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A PSYCHOANALYTIC REINTERPRETATION OF THE EFFECTIVENESS OF SYSTEMATIC DESENSITIZATION: EXPERIMENTAL DATA BEARING ON THE ROLE OF MERGING FANTASIES

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Ten women with insect phobias were subjected to a variant of systematic desensitization in which a procedure aimed at stimulating a fantasy of "merging with mother" was substituted for muscle relaxation. The procedure, which had been used effectively in earlier experiments, consisted of the tachistoscopic subliminal exposure of the verbal stimulus MOMMY AND I ARE ONE during the visualization part of desensitization, whenever the subject's anxiety rose above a specified level. A control group of 10 other women with insect phobias underwent the same procedure except for them the subliminally exposed message was the neutral stimulus PEOPLE WALKING. On measures of both phobic behavior and anxiety, the experimental group manifested significantly more improvement than the controls. This was seen as lending support to the proposition that (part of) the effectiveness of systematic desensitization resides in its activating unconscious merging fantasies.

This is the first in a series of studies in which an attempt is being made to explore from a psychoanalytic persepctive some of the underlying psychological processes that may be operative in systematic desensitization. At the very start we would like to make the spirit of our inquiry clear. The elucidation of psychological variables that may be crucial in desensitization but which have been ignored by behaviorists is not intended as a derogation of that technique. The effectiveness of any technique should be judged in its own right, not "deduced" from the psychological processes that are believed to underly it. However, an understanding of these processes can be valuable not only in terms of their furthering theoretical knowledge about the conditions under which behavioral change takes place, which is our interest, but also for the practitioners of the technique as an aid to increasing its efficiency and effectiveness.

Systemic desensitization is the most widely used of the behaviorist techniques. It consists of the induction of deep muscle relaxation followed by the visualization of scenes involving a phobic situation graded for their fear-arousing potential. In the current experiment, our interest was in exploring one of the underlying psychological factors which we believed might be crucial in mediating the effectiveness of desensitization: the activation of unconscious merging fantasies.

We begin by describing the reasoning that led us to the current experiment. Psychoanalytic writers often have made reference to the concept of transference improvement in accounting for therapeutic gains that are not based on insight. This has been defined by Fenichel (1945) as improvements that are the result of the therapist being experienced

> as a reincarnation of the parents and as such . . . providing love and protection or . . . threatening with punishments . . . . [Thus] the idea of continuing the neurotic behavior becomes, in the subject's mind, connected with the idea of some danger or the idea of improvement becomes associated with the hope of an especially attractive reward, or both these connections occur simultaneously [p. 559].

It was the reward part of the above formulation that we thought might be particularly relevant to the effectiveness of systematic desensitization:

> The patient reverts to the phase of passive-receptive mastery . . . [of] the first two years of life in which external "omnipotent" persons took care of us, protected us and provided us with food, shelter, and [sensual] satisfaction and reparticipation in the lost omnipotence, [thus giving] us a feeling of being secure in a greater unit [p. 56].

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The greater unit of which Fenichel spoke more recently has been described in the psychoanalytic literature as a characteristic of the "symbiotic phase of development" (Mahler, 1968). This has been defined as the period of infancy when separation from mother and a sense of separateness from her are minimal and most incomplete. The "sense of oneness" with her at this time makes particularly possible a number of gratifications including those of which Fenichel has written. That is, with a sense of oneness with mother, her "omnipotence" is shared; her presence is guaranteed; and protection, nurturance, and sensual gratifications are always available.

A legacy of this symbiotic phase of development are merging strivings, usually unconscious, that to varying degrees characterize different people throughout their lives. That is, depending on the extent to which the needs for protection, omnipotence, nurturance, etc., are still sought in the primitive manner of early infancy, the wish for oneness with mother can be an important motivator.

It is our hypothesis that part of the therapeutic effectiveness of systematic desensitization resides in it activating an unconscious fantasy of merging with the therapist as mother substitute, an activation which is made particularly likely by the use of the muscle relaxation procedure (which induces a sense of tranquility) with the accompaniments of a regression–encouraging use of the prone position and darkened room and the presence of a therapist who is unconsciously perceived as "the healing mother." With such a fantasy activated, not only does the patient experience himself as broadly rewarded in the ways that Fenichel described but also, more specifically, he can use aspects of the merging experience as a counter to his fears. That is, the sense of protection and omnipotence that can result from feeling merged with "the mother of early infancy" makes what was previously frightening no longer so.

We reasoned that one way of testing the above hypothesis would be to substitute for the muscle relaxation procedure in the desensitization paradigm another procedure which could be viewed as more directly stimulating the merging fantasy referred to above. We then would observe if this aids desensitization as relaxation has been shown to do. Such a procedure was available to us from earlier work carried out in our laboratory.

During the past 10 years an experimental method has been developed in our laboratory for studying psychoanalytic propositions linking psychopathology to underlying sensual and aggressive wishes. According to psychoanalytic theory, psychopathology is a response to and an expression of unconsicous conflict over these wishes. More specifically, the theory proposes that when these wishes are unacceptable to a person, threatening him with the arousal of traumatic anxiety, he tries to ward them off by using various defensive operations. Sometimes these operations are successful, having no or minimal maladaptive consequences, while on other occasions they are unsuccessful and there emerge unwanted derivatives of the wish, anxiety, or more complex pathological phenomena (e.g., phobias, obsessions and conversions). (See Rangell, 1963 for a much fuller account of the psychoanalytic position).

The method that we have developed for studying aspects of the above described theory involves the presentation of conflict-related and neutral stimuli to subjects at a subliminal level, observing the effects of each on different forms of psychopathology. In most of this work, the stimuli we used were designed to stir up derivatives of conflictual wishes with the prediction that their subliminal presentation (as compared to the subliminal presentation of relatively neutral stimuli) would measurably intensify particular kinds of psychopathology. In 20 studies completed in our laboratory to date, this expectation has been borne out. The subliminal presentation of a conflict-related stimulus produced pathological reactions which did not appear after the subliminal presentation of a neutral stimulus and, in a number of the studies, also did not appear after the same conflict-related stimulus was presented supraliminally and in the subject's awareness.[4]

[4] For example, in a number of experiments in which schizophrenics served as subjects (summarized in Silverman, 1971), the cognitive and motoric pathology so characteristic of this disorder intensified after the subliminal presentation of stimuli containing aggressive content. Further, with two groups of male homosexuals, homoerotic feeling intensified following the subliminal presentation of a stimulus suggesting the theme of incest (Silverman, et al. 1973). And in two samples of stutterers, the speech defect of these individuals became exacerbated after the subliminal presentation of anal content (Silverman, Klinger, Lustbader, Farrell, & Martin, 1972). These studies should be distinguished from the more traditional experiments in the "subliminal area" that have aimed at "finding" the tachistoscopically exposed stimulus (in transformed guise) in the subsequent productions of the subject, rather than at observing its pathological effects. For the reader whose contact with the subliminal area ended with the early skeptical critiques of the phenomenon, see the recent exhaustive and detailed review of

In another aspect of our research, however, instead of using stimuli designed to stir up unconscious wishes and thus intensify psychopathology, we have used a stimulus intended to "safely" gratify a wish and thereby reduce pathology. This has been what we have termed a *symbiosis gratification stimulus,* which makes it relevant to our interest in testing the hypothesis outlined earlier about the role of merging during desensitization. The stimulus consists of the verbal message MOMMY AND I ARE ONE. In studies of four groups of schizophrenics in our laboratory (total *n* of over 100) the subliminal presentation of this stimulus was found to diminish the pathological kind of cognitive and motoric behavior typically manifested by these patients (e.g., Silverman & Candell, 1970).[5] Similarly, in an investigation of two groups of male homosexuals (Silverman, Kwawer, Wolitzky, & Coron, 1973) this same stimulus led to a reduction in anxiety and defensiveness as measured by the Rorschach.

In light of the "therapeutic effect" that the subliminal presentation of the symbiosis stimulus was found to have had in these earlier studies, and in light of our theoretical rationale, we carried out the following study on phobic individuals in which this intervention was substituted for muscle relaxation in the desensitization paradigm.

METHOD

Subjects

There were 20 young adult female subjects who responded to the following newspaper advertisement: "Bugged by bugs? Project sponsored by Psychology Department of New York University investigating the effectiveness of a new technique for helping people to overcome fears of roaches and other bugs." The subjects were randomly assigned to an experimental and control group with there being only negligible differences between them for age, education, and marital status.

Procedure

There were six sessions: with the first and last for pre- and postassessment purposes and the intermediate four for the interventions. The assessments were carried out by one experimenter (the third author) and the interventions by a second (the second author) with both blind as to whether the subject was in the experimental or control group.

The assessments were designed to provide measures of the extent of the bug phobia using a procedure adapted from Davison's (1968) snake phobia assessment. The subject first was shown a large jar of live bugs. She was asked to engage in nine kinds of actions with the bugs, ordered from least (Step 1 "Standing in front of the jar looking at the bugs through the glass.)" to most (Step 9, "Picking up a bug with her bare hand.)" fear arousing.

After carrying out each step the subject was asked to rate herself on a 10-point scale for the degree of discomfort experienced. In addition, at the end of the entire assessment period, the experimenter rated the subject on a 20-point scale for the degree of discomfort that she observed in the latter's manifest behavior. Thus, three measures were available for assessing the extent of the bug phobia and changes therein: (*a*) the number of behavioral steps carried out, (*b*) the subject's ratings of subjective discomfort, and (*c*) the experimenter's ratings of the subject's manifest discomfort.

The intervention sessions proceeded in the following way. Before the first session proper got under way, a 26-item fear hierarchy was established, based on the procedure reported by Davison (1968). Then the subject was given an overview of how she would be spending each session. She was told that on each occasion she would be asked to visualize many of the scenes that had been described in the hierarchy and that after experiencing a vivid image of each scene, she would be asked to rate on a 100-point scale the degree of disturbance experienced. She also was told that several times during the session she would be asked to look into the eyepiece of the machine located next to where she was sitting and view flashes of light.

Then the subject was asked to visualize the scenes with bugs from the insect-fear inventory, going from the least to the more disturbing. After each image was formed, she rated herself

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Dixon (1972). Finally, for a discussion of why the supraliminal presentation of the same stimuli usually fails to trigger a pathological reaction and why their subliminal presentation is then the method of choice for the laboratory study of the aspects of psychoanalytic theory under discussion here, see Silverman (1972).

[5] This result recently has been replicated by Leiter (1973). In both his study as well as those cited above, the "therapeutic effect" of the symbiosis stimulus was limited to relatively differentiated schizophrenics, a finding which is discussed elsewhere (Silverman & Candell, 1970). Also, in the last mentioned reference, it is reported that the therapeutic effect of the symbiosis stimulus was *not* in evidence when it was exposed supraliminally.

on the 100-point scale for the degree of discomfort experienced. When the rating was 20 or higher, instead of going on to the next step in the hierarchy, she was asked to look into the tachistoscope and was given two exposures of the stimulus (either experimental or control), 10 seconds apart. Then she was asked to reimage the scene with the bugs and to again rate the degree of discomfort. If this rating was under 20, the experimenter went on to the next step in the hierarchy, but if not, the tachistoscopic procedure was repeated. If the discomfort rating did not drop below 20 after three trials, the subject was brought back to the previous scene that had been visualized. Each session lasted either until the hierarchy was completed or after 45 minutes had elapsed. Sessions generally were held on a twice a week basis. After the four desensitization sessions, the subject was directed to the other experimenter for a reassessment of the extent of the bug phobia.

Stimuli and Tachistoscopic Conditions

The experimental stimulus was the phrase MOMMY AND I ARE ONE, the same as has been used in a number of the previous studies investigating the effects of stimulating a merging fantasy. The control stimulus consisted of the words PEOPLE WALKING which also was used in other studies. Each tachistoscopic exposure was for four milliseconds with the viewing distance 49 inches and the brightness of a white card used for the intensity setting was 32 foot lamberts. In many previous experiments under these conditions subjects, without exception, could recognize no content aspect of any stimulus and less than 10% of them could discriminate between the flashes produced by different stimuli.[6] For each session, the stimulus card was put into the tachistoscope prior to the time the experimenter accompanied the subject into the laboratory so that the former was blind as to whether the subject was in the experimental or control group.

RESULTS

The pretreatment assessment scores for the behavior measure and the two anxiety measures revealed no significant differences between groups. Table 1 presents the pre- and postassessment scores for each variable and the differences between them. It can be seen that for two of the variables, the experimental subjects showed a significantly greater degree of improvement, while for the third the results which were in the same direction approached significance.

DISCUSSION

The results of this study have shown that the subliminal presentation of the verbal stimulus MOMMY AND I ARE ONE when used in the desensitization paradigm in the place of muscle relaxation produces a reduction in both phobic behavior and anxiety. It is to be noted that this result cannot be ascribed to the imagery part of the desensitization procedure alone nor to accompanying subliminal stimulation per se since the control group also underwent these procedures. The content of the experimental stimulus must have been the crucial variable and thus the results can be viewed as supporting the proposition that the stimulation of a merging fantasy aids individuals in overcoming phobias during desensitization.

The above conclusion is, however, subject to a number of limitations. First, our data do not allow for any comparative statement about the effectiveness of pairing desensitization with our subliminal symbiotic condition as opposed to the usual muscle relaxation. In a study that is currently in progress, we are subjecting different groups of subjects to each of these procedures during desensitization so that their relative effectiveness can be evaluated. Moreover, in this same study, our assessments not only bear on the immediate effects of desensitization, but also on the degree to which improvement persists, a variable which was not addressed in the current investigation.

Second, one can question from the results that have been presented how necessary it is for the experimental stimulus to express the specific idea of oneness with mother in order for it to produce a phobia-reducing effect. That is, in the current study as well as in the prior investigations mentioned earlier where the same symbiotic stimulus was found temporarily to reduce pathology for schizophrenics and for homosexuals, only this stimulus (in comparison with a control stimulus) was used. In two current studies we are employing a greater variety of stimuli so that we can test the essentiality for a therapeutic effect of the concept of oneness and the concept of mother.

[6] For an extensive discussion of how the results we have obtained can justifiably be attributed to "subliminal perception' rather than "partial cues" see Silverman and Spiro (1967). As far as the current experiment is concerned, during the postexperiment debriefing, the subjects regularly expressed surprise that any stimulus had been exposed and insisted that they had seen nothing more than flickers or flashes of light.

TABLE 1

MEAN PRE- AND POSTTREATMENT SCORES FOR EXPERIMENTAL AND CONTROL GROUPS

Total sample	Pretreatment scores				Posttreatment scores				Differences between pre- and posttreatment scores				t tests for differences between experimental and control groups
	Experimental		Control		Experimental		Control		Experimental		Control		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	
Behavioral steps successfully completed	4.3	2.1	4.8	.8	6.7	3.3	5.7	1.2	2.4	1.69	.9	1.45	2.03**
Subjects' step-by-step ratings for subjective anxiety	63.2	24.5	73.7	8.8	36.9	19.0	62.6	16.2	−26.3	21.0	−11.1	21.8	1.51*
Experimenter's overall ratings for observed anxiety	15.0	3.7	13.0	2.8	7.3	1.7	10.8	4.8	− 7.7	5.76	− 2.2	5.44	2.08***

Note. $n = 10$ in each group.
* $p < .08$, one-tailed test.
** $p < .04$, one-tailed test.
*** $p < .03$, one-tailed test.

Third, demonstrating that the stimulation of a merging fantasy is therapeutically effective does not necessarily mean, as we have postulated, that the effectiveness of the traditional desensitization procedure (with its usual muscle relaxation accompaniment) resides in *it* stimulating such a fantasy. Additional data of various kinds are being sought. In one study, for example, we are obtaining measures of self–object differentiation before and after conventional desensitization (as well as desensitization in which our symbiotic condition is being substituted for muscle relaxation). Our hypothesis is that improvement as a result of both kinds of desensitization is accompanied by a *decrease* in such differentiation, that is, in a lessening sense of individuation and sense of separate identity. This finding would be in keeping with the proposition that in this form of treatment, improvement depends on an experience of oneness with the therapist (assumed to be unconsciously perceived as substitute mother).

Finally, we should like to return to the point made earlier that seeking to elucidate, from a psychoanalytic perspective, some of the underlying psychological processes that may be operative in desensitization but which have been ignored by the behaviorists does not carry necessary implications about the effectiveness of the technique. This point requires emphasis since some earlier psychoanalytically oriented writers have unjustifiably presented as if they were facts various ideas that at best should have been offered as hypotheses to be tested. These include the views that changes brought about by behavioral techniques (and other forms of non-insight-oriented psychotherapy): (*a*) do not affect the underlying cause of neurotic behavior but simply eliminate symptoms and (*b*) result in new pathology replacing that which has been eliminated. As Weitzman (1967) has argued, contrary to what some have maintained, these expectations do not necessarily follow from psychoanalytic theory, but even if they did, their validity would have to be demonstrated and should not be assumed. On the other hand, the possibility that either or both of these statements may be true also should not be rejected out of hand or dismissed with inadequate data, as so often has been the case (see Silverman, 1973). Rather these important questions should be researched carefully and in depth, and it is toward this end that we plan to direct our future efforts.

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