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ABSTRACT

Forty adult overweight female volunteers were randomly assigned to one of four conditions: (1) two self-control instruction conditions; (2) an automatic immunization instruction group; and (3) a no treatment control group. In the self-control groups, treatment was presented as an aid to gaining self-control over behavior, while in the automatic immunization group, it was explained in classical conditioning terminology. The major finding was that covert sensitization by itself has relatively little effect as a treatment for obesity. Relaxation level, visualization ability and felt discomfort were uncorrelated with weight loss. Methodological considerations are also discussed. (Author/TL)

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COVERT SENSITIZATION FOR THE TREATMENT OF OBESITY

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In recent years, considerable evidence has been accumulated attesting to the effectiveness of behavioral techniques in altering problem behavior. Even so, there are many procedural details which have not yet been sufficiently investigated. One such issue is whether it is advantageous for the therapist to stress the automatic nature of conditioning in his explanations to the patient or instead to stress the self-control aspects of the procedure. This study is an attempt to investigate the effects of these contrasting explanations on amount of weight lost by obese subjects receiving covert sensitization.

Covert sensitization was chosen as the treatment for two reasons. First, it is easy to conceptualize as either an automatic conditioning process or as a self-control procedure. Second, the present study would provide an opportunity to validate the effectiveness of covert sensitization for the treatment of obesity. Although case studies (e.g. Cautela, 1966, 1967) have generated considerable interest in covert sensitization, unfortunately, there have been no rigorous evaluations of it as a treatment for obesity.

The Ss were 40 adult overweight female volunteers solicited through newspaper ads. During the initial interview, S's weight was recorded and a refundable $20 deposit was obtained. In addition, self report inventories were completed on eating behavior, food attractiveness, anxiety level, and S's expectancy about treatment outcome.

The Ss were then blocked according to excess weight, and randomly assigned to one of four conditions: two self-control instruction conditions, one automatic immunization instruction group, and a no treatment control. In both self-control conditions, treatment was presented as a tool to help the S gain control over her own eating behavior. Homework was presented as practice to master the self-control technique. For the automatic immunization groups, treatment was explained in terms of classical conditioning theory. Homework was justified as additional trials which would insure that the CS-UCS bonds were sufficiently strengthened. In addition to the instructional variable, a procedural variable was manipulated in the self control conditions to assess the importance of relief in covert sensitization. In one self-control condition, the aversive scenes were terminated by having the S imagine herself turning away from the forbidden food and feeling relief. In addition, scenes were interspersed in which the decision not to eat was paired with feelings of relief. For the other self control condition, scenes ended prior to the relief suggestions.

Two different Es treated Ss in groups of five. Treatment consisted of four weekly group sessions of tapes for relaxation and covert sensitization, and one final individual session for unique eating problems. At each session weights were recorded, self-report measures on practice, relaxation level, degree of visualization and discomfort experienced were obtained, and homework for relaxation and scene visualization was assigned.

At a five week follow-up interview, Ss were reweighed. They then filled out the Taylor MAS, semantic differential ratings of food attractiveness, and a questionnaire eliciting their reactions to and use of the treatment.

The results may be summarized as follows: 1) There were no differential effects due to either the instructions or to the presence or absence of relief scenes. 2) Treatment Ss gained weight ($p < .05$) between the initial interview and the first treatment session (it was as if they went on one last binge before starting their commitment to lose weight). 3) Once treatment began, Ss in all groups steadily lost weight (linear trend, $p < .05$). Even so, the amount lost was very small (the mean weight loss from the first treatment session to the follow-up ten weeks later was only four pounds). Even that figure capitalizes on the weight gained before treatment started. 4) Although the amount of weight lost was trivial, the treatment did affect food preferences as measured by the semantic differential. Treated Ss rated fattening foods and eating situations as less attractive after treatment. 5) Anxiety as measured by the Taylor Manifest Anxiety Inventory was unaffected by covert sensitization. And 6) of the 13 subject variables, only amount of practice and amount one would spend for treatment were correlated with weight loss. Variables which were expected to be related, such as self ratings of relaxation level, visualization ability and felt discomfort were not.

The major conclusion of this study is that covert sensitization by itself was relatively ineffective with obesity. However, two qualifications need to be made. Although Ss lost little weight, they did learn to "talk" differently. Fattening foods and eating situations which were rated very attractive before treatment were rated as either neutral or aversive after treatment. Some Ss, however, continued to eat the target foods even though they rated them as less attractive. Others actually seem to have changed their eating preferences but did not lose weight be-

cause they increased their intake of nontarget foods.

A second possibility is that the negative results were a function of atypical treatment procedures we employed. First, we used group sessions aimed at common problems with only the final treatment session being individualized. However, the control Ss treated individually upon completion of the study lost no more weight than the original treatment Ss. Second, treatment was limited to five weekly sessions. Perhaps extending the treatment period would have facilitated effectiveness. Yet as treatment progressed, many Ss became desensitized to the aversive imagery. Were treatment extended to the 9-month - 1-year period suggested by Cautela, the possibility of desensitization would become even more of a problem. In contrast, other Ss found the scenes so aversive, they would completely block them out during the session for fear of becoming ill. Furthermore, they couldn't bring themselves to practice the scenes at home.

Finally, we used tape-recorded aversive scenes as a way of standardizing their presentation. Even so, the tapes were quite effective in producing nausea. Some Ss writhed and groaned while the tape was playing; many reported feeling nauseous for hours after a treatment session; and several even vomitted while eating foods to which they had been sensitized. This last result was unexpected. We assured Ss that they would not actually vomit and we ourselves expected less severe reactions in real life settings because of a generalization gradient. Nevertheless, this result is consistent with Hull's stimulus dynamism theory, the more intense the stimulus, the more intense the reaction.

One methodological issue raised by the study is the appropriateness of a no treatment control group. The tendency for Ss to gain weight immediately

prior to treatments would make an effort control or placebo control more meaningful.

In summary, the most efficient use of covert sensitization may be as part of a more comprehensive operant treatment program (e.g., Stuart, 1967) in which the S's eating habits are changed directly. Covert sensitization could be used selectively for those particular foods that the S craves. Given our findings, questions as to the effects of a self-control vs. automatic immunization attribution and the importance of relief in covert sensitization still remain.

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