



Hypnotizability and Weight Loss in Obese Subjects

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This study tested the effects of hypnosis for weight control. Hypnotizability was assessed by the Stanford Hypnotic Susceptibility Scale: Form C (SHSS:C). Forty-five subjects completed the study with examiners who were blind with respect to hypnotizability scores. Subjects exposed to a simple self-management technique and to the Spiegel and Spiegel (1978) hypnosis intervention, modified to include specific food aversion, lost significantly more weight at a 3-month follow-up than subjects exposed only to the self-management treatment. The specificity of hypnosis in the program was supported by a significant correlation between weight loss and SHSS:C scores for the same group. Subject attrition was about equal across all treatment groups, suggesting all treatments were perceived as active.

Several clinical and experimental studies emphasizing group treatment have been conducted combining hypnosis and behavioral interventions for weight control (Aja, 1977; Cohen & Alpert, 1978; Deyoub, 1978, 1979a, b; Deyoub & Wilkie, 1980; Kroger, 1970; Miller, 1974; Spiegel & DeBetz, 1978; Stanton, 1975; Wadden & Flaxman, 1981). In all of these studies, the investigators found little if any relationship between hypnotizability and weight loss. This is in sharp contrast to studies of hypnosis and smoking cessation, where the relationship between measured hypnotizability and outcome has been demonstrated (Barabasz, Baer, Sheehan, & Barabasz, 1986; Baer, Carey, & Meminger, 1986; Spiegel & Spiegel, 1978). Similarly, a significant correlation between hypnotizability and treatment response has been found for pain control techniques (Hilgard & Hilgard, 1975). Furthermore, the effectiveness of hypnotic restructuring treatment of phobic disorders has been shown to be related to hypnotizability (Spiegel, Frischholz, Maruffi, & Spiegel, 1981).

Recently, Anderson (1985) criticized the earlier studies of hypnosis and weight control. She hypothesized that the noncorrelation between hypnotic

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susceptibility and reported weight loss in these studies may be because the group protocols employed cannot sufficiently tap the individual client's hypnotic potential. Anderson suggested that a hypnbehavioral weight loss protocol involving, for example, conditioning or keeping a food diary with hypnotically enhanced motivation would probably have some success with anyone at all responsive to hypnosis, thereby making the degree of hypnotizability comparatively irrelevant. Emphasizing hypnotic phenomena accessible primarily to high hypnotizables, Anderson's (1985) study of 30 predominantly female clients contradicted the early studies by finding a strong relationship between hypnotic susceptibility as measured by the Stanford Hypnotic Susceptibility Scale: Form A (SHSS:A) (Weitzenhoffer & Hilgard, 1959) and weight loss outcome. Anderson's (1985) finding is important because such a relationship supports the specificity of hypnosis in the weight control intervention.

Further study seems appropriate because critical variables were not controlled in the Anderson (1985) study. Anderson (1985) personally conducted all of her hypnotizability testing and all of the treatment sessions. The expectation that highly susceptible clients would have better treatment outcomes may have been unintentionally communicated to clients or served to modify her treatment sessions. Another issue is the choice of the SHSS:A rather than SHSS:C (Weitzenhoffer & Hilgard, 1962). Anderson (1985) focused her hypotheses on the need to address higher cognitive levels of trance capacity. However, her measure of hypnotizability was limited to tapping only primary suggestibility (Leva, 1974) because of its loading of ideomotor items (Hilgard, 1965). The SHSS:C involves assessment of higher cognitive levels of hypnotic capacity via items such as age regression. The Anderson (1985) study also lacked a control group.

The purpose of the present investigation was to further explore the utility of hypnosis and a behavioral self-management procedure for weight control using a controlled design while attempting to consider aspects of experimental control and data collection not addressed in previous studies. It was hypothesized that hypnosis would be effective in facilitating weight loss and that responsiveness to it would be correlated with hypnotizability.

METHOD

Subjects

The subjects consisted of female clients ($n = 45$) seen in an outpatient clinic who had been self-referred or referred by previous clients of the first investigator. Degree of overweight ranged from 28% to 74% above optimum levels (U.S. Public Health Service, 1966). Consistent with Anderson (1985), all subjects reported having made at least three major dieting attempts. Most subjects claimed to have been trying to diet for most of their adult life.

Subjects were randomly distributed into three treatment groups from a waiting list of 73 clients who desired hypnosis as an aid to overeating control. Sixty-one of the 73 volunteered to participate in the study. All volunteers understood that they might have to wait further for treatment. A total of 45 subjects completed the study.



PROCEDURE

Each subject's medical/psychological history was reviewed to rule out bulimia (DSM-III criteria) and other contraindications to participation in the study. Subjects in group A ($n = 14$) were seen individually for a single session by an assistant blind with respect to the subject's group membership and the specific foci of the study. The SHSS:C was administered, and a simple behavioral self-management weight loss procedure was explained.

The self-management treatment consisted of an introduction to a graphing procedure designed to positively reinforce subjects for weight loss progress. The vertical axis of the graph was graduated in 1 lb (0.45 kg) intervals ranging from 20 lb (9 kg) below the particular subject's present weight (at the bottom of the vertical axis) to 2 lb (0.9 kg) above the subject's weight at the top of the vertical axis. The horizontal axis was graduated from left to right in 1-day intervals starting with the current session date and ending at 90 days later on the extreme right. A straight red line was drawn from the point corresponding to 2 lb (0.9 kg) above the subject's current weight and current session date to the point corresponding to the potential 20-lb decrease (9 kg) 90 days later. An "X" was then placed at the point corresponding to the subject's current weight and the current session date. Subjects were instructed to weigh themselves every morning before breakfast and to enter an X on the graph at the appropriate intersection. Subjects were told that the object was to keep all Xs below the diagonal line of the graph. "So long as your Xs are below the line, you are doing just fine." Subjects were told to eat "just a little less than usual" and were instructed to refrain from rapid weight loss by fasting or using strict diets. "Just try to keep your X marks no more than about 1 in. (2.54 cm) below the red diagonal line."

Subjects were told that they would be seen for follow up weight-in visits at the end of the 90-day period. Clients were told that further treatment would be available at the follow up visit if needed but that it was very unlikely that it would be required.

Subjects in group B ($n = 16$) were exposed to the same procedures outlined for group A with the addition of hypnosis for weight control. The hypnotic induction and administration of instructions for weight loss and self-hypnosis from Spiegel and Spiegel (1978: p. 220–223) were employed. The specific hypnotic suggestions were similar to those used successfully in smoking cessation interventions (Barabasz, Baer, Sheehan, & Barabasz, 1986; Spiegel and Spiegel, 1978: pp. 212–213). In hypnosis, clients were asked to repeat the following: (1) "For my body overeating is a poison," (2) "I need my body to live," (3) "I owe my body this respect and protection." Clients were asked to use these suggestions in self-hypnosis on a daily basis as prescribed by Spiegel and Spiegel (1978: p. 224). Follow up was identical to group A.

Subjects in group C ($n = 15$) were exposed to the same procedure as group B except that alternative hypnotic suggestions were given. Rather than using the standardized general instructions above, suggestions for each subject were individualized. Aversion to specific foods which were high in caloric value and reported by subjects as frequently eaten was emphasized. Interviews revealed subjects' daily consumption of high-calorie items such as "a (large size) bag or two of potato chips," "a quart (nondiet) of compound beverage (colas, or-



ange pop, 7-up, etc.)," "half a dozen or so candy bars," "ice cream sundaes and floats." The basic Spiegel and Spiegel (1977) suggestions were employed, substituting the specific food in place of the word overeating in the suggestion "overeating is poison for your body."

Weight follow-up data consisted of beam scale measures of subjects' weights conducted in the clinic by an assistant at the 3-month follow up. All 3-month follow-up sessions were conducted within 88–102 days for all subjects. All subjects were reminded of their follow-up appointments by telephone 7–10 days prior to the prearranged date. Eleven subjects required alternative appointments and additional telephone reminders which resulted in variations in the 90-day end of the experimental treatment target date.*

RESULTS

To determine whether a significant difference in weight loss outcome existed among the three alternative treatment groups, a Kruskal Wallis Analysis of Variance was computed. A nonparametric measure was used because weight loss data was not normally distributed. The analysis showed that significant differences existed among the groups ($H = 6.1$, $df = 2$, $p < .05$). Since the among-groups analysis was significant, Kruskal Wallis between-groups analyses were also performed.

The results demonstrate significant effects ($H_c = 4.72$, $p < .05$) for the behavioral intervention plus specific food aversion hypnosis treatment (group C; \bar{X} weight loss = 6.4 kg) as contrasted with the behavioral intervention group only (group A; \bar{X} weight loss = 1.3 kg). Although the behavioral intervention plus general hypnosis (group B; \bar{X} weight loss = 3.4 kg) for overeating control merely approached a significant effect in comparison to the behavioral intervention only (group A), the weight reduction results for group B were not significantly different from those obtained by group C.

To determine the relationship between weight loss and hypnotic susceptibility, SHSS:C scores were rank-order correlated with weight loss (or gain) data obtained at follow up. Group A showed no significant relationship between SHSS:C scores and weight loss (coefficient = $-.051$, $df = 12$, $p > .65$). Group B showed a tendency toward a significant correlation between weight loss and greater hypnotizability (coefficient = $-.46$, $df = 14$, $p < .07$). Group C showed a significant correlation between weight loss and greater SHSS:C hypnotizability scores (coefficient = $-.56$, $df = 13$, $p < .03$).

DISCUSSION

The major results demonstrated that the Spiegel and Spiegel (1978) hypnosis procedure, modified to include specific food aversion, appears to be an effective means of achieving weight reduction in combination with a simple behavioral self-management procedure. The significant effect seems particularly

*Consistent with clinical human subjects guidelines, the experiment was terminated at 3 months to encourage all subjects to freely seek alternative treatments and/or therapists.



noteworthy since the control group was exposed to an active self-management treatment which resulted in weight loss. Another important finding was the significant relationship between weight loss and hypnotizability as measured by standardized instruments which tap higher, more demanding levels of hypnotic performance than instruments employed in previous investigations. This finding is consistent with Anderson's (1985) contention that such a relationship would emerge in individualized treatment where hypnotic abilities can assume greater importance in contrast to group hypnotherapeutic programs. Unlike the Anderson (1985) study the present investigation included a control group and two hypnosis groups with either general or specific sets of food aversion hypnotic instructions. Furthermore, in the present study, the investigator conducting the treatment sessions was completely blind with respect to the subjects' hypnotizability scores.

Forty-five subjects of the original 61 volunteers completed the program. Attrition was about equal across all treatment conditions, which suggests that subjects generally perceived the treatment for which they were selected as active rather than a control or placebo intervention. This observation is gratifying, since subjects reporting life-long dieting attempts might be considered hard-core overeaters who would be unwilling to continue any treatment perceived as ineffective.

As predicted, the treatment employing hypnosis appeared to be effective, and responsiveness to it was correlated with hypnotizability. What accounts for this hypnotic factor in treatment response? Presumably, all three groups were comparable in motivation at entry into the study, so motivation and involvement in a weight-reduction protocol cannot account for the differences observed, nor can self-monitoring, which was a major component of the behavioral control condition.

Hypnosis can be understood as a state of aroused, attentive focal concentration with a relative suspension of peripheral awareness (Spiegel & Spiegel, 1978). Major components of the experience include absorption, total and self-altering attention (Tellegen & Atkinson, 1974), dissociation (the ability to compartmentalize different aspects of experience; Hilgard, 1977), and suggestibility (a heightened responsiveness to instructions; Orne, 1959). Hypnotized patients would be more inclined to absorb themselves in the weight-losing paradigm presented to them and to be responsive to the instructions of the therapist. Perhaps most important, the cognitive restructuring strategy presented to these clients was designed to help them use hypnotic dissociation to separate their desire to eat from the impulse to act on the desire (Spiegel & Debetz, 1978). They were instructed to reconceptualize their goal not in terms of fighting the desire for certain foods but rather as primarily involving a desire to protect their bodies from poison and to eat with respect for their bodies. They thus use the hypnotic concentration to focus on what they are for, which is protecting their body, rather than what they are against. The desire to eat certain foods is thus weighed against the commitment to protect the body. The impulse is not denied or struggled against but rather subsumed under a broader principle. Hypnosis facilitates this process by allowing clients to become more fully absorbed in the principle, dissociate the impulse to act from the idea of eating certain foods, and respond more fully to the therapeutic structure.



There is recent evidence that clients with bulimia are highly hypnotizable on both the HIP and the Stanford scales, obtaining significantly higher scores than do clients with anorexia (M. Barabasz, 1988; Pettinati, Horne, & Staats, 1985). The authors conceptualized binge eating as a dissociative process. Although the patients in this sample were not bulimic, it may be that dissociative processes are involved in the regulation of eating behavior.

The literature on the treatment of obesity has been fraught with hopeful reports followed by disappointing ones (Stunkard, 1980). Modulating eating behavior is especially difficult because confrontation with the stimulus is ongoing, unlike smoking, where the problem recedes in importance once it is resolved, and abstinence tends to stabilize by 6 months after smoking cessation (Hunt & Bepalec, 1974). Thus these positive but short-term results require replication. They do, however, provide evidence that intervention combining self-monitoring, instruction in self-hypnosis, and restructuring principles helps clients take a new point of view about eating in relation to the care of their bodies and appears to be an effective intervention for weight control.

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