater shift in the focal concept.

The superiority of the ether sessions over ordinary sessions in producing specific attitude changes could be explained in several ways.

1) The ether session might have had the effect of “white magic.” During the preceding therapy session the patient might have built up strong expectations that the ether session would produce a dramatic change in him. Similar to the pilgrim who loses his ailment after reaching the holy shrine, the patient undergoes a change under the magic of the therapy. In such a case the nature of the procedure would have been of secondary importance as long as it appeared sufficiently convincing and dramatic to the patient.

2) The presence of several professional people who were in apparent agreement may have heightened the credibility of the suggestion.

3) The presence of other professional people may have stimulated the therapist to assert himself with greater skill and energy than in regular therapy sessions.

4) Finally, during the ether session several factors have to be considered. The lowering of rational controls due to intoxication with ether led to decreased ability to cope with the cognitive aspects of the situation. Therefore, a diminution of intellectual resistance may be the primary reason for the greater acceptance of the suggestion (12). Of equal, if not greater, importance seemed to be the induction of a strong emotional excitement with concomitant disorganization of thought processes (20) which ended in a state of increased dependency during which the patient reached eagerly for help to reorganize his thoughts and feelings. We gained the impression that an arousal within a strongly structured cognitive framework, such as for instance the expression of “justified” anger toward a person, did not facilitate modification of an attitude as long as no element of confusion was introduced. It also appeared that patients were less accessible to suggestion during the height of arousal than in the period following the excitement. This observation is in agreement with the prac-
tice of witch doctors in primitive tribes who first excite their clients to the state of collapse and only then proceed with the suggestions (20), as well as with the practices of Morita therapy, where suggestion is given only after several days of increasing tension in isolation (11). It is also consistent with the techniques of brainwashing (3, 4). The importance of these factors in the change of malignant attitudes of neurotic patients has to be clarified in further studies.

Of great importance appeared to be the precise formulation of the suggestion. At times a suggestion bearing a given content had to be rephrased several times until it was accepted by the patient. Direct suggestions unsupported by a rationale were generally rejected; a dynamic interpretation leading to a suggestion was better received. Most effective were interactions which conveyed to the patient the therapist's respect for him and his conviction that the patient was capable of adjusting to the consequences of the new attitude.

As Brown (4) pointed out, attitudes are difficult to change: a) when they are part of the individual's basic personality structure and b) when they are a function of the group situation or environment within which he is virtually trapped. In the case of a neurotic patient the suggestion has to be acceptable to him. Moreover, for a lasting change the new attitude has to be functional and has to increase patient's efficiency in dealing with his environment. Although this study allows us no conclusions to the long term duration of the attitudinal changes observed, its findings offer tentative support to the clinical impression that the persuasive components of psychotherapy are enhanced by the patient's emotional arousal. Further studies are planned to test this conclusion more rigorously.

SUMMARY

The study aimed at developing a method which would permit a quantifiable evaluation of the effect of emotional and cognitive manipulations of clinically relevant attitudes in psychoneurotic patients. Several outpatients were exposed to suggestions in one low and three high arousal therapy sessions. The high arousal condition was facilitated by ether. Before and after the sessions the patients rated, on Osgood's Semantic Differential, concepts which were directly, tangentially or not related to the attitude which was to be changed by the suggestion. Those concepts on which the suggestions were focused changed significantly more than the tangential and unrelated concepts. The change in the focal concept during the therapy sessions was partially preserved between sessions, leading to a step-by-step shift of the attitude in the desired direction. The effectiveness of the suggestion in the high arousal condition was greater than in the low arousal session. The significance of this result was discussed.

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