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HYPNOTIC SUSCEPTIBILITY, WEIGHT LOSS, OBSESSIONALITY, DEPRESSION AND ANXIETY: THEIR INTERRELATIONSHIPS

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A Thesis

in

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ABSTRACT

HYPNOTIC SUSCEPTIBILITY, WEIGHT LOSS, OBSESSIONALITY, DEPRESSION AND ANXIETY: THEIR INTERRELATIONSHIPS

Jan Carstoniu

The relationship between hypnotic susceptibility, obsessionality and outcome of treatment for overweight using hypnosis was investigated in 36 subjects (7 men, 29 women). Multivariate analysis of variance showed no significant effect of obsessionality ($p = .350$), hypnotizability ($p = .690$) or interaction effect ($p = .750$) on weight, skinfold, depression and anxiety changes, nor were susceptibility and obsessionality related ($X^2 = 1.64$, $df = 2$, $p = .43$). Significant predictors of weight and skinfold changes were found in step-wise multiple regression analyses, among measures on the Leyton Obsessional Inventory, IPAT anxiety questionnaire and the Stanford Clinical Scale of Hypnotic Susceptibility. Using discriminant analyses it was further found that these predictors could successfully distinguish those showing large decreases in weight (9 lbs. or more) and/or skinfold (5 mm or more) from those who did not.

Acknowledgements

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Since the time of Mesmer, hypnotism as a form of therapy has been viewed alternatively as a panacea and as quackery. Both points of view are now considered unacceptable and they reflected more the psychology of belief of their respective adherents than anything else. That hypnosis has been used successfully in clinical settings has long been established (for a review see Bowers, 1976). What has become evident is that hypnosis is far less dependent on the hypnotist's skills than on the characteristics of the person being hypnotized, but the relevance of this to performance in therapy is still unclear. The major question is one that is not exclusive to the field of hypnotherapy but plagues the whole area of clinical psychology and related fields: what are the predictors of success in treatment? This question is obviously tied in with the areas of assessment and outcome research. It has become apparent that merely asking if a particular treatment works is not enough (Kanfer & Saslow, 1969). Instead one must take into account therapist variables, patient variables, treatment modalities and of course, the nature of the problem. Ideally if all these factors can be taken into account and if there is already a substantial body of outcome research, then the prediction of success should be a relatively simple task. Yet, with the use of hypnosis in treating both physical and psychological ailments there is one patient variable which immediately stands out as a possible predictor of success - hypnotic susceptibility. This refers to how responsive an individual is to hypnosis and intuitively it seems obvious that the more hypnotizable

a person is, the greater will be his or her response to treatment via hypnosis. If this notion is to be examined properly however, it is necessary first to review briefly the concept of hypnotizability.

It has been long established that individuals differ in their ability to experience hypnosis (Faria, 1819, Hilgard, 1965). Hilgard (1965), for example, views the ability as one analogous to such things as musical talent or intelligence. Underlying this point of view is the belief that hypnotizability is a relatively stable individual trait. The bulk of experimental data to date strongly supports this idea (Perry, 1977) but there is some disagreement (Diamond, 1974, 1977). Be this as it may, studies have shown repeatedly since Bernheim (1889), that in the general population, 10 - 15% of people are highly susceptible, the same proportion is relatively insusceptible and the remaining 20 - 80% are of medium susceptibility to varying degrees. Further, it has been found that the various scales of susceptibility correlate highly with each other and that they show a high retest reliability (Hilgard, Wetzenhoffer, Landes & Moore, 1961), thus lending support to the stability notion. The way the scales actually work is by rating samples of hypnotic behavior; high susceptibles are those people who respond to suggestions of high item difficulty, namely post-hypnotic suggestion. Unfortunately there is no large body of evidence available which shows that hypnosis helps only those who are good subjects in a clinical setting. In fact, evidence showing

the existence of a relationship between susceptibility and outcome is sparse and contradictory.

One of the first reports of the relationship between susceptibility and successful treatment was made by Asher (1956). He differentiated patients affected by severe cases of warts covering large parts of the body in terms of those achieving "deep" hypnosis, "light" hypnosis and "unhypnotized". Those classified as deep had a higher complete cure rate (11 out of 17) than those rated light (4 out of 8). Only 2 in the deep group showed no change, as compared to 4 of the patients in the light group. There were no cures or improvement among the 8 patients rated as unhypnotized. Interestingly enough he suggested to patients that the warts would disappear on limited areas of the body at a time. This in fact happened and warts disappeared only from those places which were suggested. In a sense therefore, patients acted as their own controls, though other investigators have been unable to reproduce this phenomenon (Johnson & Barber, 1978; Surman, Gottlieb, Hackett & Silverberg, 1973).

Collison (1975) also divided asthmatic patients into deep, light, and unhypnotized groups and found that the effectiveness of hypnosis was directly related to the level of hypnosis achieved. In this study, 44 percent of patients rated as in deep hypnosis were cured and a further 30% improved. By contrast, 13 percent of light hypnosis patients were cured, and 45 percent improved. None of the unhypnotized group was cured, although 6 percent improved. Similarly,

Black (1963) showed that those who suffered from allergies and were able to achieve deep hypnosis were more able to inhibit allergic skin responses under hypnosis than those achieving light hypnosis.

One of the major faults of these studies is that no standard scale of hypnotic susceptibility was used. Instead the experimenters all used their own criterion of hypnotic depth and this obviously makes evaluating the results more difficult. In fact the concept of hypnotic depth differs somewhat from that of hypnotic susceptibility. The former refers to the subjective experience of hypnosis during a particular session. There are no established criteria in general use for rating this except for the judgment of the hypnotist or the self-report of the subject. Bowers (1977), however, defends the observed relationships, pointing out that trance depth in these studies was established on clinical grounds, independently of treatment outcome.

The effects of hypnosis on pain have been among the most dramatic of those reported; indeed pain has been the most extensively studied of all clinical conditions to which hypnosis can be applied. Andreychuck and Skriver (1975) found that high susceptibles among migraine patients improved more than low susceptibles, regardless of treatment method. In this study, however, hypnotic susceptibility was evaluated using Spiegel's (1974) hypnotic induction profile, an instrument which has been shown to bear little relationship to the Stanford measures of Weitzenhoffer and Hilgard (1959, 1962; Orne, Hilgard, Spiegel, Spiegel, Crawford, Evans, Orne & Stern,

Note 1). Most laboratory studies have shown that hypnosis works best for pain reduction among good hypnotic subjects (Bowers, 1976). This holds true for cold pressor pain (Hilgard & Morgan, 1975), dental pain (Gottfreidson, 1973), and ischemic pain (McGlashan, Evans & Orne, 1969). In fact Hilgard and Morgan (1975) have specified that the relationship is a probabilistic one. In their study 67% of high susceptibles reduced pain by 33% or more, as compared to 17% among medium susceptibles and 13% of low susceptibles.

The literature is by no means without contradictory evidence however. In a study by Barber (1977) all 17 of his subjects achieved substantial analgesia to dental pain regardless of susceptibility. The study has been criticized however on several grounds. Not only is this the first time in the literature that 100% success rate has been reported for hypnosis, but in addition, insufficient information on the methodology and data analysis was presented to properly evaluate this finding. Further, it has been pointed out that clinical pain and experimental pain differ (Gelfand, 1978). Since most pain studies have, to date, been conducted in the laboratory one should be cautious before generalizing from experimental findings on susceptibility and pain reduction to the clinic. While clinical and experimental pain may differ, Butler (1955) showed that susceptibility was important in reducing pain among terminal cancer patients treated by hypnosis. In a study by Melzack and Perry (1975) it was the combination of hypnosis and alpha feed-

back which proved most effective in helping chronic pain patients. Motivation was implicated as being an important factor since three of the patients who were least successful were workmen's compensation cases. This last fact would seem to indicate that susceptibility may not be the only important factor in pain reduction. However, pain reduction was measured by self report and the authors say that the three patients in question "...showed resistance to admitting being helped" (p. 466 emphasis added). In other words there is no way of determining the veracity of these 3 patients' reports. No susceptibility data was obtained, making the evaluation of the role of hypnotizability doubly difficult. Notwithstanding, the weight of the evidence to date supports the notion that hypnotizability is one of the major variables implicated in pain reduction.

In the light of these data it is somewhat surprising that there is a consensus of belief among clinical practitioners that hypnotizability is not related to successful treatment in the clinic. Again, however, the evidence is not substantial and is based almost entirely upon clinical observation. Freud (1970, originally published in 1891) reported that the success of his patients was often unrelated to their hypnotic ability when he used hypnosis in treatment. Weitzenhoffer (1953) also felt that hypnotic depth was not necessary for successful outcome of treatment, as did Gill and Brenman (1959). Lazarus (1973) has indicated that attitudes toward hypnosis and desire to be hypnotized are the most important factors

in treatment success. Further, Sheehan and Orne (1968), have emphasized the therapist-patient relationship and the secondary gain of symptoms as playing the most important roles in successful therapeutic outcome where hypnosis is used.

Some studies (Nuland & Field, 1970; Spiegel, 1970, for example) have shown that hypnotic depth is not related to treatment of smoking via hypnosis, but their depth ratings were based on clinical evaluation. More recently Perry and Mullen (1975) measured their subjects' susceptibility using the diagnostic rating procedure of Orne and O'Connell (1966) and treated cigarette smoking using hypnotic technique. The overall rate of success (measured as total abstinence) was only 13% and was unrelated to hypnotizability. Related studies by Gelfand (1978) and Marcovitch (1978) have reported similar findings among individuals trying to quit smoking. In these latter studies a motivation questionnaire devised by the authors was better able to predict success than hypnotic responsivity.

It appears that the issue is far from being settled. In some cases, factors related to patient motivation and/or belief have been given the important causal roles in therapeutic outcome. This point of view is not far removed from the view of clinicians in general using other techniques for therapeutic change for a variety of problems. For such investigators, motivation is without question a prime factor. The other side places the treatment technique and the patient's responsiveness to it (part of which may involve his or her hypnotizability) in the forefront. Unfortunately, the data

presented has not been very clear since much of it is based on clinical impression or on studies which are often not directly comparable. One conclusion which may be drawn from all this is that the question itself may not have been properly asked. The reason for this lies in clinical areas other than hypnosis. It has been stressed that before proceeding with therapy it is necessary to discover not only all factors which contribute to the maintenance of a problem but to also try and determine the suitability of a given therapeutic technique for a particular problem (Kanfer & Saslow, 1969). This last point is the one that is relevant to this discussion. It would appear that hypnotic susceptibility may be important for certain kinds of problems but not in conditions which appear to be maintained by various social reinforcers. This point bears closer examination since it is related to notions surrounding the suitability of a particular treatment for a particular condition. The studies which did not show relationships for susceptibility dealt with different problems than those which did. It is notable that most of the clinicians who expressed negative opinions about the importance of susceptibility were involved primarily with various psychotherapies (e.g., Freud & Gill). One can distinguish between smoking and obesity on the one hand and asthma, warts and clinical pain on the other. The first two are acquired behaviors with considerable basis in the social environment; the same could not be said, given the present state of medical knowledge, for skin conditions, for asthma, and for clinical pain. Motivation is probably a key factor in breaking the

cigarette habit. A person who has no real desire to stop smoking will hardly perform optimally in a treatment programme. The role of motivation in wart removal is less clear. In the case of clinical pain it is likely that patients suffering from it are already highly motivated toward reducing pain. Given this optimal motivation, high hypnotizability may act as an important ability which these highly motivated individuals are able to utilize to reduce pain successfully.

The above considerations point to the following: the use of hypnosis in the clinic sometimes leads to therapeutic change and sometimes it does not, but it is difficult to evaluate why because only in certain cases does hypnotizability appear to play a primary role. This evaluation is made even more difficult by the lack of proper research attempting to relate hypnotizability to successful therapeutic change. Instead, only a small amount of data exists along with a large amount of speculation and opinion.

In studies which show no relationship between susceptibility to hypnosis and outcome (e.g., Gelfand, 1978; Perry & Mullen, 1975) success may well be related to placebo effects, and/or patient therapist relationships (Lazarus, 1973; Sheehan & Orne, 1968). Unfortunately it is just not known to what factors success may be attributed. The conflicting reports on the role of susceptibility in the clinical context suggest, as already stated, that hypnotic responsiveness is a factor in only certain kinds of problems. Thus it becomes too simplistic to state that hypnotic susceptibility does or does not play a role in therapeutic outcome especially given

the dearth of research. It may do both. Furthermore the efficacy of hypnosis as a treatment needs to be subjected to properly controlled studies to get at the factors responsible for successful change. Studies such as these are sadly lacking in the literature.

As its main purpose the present study sought to obtain more information on the role of hypnotic susceptibility in therapeutic outcome by examining its effect within the context of a weight loss programme. Hypnosis has been used to treat overweight individuals (Stanton, 1975; Hanley, 1967; Wick, Sigman & Kline, 1971) but these studies lacked adequate controls. There is as yet no reason to suppose that hypnosis is any more or less effective than other treatments. The literature is sparse and clinical anecdote appears to be a major source of information. Various reviews of the literature on weight loss show that most treatment methods achieve similar low rates of success. Stunkard (1959) reports success rates average 12 - 20% when a 20lb weight loss is the success criterion. More recently, reports of studies using self-management techniques have shown success rates as high as 80% (Stuart, 1967; Penick, Filion, Fox & Stunkard, 1971) but Hall (1973) failed to find these techniques successful in achieving long-term reduction.

The problem of overweight was chosen for investigation in the present study because, like smoking, it is a complex disorder with motivation and social environment playing important roles in its cause and treatment. Specifically, it was hypothesized

that the role of susceptibility in the treatment of overweight would be small, similar to its role in the treatment of smoking.

Another factor - obsessionality - which may be linked with hypnotic susceptibility and hence treatment outcome, was also investigated. The reason for this stems directly from current thinking about the nature of hypnosis, and the attempts of laboratory studies to find correlates of hypnotic susceptibility. Several studies have indicated (Bowers, 1976; J. Hilgard, 1970; Palmer & Field, 1968; Perry, 1973; Sutcliffe, Perry, & Sheehan, 1970) that the lack of good and effortless visual imagery and the inability to become deeply absorbed in tasks such as reading novels is associated with poor hypnotic susceptibility. Further, when hypnotized, high and low susceptible individuals appear to differ in the way in which they handle incoming information in the form of suggestion. On the basis of such information, Bowers (1977) has argued that good subjects appear to be able to block out irrelevant stimuli quite easily, whereas poor subjects appear to have to work at it, and are unable to achieve the concentration needed for hypnosis.

Similar notions are expressed by Hilgard (1977). He proposes that hypnosis is characterized by the suspension of certain cognitive functions which monitor and provide information to other cognitive systems about incoming information. Thus people who respond well to hypnosis are thought to be those who can suspend

volition, and for such individuals, suggestions become the sole stimuli to which they attend. Hilgard states further that poor subjects have to consciously monitor all incoming information which, in turn, prevents the temporary suspension of certain functions.

The theorizing of Bowers (1977) and Hilgard (1977) appears to relate well to various conceptualizations of obsessions which have been defined as "thoughts or ideas which come into a person's consciousness against his will" (Cooper, 1970, p. 49). Such ideation is usually unpleasant, if not abhorrent. Obsessional personality is more difficult to define, but there is general agreement on certain characteristics of obsessive patients: vacillation, uncertainty, and a preoccupation with cleanliness and orderliness to the point of wasting a great deal of time (Lewis, 1967; Sandler & Hazari, 1960). Obsessionals may be characterized also by a great need for control, and difficulty in relaxing. It would seem reasonable, therefore, that obsessive people would find it difficult to suspend their volition and achieve the relaxed concentration needed for hypnosis. Since obsessional disorders are characterized by the intrusion of irrelevant and upsetting thoughts into consciousness, it is possible that the suspension of certain cognitive processes, as hypothesized by Hilgard (1977) would prove to be a difficult task for such people.

Thus a second major aim of the present study was to test in an indirect, and preliminary manner, recent ideas about the nature of hypnosis. This was done by evaluating obsessiveness

among clients seeking help for a weight loss program. It was thought that those who tended to be more obsessive would tend to be poor hypnotic subjects, since they would find it difficult to tolerate the perceived lack of control. The "shutting out" of irrelevant incoming stimuli from consciousness, and the relaxed concentration necessary for deep hypnosis would not be achieved with the same ease as by those low in obsessionality.

A third hypothesis investigated by the present study centered around the observation of Stanton (1975) that patients in a weight loss program, in which hypnosis was used "remained cheerful and good tempered" during treatment (p. 97) and, found the process of losing weight an easy one. This report contrasts with that of Stunkard (1976) that weight loss, at least in large amounts, is accompanied often by depression and anxiety. Accordingly, measures of anxiety and depression were obtained at the commencement of the weight loss program, and again at the end of the programme to determine whether any changes occurred and if they related to hypnotizability.

Finally, research on the treatment of obesity has been criticized frequently for either lack of comparability or for failing to properly define what is meant by overweight. Weight alone is not always an indication of obesity, or a tendency toward it. What should concern the clinician is the adiposity of the patient (Seltzer & Mayer, 1965). Furthermore, a program involving exercise may achieve little change in weight, since a decrease in

body fat may correspond with an increase in muscle bulk. Thus, measures of both weight change and body fat were obtained to test for this possibility. The triceps skinfold measure has been shown to be a reliable measure of adiposity (Seltzer & Mayer, 1965) and was used in the present study to supplement weight change data.

Method

Subjects: 38 subjects received treatment for their weight problem (31 female, 7 males). No age restrictions were imposed on Ss who ranged in age from 18 to 62 years (mean = 27.8). On initial contact all Ss were told that only those who were "10 lbs overweight" would be accepted into the weight loss programme. In fact none of the Ss were less than 10 lbs overweight according to the Metropolitan Life Insurance weight tables. All Ss followed the program to completion except for two who failed to return for the final post-treatment session. Aside from a common interest in losing weight, Ss were a heterogeneous group with different occupations and socio-economic backgrounds.

Procedure. Posters were placed on notice-boards at Concordia University (Sir George Williams Campus) and advertisements placed in the student newspapers of McGill and Concordia universities (see Appendix A). Initial contact was made by phone. Ss were given an outline of what the programme entailed, that they must be at least 10 lbs overweight, not undergoing any other form of medical intervention, and that there was a $5.00 fee and a $40.00 deposit refundable upon completion of the programme. They were then scheduled for a group meeting and asked to bring the money and a signed statement from a physician as proof of their health and eligibility to be treated for weight loss.

The first meeting with the experimenter took place at the

Applied Psychology Centre (A.P.C.), Concordia University in groups of not more than 8 at a time. During this session all Ss were informed that the weight loss programme was a part of a research programme but the clinical nature of the project was emphasized. In particular, participants were told that their performance and well-being was of primary importance to the investigator. The evaluation of the technique used was presented as the research goal, but its importance was represented as being secondary. A short review of research on obesity was given along with a brief talk on the nature of hypnosis. In an effort to ensure motivation on the part of participants all were told that "the only way to lose weight is to eat less and exercise more" and that the hypnosis wouldn't help unless they wanted to lose the weight. They were told further that if they were not prepared to put in any effort themselves then the treatment would not be effective. At this point they were given, and told to read, copies of the Canada Food Guide (Health and Welfare, Canada) and a booklet entitled The Why's of Weight (General Foods). These sought to provide the nutritional information they needed in order to lose weight while at the same time providing them with a balanced diet. Any questions they had were answered, after which Ss signed a contract (see Appendix B) and paid the fee and deposit as a guarantee of their continuing participation for the full duration of the programme.

All psychometric testing took place at the end of the first session. The Zung Self Rating Depression Scale (SDS) (Zung,

1965) was administered to monitor depression. The SDS consists of 20 self-report items covering the respondents' experience of symptoms of depression. Each item is scored on a four point scale. Some evidence on the validity of the SDS has been presented by Zung (1969), but there is no data on reliability. Test scores correlate with ratings by clinicians (r = .43 - .65) and can differentiate between normal controls, depressive patients and other psychiatric patients. Changes in SDS scores have been shown also to be related to clinical changes in depression (Zung, 1965; Zung, Richards & Short, 1965).

The Leyton Obsessional Inventory (Cooper, 1970) was the test used to measure obsessionality. It was originally devised as a research tool to quantify obsessionality as a personality trait as well as a means of quantifying obsessional symptoms. It consists of four subscales: symptoms are quantified on the S scale, trait by the T scale, the intensity of obsessional distress and amount of intrusion of symptoms on daily activity are measured by the R and I scales respectively. A self-administered form of the Leyton, devised by the author (Appendix C) was used because of time limitations. No reliability or validity data on the Leyton is yet in existence, though it is used quite extensively in clinical practice.

The IPAT anxiety questionnaire was also administered. This test, designed to assess the level of general free floating anxiety, consists of 40 items divided to yield a "covert" and "overt" anxiety score. The test's research and theoretical back-

ground is extensive and it is in wide use both in the laboratory and the clinic. Reliability coefficients for the total score range from .80 - .93 depending on the sample being tested. There is also a claim for the test's internal validity (Cattel, 1963) with validity quotients ranging from .85 - .90. Cohen (1970) has reviewed the substantial evidence for external validity.

No more than two weeks following the first session each client was seen individually in a therapy room at the A.P.C. Height and weight were measured and recorded using a standard medical scale made by Toledo scales, Montréal, P.Q. Triceps skinfold measures were taken using the procedure of Seltzer and Mayer (1965) using a John Bull skinfold caliper manufactured by British Indicators Ltd. The Stanford Clinical Scale of Hypnotic Susceptibility (Hilgard & Hilgard, 1975) was administered following which hypnosis was again induced using Hartland's (1971) technique which includes "ego-strengthening" suggestions. Appended to the induction were Stanton's (1975) weight loss suggestions. A transcript of the entire induction can be found in Appendix D. Following termination of hypnosis a short discussion of subjects' experience took place and all were asked to rate themselves on general anxiety (see Appendix E). A cassette tape on which was recorded the entire session verbatim was then given to every participant. He or she was instructed to listen to the tape at least once a day when privacy and freedom from disturbance was possible. Each tape was of approximately 30 minutes duration. Addressed,

stamped cards were given to everyone with instructions to mail them to the A.P.C. each week for the entire course of treatment (Appendix F).

At approximately the half-way mark of the programme the subjects were telephoned by the investigator and asked what progress had been made up to that point. They were asked further whether any problems had been encountered and were invited to comment on the treatment. At the end of 9 weeks all subjects were seen individually for about 15 minutes. Deposits were returned, and weight and skin-fold were measured. The subjects were again asked to rate their general state of anxiety, and the SDS was also re-administered. Finally the subjects were asked to comment further on the programme. Two specific questions were asked of all participants. "What was the role of the hypnosis, if any, in your effort to lose weight?" and "how did this method compare to other weight loss methods you've tried?" All contact with the Ss, including group meetings, individual hypnosis session, and the telephone conversations were conducted by the author alone.

Results

Weight and Skinfold Change

Mean weight loss for the entire sample was 5.5 pounds and mean skinfold loss was 2.7 mm. These figures include 11 subjects who showed no loss or an increase in weight and 6 who showed no loss or an increase in skinfold. Appendix G shows the amount by which each subject deviated from their ideal weight according to the Metropolitan Life weight tables, prior to treatment.

A further examination of the data showed that 18 subjects or 50% showed weight loss greater than or equal to the mean over the 9 week period. Similarly, 24 subjects or 66.6% showed a decrease in skinfold greater than or equal to the mean.

Insert Table 1 about here

Table 2 represents a summary of the weight loss and skinfold data.

The two variables of skinfold change and weight loss were significantly correlated ($r = 0.60$, $p < .001$) but not as highly as might be expected. The variance of one of these variables accounts for only 36% of the variance of the other.

Table 1

Descriptive Data

Variable	Mean	S.D.	Range
SCSHS	3.1	1.3	5.0
IPAT			
Covert anxiety	16.1	7.7	31.0
Overt anxiety	16.8	5.8	24.0
Total raw score	32.8	12.1	47.0
Sten score	6.2	2.2	8.0
LEYTON			
S score	15.5	6.4	31.0
T score	7.7	3.8	17.0
R score	11.0	7.4	31.0
I score	9.3	9.2	39.0
ZUNG SDS			
Pre-treatment	36.2	8.4	33.0
Post-treatment	33.0	6.7	24.0
Pre minus post	3.2	6.0	23.0
SRA			
Pre-treatment	5.6	2.0	7.0
Post-treatment	4.7	1.8	6.0
Pre minus post	.9	2.0	8.0
Weight loss (pounds)	5.5	9.0	50.0
[1]Skinfold loss (milimeters)	2.7	2.4	10.5

[1]Left triceps skinfold

Table 2

Summary of Results of Weight Loss Programme

WEIGHT		SKINFOLD	
Amount of Decrease	No. of Subjects	Amount of Decrease	No. of Subjects
No change or increase	11	No change or increase	6
1 - 4.5 lb	9	0.5 - 2.5 mm	11
5 lb or more	18		
9 lb or more	8	3 mm or more	20
15 lb or more	5	5 mm or more	9

Insert Table 2 about here

Hypnotic Susceptibility

Hilgard and Hilgard (1975) in presenting data on the SCSHS divided hypnotic susceptibility into three categories: high susceptibility was defined as scores of 4-5, medium as scores of 2-3 and low was defined as scores of 0-1. Table 3 compares the present sample with Hilgard and Hilgard's original sample which was composed of university undergraduate student volunteers.

Insert Table 3 about here

The distribution of hypnotizability contrasts notably with the usual distribution of hypnotizability in the general population where 10-15% fall into the high susceptibility classification, 10-15% are classified as relatively insusceptible and the rest as medium susceptible.

It can be seen, however, that the findings for the present sample are in accord with the normative data presented by Hilgard and Hilgard (1975) in finding a considerably higher proportion of high susceptibles than is ordinarily the case. By contrast, the percentage of insusceptibles for the present sample is less than for the normative sample, though more like what is usually found in experimental samples. It is not clear whether these insusceptibility data express something unique about a clinical sample of overweight.

Table 3

SCSHS Scores of Present Sample Compared to Hilgard and Hilgard (1975) Normative Sample

				SCSHS (% in each category)		
	N	Mean	S.D.	Low (0-1)	Medium (2-3)	High (4-5)
Present sample	36	3.11	1.30	14.0%	44.4%	41.6%
Hilgard & Hilgard (1975)	111	2.75	1.56	26.0%	37.0%	37.0%

individuals, or whether they reflect certain properties of the SCSHS.

Depression, Anxiety and Obsessionality

Along with weight and skinfold measures there were two other dependent variables in the study: depression as measured by the Zung (1965) Self-rating Depression Scale (SDS) and a self-rated measure of anxiety (SRA) devised by the author.

Table 4 compares the present sample scores on the SDS with the different groups reported by Zung (1965). The scores of the

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Insert Table 4 about here

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present sample have been converted to the SDS index (raw score x 1.25) for the purpose of this comparison. Of the 36 subjects, 20 had SDS scores above the upper limits of the normal controls of Zung's study. The mean score and range of scores for this group were calculated separately and included in the table. Zung however did not report the size of his samples thus limiting the degree of comparison possible. At the end of the programme only 5 of these 20 subjects had reduced their SDS scores to within the limits of Zung's normal controls, and included those who gained and lost weight.

Norms provided with the IPAT show that the general population has a mean raw score of 27.1 (s.d. = 11.4). This is slightly lower than the present sample's score (mean = 32.8; s.d. =

Table 4

Comparison of Present Sample SDS Scores[1]
to ZUNG'S (1965) Sample

	Mean	Range
Present sample (pre-treatment)	45	30-71
Present Sample (post-treatment)	41	22-58
High scorers[2] (pre-treatment)	53	45-71
High scorers (post-treatment)	50	45-58
ZUNG (1965):		
Normal controls	33	25-43
Depressed inpatients	74	63-90
Depressed outpatients	64	50-78
Anxiety reaction	53	40-68
Personality disorders	53	42-68
Transient situational reaction	53	38-68

[1]Scores converted to SDS Index - raw score x 1.25

[2]High scores include those members whose score on SDS was greater than 43 (upper limit of Zung's normal controls.

12.1) but the subjects in this study were still within the limits of what Cattel calls an "average degree of anxiety" (Cattel, 1963, p. 10).

The SRA measure was meant to be a rough index of subjective feelings of general anxiety. It was hoped the measure would also provide a quick and easy method for monitoring changes in subjective feelings of anxiety. The initial SRA correlated significantly with all of the pre-treatment IPAT scores but with only two of the post-treatment IPAT measures (Table 5). The differences between the correlation between pre-treatment SRA and IPAT may be a reflection of the slight overall decrease in SRA scores of the sample (pre-treatment mean = 5.6; post-treatment mean = 4.7, Table 1).

Insert Table 5 about here

The present sample's scores on the Leyton Obsessional Inventory are presented in Table 6 along with data on Cooper's (1970) sample. Patients were individuals hospitalized with diagnoses of obsessional neurosis and the rest of the sample was placed into the "normal" or "house-proud" housewife categories prior to the study on the basis of ratings made by Cooper and local health authority visitors. "House-proud" housewives were women judged as overly meticulous and perfectionistic in their approach to child-raising and housework. The non-patients were volunteer participants in a related study from the london, England, boroughs of Leyton and Leytonstone.

Table 5

Correlations of Initial and Final SRA Scores with the Pre-treatment IPAT Anxiety Scores

Pre-treatment IPAT Scores	Pre-treatment SRA	Post-treatment SRA
Overt anxiety	r = .43 p = .009	p = .283
Covert anxiety	r = .50 p = .003	r = .38 p = .010
Total raw score	r = .51 p = .002	r = .35 p = .037
Sten score	r = .48 p = .004	r = .30 p = .077

Insert Table 6 about here

Subjects in the present sample appear to be most comparable to the "house-proud" housewives of Cooper's sample. This group was considered to be mildly obsessive, but by no means pathologically so. Cooper (1970) reports that Leyton S and T scores have been shown to be positively related to certain questions on the Cornell Health Questionnaire (Brodman et al., 1950) which was related to clinical assessments of neurosis. In the present study, correlation coefficients were calculated between the different subscales of the Leyton and of the IPAT. Table 7 presents this data. It can be seen that at least some questions on the two tests appear to be tapping the same or similar psychological factors.

Insert Table 7 about here

The present sample's IPAT scores were slightly higher than the mean of the general population and had scores somewhat above those of normal controls on both the Leyton and SDS. These scores were not high enough to place them in pathological categories. Whether these scores are a possible characteristic of the obese is difficult to say since this kind of data is rarely reported in the literature.

Table 6

Comparison of Present Sample's Scores on the Leyton Inventory with Cooper's (1970) Sample

	Symptom		Trait		Resistance		Interference	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Present sample	15.5	6.4	7.7	3.8	11.0	7.4	9.3	9.2
Cooper (1970)								
Obsessional patients	33.3	7.7	11.0	3.2	36.0	11.2	36.7	18.4
House-proud housewives	19.7	8.7	7.6	3.5	16.1	11.8	10.7	12.4
Normal women	11.4	6.7	5.1	3.5	7.3	6.1	3.8	4.3
Normal men	8.7	5.6	5.1	3.8	4.4	3.9	3.6	3.8

Table 7

Correlation of Leyton Inventory Scores and IPAT Scores

(Only those correlations with $p < .05$ included)

	LEYTON SCORES			
IPAT Scores	Symptom	Trait	Resistance	Interference
Overt anxiety	-	r = .38 p = .022	-	r = .51 p = .002
Covert anxiety	-	-	r = .43 p = .010	r = .41 p = .012
Total raw score	-	r = .39 p = .020	r = .39 p = .019	r = .49 p = .003
Sten score	-	r = .35 p = .040	r = .39 p = .021	r = .49 p = .003

The Relationship of Hypnotic Susceptibility to Weight Loss

The major question of this study concerned the role of hypnotic susceptibility in the outcome of treatment for overweight. There were four dependent variables in the study: weight, left triceps skinfold, depression (measured by the SDS) and anxiety (SRA). To test for the effect of hypnotizability on outcome, a multivariate analysis of variance was performed using as the independent factor the three levels of SCSHS previously categorized as low (0-1), medium (2-3), and high (4-5). The change scores (pre-treatment - post-treatment) of the dependent variables were used in the analysis. Table 8 presents the results and shows that hypnotic susceptibility had no effect on outcome at the required ($p < .05$) level of significance.

Insert Table 8 about here

The chi square test was also utilized to determine whether susceptibility was specifically related to weight loss alone or skinfold alone. The previously defined categories of hypnotic susceptibility were used once more.

Finding suitable categories for weight loss presented difficulties however, since there is little consistency in the literature on determinating what is a meaningful amount of weight loss or how one defines success in treatment. Thus one cannot simply divide the sample into successful or unsuccessful cases.

Table 8

Results of Multivariate Analysis of Variance

Independent Factor Effect	F	Hypothesis D.F.	Error D.F.	P
SCSHS (High = 4-5; medium = 2-3; low = 0-1)	.700	8	60	.690

Dependent Variables: weight change
skinfold change
SRA change
SDS change

Consequently, it was decided to present findings using more than one cut-off point to establish group classifications for the chi square analyses. This presentation sought to provide information which would better account for individual differences in weight loss. The same argument applies in the case of skinfold changes. When amount of weight loss was divided into two categories, namely, losses greater than or equal to the mean of 5.5 pounds and losses less than the mean, the results were not significant ($X^2 = 1.80$, df = 2, $p = .407$). Skinfold changes were also divided into two categories based on decreases equal to or greater than the mean of 2.7 mm and decreases less than the mean. The results again were not significant ($X^2 = 3.60$, df = 2, $p = .165$).

In a second analysis, a more stringent criterion of weight loss was utilized in which subjects who lost at least a pound a week (9 lbs.) over the programme were compared with those who did not. Once again the chi square test failed to show a significant relationship ($X^2 = .014$, df = 2, $p > .05$). There were likewise no significant findings when the sample was divided according to a more stringent skinfold criterion or a decrease of 5 mm. or more over the program ($X^2 = 1.68$, df = 2, $p < .30$).

Although susceptibility alone did not appear to be related to outcome a further analysis examined the possibility that a combination of factors including susceptibility might be a useful predictor of treatment outcome. For this reason a step-wise multiple regression analysis was performed. There were nine independent

variables included in the analyses which are listed as follows:

Hypnotic susceptibility - SCSHS score

Leyton sympton (S) score

Leyton trait (T) score

Leyton resistance (R) score

Leyton interference (I) score

IPAT overt anxiety score

IPAT covert anxiety score

IPAT total raw score

IPAT sten score.

Two regression equations were calculated in which all nine independent variables were treated as x values predicting a single Y value which was weight loss in the first analysis and skinfold change in the second. An alpha level of .05 was chosen to signify statistical significance so that the step at which the inclusion of an additional variable caused alpha to exceed the .05 level was taken as the cutoff point. The results are shown in Table 9.

Insert Table 9 about here

Four independent variables including hypnotizability predicted weight change (p = .048) but the variance of these variables accounts for only 26.0% of the variance of the dependent variable. Five independent variables predicted skinfold (p = .035), but again,

Table

Results of Step-Wise Multiple Regression Analysis

(only those independent variables for which

equation was significant at .05 level are included)

[1] Y	[2] X	[3] r^2	[4] r^2 Change	Overall F	p
Weight change	Leyton Score	.138	.138	5.45	.026
	IPAT covert anxiety	.208	.070	4.33	.021
	IPAT stem score	.241	.034	3.40	.030
	SCSHS	.260	.020	2.72	.048
Skinfold change	IPAT sten score	.074	.016	1.32	.281
	IPAT raw score total	.241	.167	3.38	.030
	Leyton R score	.274	.033	2.92	.037
	Leyton I score	.316	.042	2.78	.035
	SCSHS	.058	.058	2.11	.156

[1] Y = dependent variable in equation.

[2] X = independent variable (s) in equation.

[3] r^2 = cumulative amount of variance of dependent variable accounted for by independent variables in equation.

[4] r^2 = amount of variance of dependent variable accounted for by each independent variable in equation.

the amount of variance of the dependent variable accounted for by the independent variance was low (31.6%).

An examination of the scattergram (Fig. 1) for the weight equation shows that all but one of the subjects who lost 9 pounds or more tend to be clustered in the vicinity of plus one standard deviation from the regression line. The scattergram for the skinfold equation (Fig. 2) shows that all who reduced their skinfold by 5 mm. or more are similarly clustered in the vicinity of plus one standard deviation of the regression line.

Insert Figure 1 and 2 about here

The above results, while requiring replication, suggest that subjects who lost 9 pounds or more could be differentiated by a combination of susceptibility and questionnaire variables. Similar findings occurred when the skinfold criterion of therapeutic success was examined.

The data were evaluated further by performing discriminant analyses comparing those who lost 9 pounds or more with those who did not. In addition, those who reduced skinfold by 5 mm. or more were similarly compared with those who did not on the variables located by the multiple aggression analyses. The results, summarized in terms of chi square analyses, are presented in Table 10.

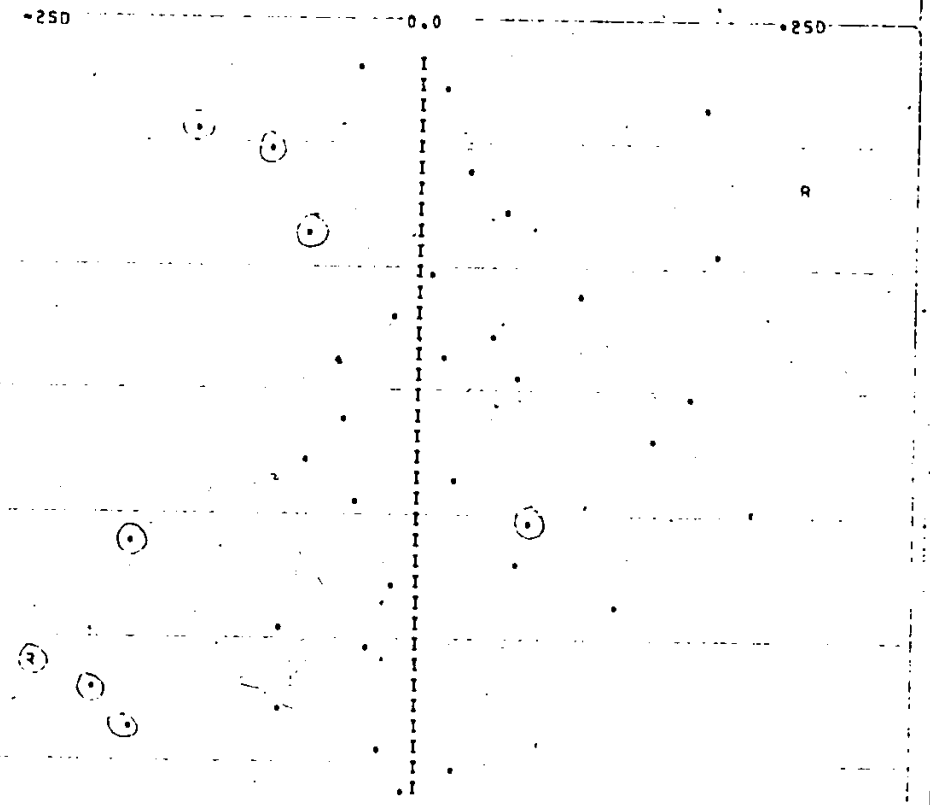
Insert Table 10 about here

Figure 1

Scattergram of Step-Wise Multiple Regression Analysis using Weight as the Dependent Variable

* MULTIPLE REGRESSION *

OBSERVATION	Y VALUE	Y ESTIMATE	RESIDUAL
1.	-7.000000	-4.123931	-2.876069
2.	-3.000000	-3.850044	.8500437
3.	5.000000	-8.436055	13.43605
4.	-23.00000	-12.13443	-10.86557
5.	-9.000000	-1.776737	-7.223263
6.	2.000000	-.2056889	2.205689
7.	13.00000	-5.132505	18.13250
8.	0	-4.058309	4.058309
9.	-9.000000	-4.011041	-4.988959
10.	9.000000	-4.940439	13.94044
11.	-5.000000	-5.413476	.4134761
12.	1.000000	-6.732774	7.732774
13.	-4.000000	-3.362614	-.6373859
14.	1.000000	-2.439025	3.439025
15.	-2.000000	-3.086592	1.086592
16.	-8.000000	-12.68749	4.687486
17.	4.000000	-9.140640	13.14064
18.	-5.000000	-1.698877	-3.301123
19.	-1.000000	-11.92982	10.92982
20.	-5.000000	-.1035372	-4.896463
21.	-8.000000	-9.596162	1.596162
22.	1.000000	3.449097	-2.449097
23.	-9.000000	-14.37142	5.371424
24.	-17.00000	-3.573034	-13.42697
25.	-5.000000	-9.398328	4.398328
26.	-3.000000	-1.979541	-1.020459
27.	2.000000	-7.474749	9.474749
28.	-7.000000	-.5339292	-6.466072
29.	0	2.080396	-2.080396
30.	-37.00000	-18.38141	-18.61859
31.	-31.00000	-15.29686	-15.70314
32.	-5.000000	1.280415	-6.280415
33.	-19.00000	-5.443229	-13.55677
34.	-4.000000	-2.545138	-1.454862
35.	-2.000000	-3.477331	1.477331
36.	-8.000000	-7.474749	-.5252512



NOTE - (*) INDICATES ESTIMATE CALCULATED WITH MEANS SUBSTITUTED
R INDICATES POINT OUT OF RANGE OF PLOT

NUMBER OF CASES PLOTTED 36.
NUMBER OF 2 S.D. OUTLIERS 2. OR 5.56 PERCENT OF THE TOTAL

VON NEUMANN RATIO 1.89030 DURBIN-WATSON TEST 1.83779

NUMBER OF POSITIVE RESIDUALS 18.
NUMBER OF NEGATIVE RESIDUALS 19.
NUMBER OF RUNS OF SIGNS 21.

EXPECTED NUMBER OF RUNS OF SIGNS 19.
EXPECTED S.D. OF RUN DISTRIBUTION 2.95683
UNIT NORMAL DEVIATE=
Z=(EXPECTED-OBSERVED)/S.D. .84550
PROBABILITY OF OBTAINING .GE. ABS(Z) .1992

Figure 11

Scattergram of Step-Wise Multiple Regression Analysis

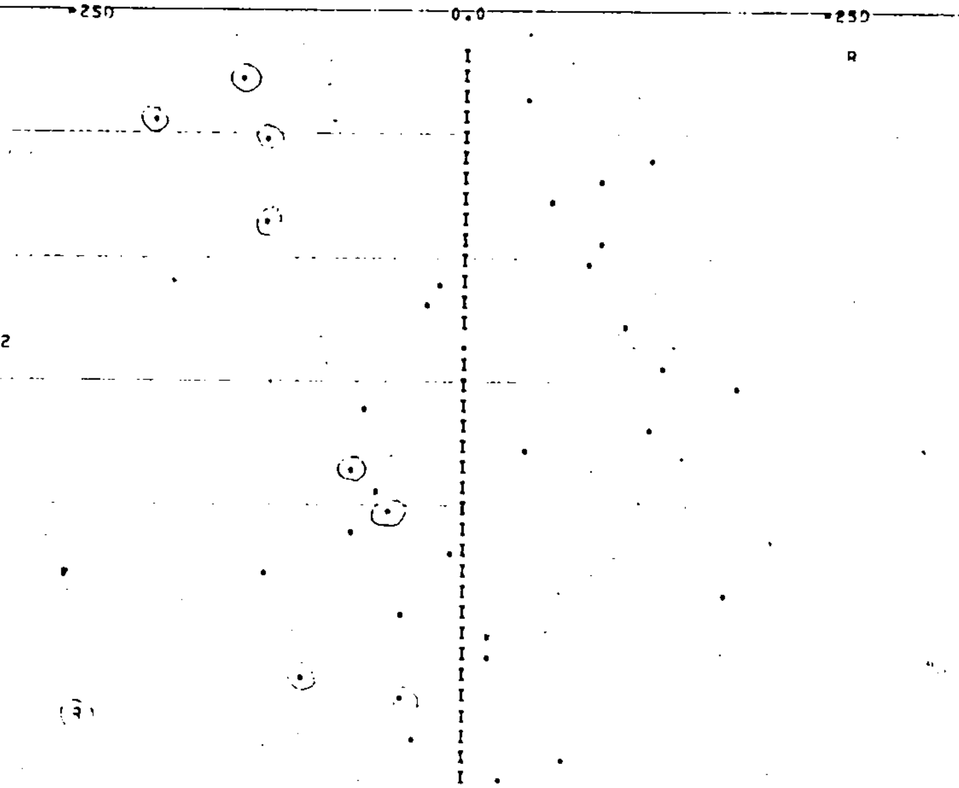
Using Skinfold as the Dependent Variable

POOR PRINT

HYPNOSIS AND WEIGHT LOSS. DR. C. PERRY 78/08/22. PAGE 13
MULTIPLE REGRESSION ANALYSIS
FILE WEIGHT (CREATION DATE = 78/06/09.) HYPNOSIS AND WEIGHT LOSS

M U L T I P L E   R E G R E S S I O N

OBSERVATION	Y VALUE	Y ESTIMATE	RESIDUAL
1.	1.500000	-3.320233	4.820233
2.	-5.000000	-2.519745	-2.481255
3.	-1.000000	-1.580436	.5804358
4.	-9.000000	-5.524295	-3.475705
5.	-5.000000	-2.873852	-2.126148
6.	.5000000	-1.601408	2.101408
7.	-1.500000	-2.973018	1.473018
8.	-2.500000	-3.441685	.9416851
9.	-5.000000	-2.762579	-2.237421
10.	-1.000000	-2.413054	1.413054
11.	1.000000	-.3254795	1.325479
12.	-2.000000	-1.739832	-.2611675
13.	-3.000000	-2.615657	-.3843428
14.	0	-1.738038	1.738038
15.	-4.000000	-4.006103	.6103381E-02
16.	-1.000000	-3.181577	2.181577
17.	0	-3.000496	3.000496
18.	-2.500000	-1.449107	-1.050893
19.	-1.000000	-3.040768	2.040768
20.	-3.000000	-3.670518	.6705178
21.	-5.000000	-3.845288	-1.154712
22.	-3.500000	-2.521420	-.9785799
23.	-5.000000	-4.160296	-.8397042
24.	-3.000000	-1.747436	-1.252564
25.	-3.000000	-2.869241	-.1307594
26.	0	2.172303	-2.172303
27.	-.5000000	-3.375886	2.875886
28.	-4.000000	-3.344305	-.6556948
29.	-1.000000	-1.157673	.1576735
30.	-2.800000	-3.039946	.2399464
31.	-5.000000	-3.200155	-1.799845
32.	-5.000000	-4.333184	-.6668156
33.	-8.000000	-3.043274	-4.956726
34.	-3.000000	-2.575443	-.4245573
35.	-3.000000	-4.064020	1.064020
36.	-3.500000	-3.918852	.4188524



NOTE - (*) INDICATES ESTIMATE CALCULATED WITH MEANS SUBSTITUTED
R INDICATES POINT OUT OF RANGE OF PLOT

NUMBER OF CASES PLOTTED 36.
NUMBER OF 2 S.D. OUTLIERS 2. OR 5.56 PERCENT OF THE TOTAL

VON NEUMANN RATIO 2.01583 DURBIN-WATSON TEST 1.95794

NUMBER OF POSITIVE RESIDUALS 18.
NUMBER OF NEGATIVE RESIDUALS 18.
NUMBER OF RUNS OF SIGNS 17.

EXPECTED NUMBER OF RUNS OF SIGNS 19.
EXPECTED S.D. OF RUN DISTRIBUTION 2.95683
UNIT NORMAL DEVIATE=
Z=(EXPECTED-OBSERVED)/S.D. -.50730

⊙ = High Losers

Table 10

A/ Discriminant Analysis Comparing Subjects Losing 9 or More lbs. with Those Losing Less on Leyton S Scale IPAT Covert Anxiety, IPAT Sten Score, and SCSHS

Predicted Group Membership

Actual Group Membership	High Losers	Low Losers
High Losers	2 (25.0%)	6 (75.0%)
Low Losers	19 (67.9%)	9 (32.1%)

$X^2 = 5.44$, $p = .020$

B/ Discriminant Analysis Comparing Subjects Decreasing Skinfold by 5 mm. or More with Those Who Did Not on SCSHS, IPAT Sten Score, IPAT Total Raw Score, Leyton R Scale, and Leyton I Scale

Predicted Group Membership

Actual Group Membership	High Losers	Low Losers
High Losers	2 (22.2%)	7 (77.7%)
Low Losers	17 (63.0%)	7 (77.8%)

$X^2 = 4.00$, $p = .046$

Leyton S score, IPAT covert anxiety score, IPAT sten score and SCSHS, obtained prior to the weight loss programme, were found to predict weight loss of 9 or more pounds for 69.4% of the present sample. In addition SCSHS score, IPAT sten score, IPAT raw score total, Leyton R score and Leyton I score were found to predict skinfold decreases of 5 mm. or more for 66.7% of the cases in the sample.

Hypnotic Susceptibility and Obsessionality

It was argued earlier that obsessionality may be related to hypnotic susceptibility. Specifically it was hypothesized that those scoring high on the Leyton inventory would score low on SCSHS. It was found, however, that SCSHS did not correlate significantly with any of the subscales of the Leyton (Table 11).

Insert Table 11 about here

A chi square analysis was performed also to determine whether high scores on the Leyton Scale (indicating a large amount of obsessional symptoms) was related to hypnotizability as measured by SCSHS. Two levels of obsessionality were employed using the sample mean of 15.5 as the cut-off point. The results proved to be insignificant ($X^2 = 1.64$, df = 2, $\underline{p} = .43$).

In a final effort to detect a possible relationship, multivariate analysis of variance was performed using the 4 dependent

Table 11

Correlation of SCSHS and Leyton Inventory

	LEYTON INVENTORY			
	Score	T Score	R Score	I Score
SCSHS	r = .002	r = -.101	r = .080	r = -.022
	p = .991	p = .556	p = .641	p = .899

variables of the study. A 3 x 2 factorial design was utilized to test for the effects of hypnotizability and obsessional symptoms on the outcome as measured by the dependent variables which included weight, skinfold, SDS, and SRA. The three levels of hypnotic susceptibility and 2 levels of obsessionality were used as previously defined. It is clear from the results in Table 12 that neither hypnotizability nor obsessionality had any effect on the dependent variables. As well, there was no significant interaction effect of these two factors.

Insert Table 12 about here

Hypnotic Susceptibility, Depression and Anxiety

It was thought possible that individuals who are more highly susceptible to hypnosis will show considerably greater reductions in depression and anxiety when hypnosis is used to treat their presenting problem. To test for this, a chi square analysis was performed using the previously-defined categories of hypnotic susceptibility and two categories of SRA change score: those who decreased and those who showed no change or an increase. No significant relationship was found ($X^2 = 1.69$, df = 2, $p = .429$). Comparable analyses were performed comparing those subjects whose SDS score decreased with those whose SDS score increased or remained the same. Again, no significant relationship was found ($X^2 = .295$, df = 2, $p = .862$). All analyses indicate that hypnotizability was

Table 12

Results of Multivariate Analysis of Variance

Independent effect	F	Hypothesis D.F.	Error D.F.	p
SCSHS (High = 4-5 medium = 2-3 low = 0-1)	.702	8.00	54.0	.688 (n.s.[1])
Leyton Score (High = 16 + low = 0-15)	1.16	4.00	27.0	.350 (n.s.)
Interaction: SCSHS x Leyton Score	.629	8.00	54.0	.750 (n.s.)

[1] n.s. = Not significant

Dependent Variables: weight change
skinfold change
SRA change
SDS change

not related to changes in depression and anxiety, the other two dependent measures of this study.

Two more regression analyses were performed in the manner described in the previous section using SDS and SRA scores as dependent variables. None of the independent variables predicted SRA changes at the required ($p < .05$) level of significance. IPAT covert anxiety scores however, predicted depression changes as measured by the SDS scale ($F = 4.36$, $p = .044$) but its variance accounted for only 11.3% of the variance of the dependent variable.

Subject Comments

Two questions were systematically asked of each subject during the final session of the programme: "How does this particular method compare with other methods you may have used to lose weight?", and, "What was the role of the hypnosis tape, if any, in weight loss?" The most striking common feature of the responses was that all but 5 of the participants spontaneously expressed positive feelings toward the method, that they enjoyed it for the most part and found the use of the tape relaxing. The 5 who expressed negative feelings included low, medium and high susceptibles but none of them showed any weight loss or skinfold change. Another comment expressed by all subjects who used the tape regularly was that they sometimes fell asleep while listening to it even though they had been advised not to, both by the investigator and on the tape itself. The relaxation effect of the tape was generally viewed as helpful in the subjects' efforts to lose weight but it was not considered of prime importance. Descrip-

tions of the role of the tape in weight loss included phrases such as: "...helped my motivation..., .. focussed attention on losing weight.. gave me confidence... made me feel good...". Often, subjects would use more than one of the above phrases or similar ones. About 1/3 of the participants mentioned that the tape acted as a reinforcer for weight loss. It should be noted that subjects making these responses came from all segments of the susceptibility range, and those who showed little or no change in weight, skinfold, as well as those who did show large changes in the desired direction. Only 3 subjects directly attributed their weight loss to the tape itself and 8 said it played no role in weight loss. Of these 8 only 2 had succeeded in losing any weight at all, but all 3 categories of susceptibility were found in this group.

On the whole, most participants compared the programme favorably with other programmes. 14 subjects spontaneously reported that this programme had made the weight loss seem easier in comparison to previous attempts to lose weight, and all of these subjects were either of high or medium susceptibility. Phrases such as "... made it easier... I didn't sweat it out.. no battle with myself..." were common among the 14 subjects.

5 participants felt that more supervision, personal contact with the therapist or with a group of other people with the same problem would have been preferable to the present programme. 4 people who did not lose weight admitted to "not trying" to lose weight and 3 others who showed no weight loss said they hadn't

listened to the tape at all for 4 weeks during the programme.

Overall, most subjects claimed to have used the tape almost every day during the beginning of the 9 weeks but this tapered down to roughly 3 or 4 times per week by the half-way mark. It appears that this particular approach to weight loss,was favorably received by most of the subjects. Hypnotic susceptibility however, did not seem to have any bearing on this favorable attitude to hypnosis as a weight loss method.

Discussion

Hypnotic Susceptibility and Weight Loss

The main purpose of this study was to examine the role of hypnotic susceptibility in the treatment of overweight individuals. By extension it was hoped that this would illuminate further the role of hypnotizability in successful treatment outcome. On the whole results indicated that hypnotic susceptibility alone is not related to weight loss in a hypnotic treatment programme. The results of the multivariate analysis of variance showed that hypnotic susceptibility had no significant effect on the dependent measures of the study. Similar findings were obtained when chi square analyses were performed. Thus, it would appear that the present findings support the traditional belief among clinicians that hypnotic responsiveness is unrelated to successful outcome of treatment. It was argued earlier however that simply asking whether susceptibility is related to clinical outcome may be too simplistic in view of the evidence supporting both positive and negative answers to this question. At this point, for example, it is fairly well established that hypnotizability by itself appears to play little role in the successful treatment of cigarette smoking (Gelfand, 1978; Marcovitch, 1978; Perry & Mullen, 1975). The present study appears to put the problem of overweight in the same category as smoking as far as the role of hypnotizability in treatment outcome is concerned.

If these findings are replicated, a further inroad will have been made in determining the kinds of problems for which high susceptibility is a prime factor related to therapeutic change. Both smoking and overeating (leading to obesity) are overt behaviors controlled and maintained in part, at least, by environmental and social factors. Furthermore, they have both been proven to be difficult problems to treat by any means (for example, see reviews in Gelfand, 1978; Leon, 1976; Marcovitch, 1978; Stunkard, 1975). One important feature which distinguishes those problems for which hypnotizability has been shown to play a role (e.g., pain, warts and asthma) and those for which it does not (e.g., smoking and obesity) is the greater part learning plays in the latter. Certainly, the results of this study support the idea that making a distinction among different kinds of problem areas is meaningful, and that the role of susceptibility in treatment is not the same in all kinds of clinical conditions.

The results of the step-wise multiple regression analysis pointed to a combination of inventory measures in conjunction with hypnotic susceptibility as being able to predict weight loss or skinfold decrease. The variance of the dependent variables accounted for by the variance of the predicting variables, however, was low. Nevertheless, the discriminant analyses indicated that participants who benefitted most from the program (in terms of both weight loss and skinfold criteria) could be distinguished from those who showed little appreciable change. Until these results are

replicated, however they should be treated with caution. The finding is of interest, nevertheless insofar as it appears to implicate both subject characteristics and hypnotic skill as potential predictors of successful outcome.

In a review of outcomes of behavioral treatments of obesity, Hall and Hall (1974) showed that no successful predictors of weight loss had yet been found in terms of the following factors: clinical intuition, MMPI, MPI, weight prior to treatment, general anxiety, situation specific anxiety, PAS, EPQ, I-E scale, body image measures, attitude measures and the IPAT 16 PF test. The studies reviewed, however, were primarily of a univariate and bivariate nature. It remains possible that a combination of factors as detected in the present study by step-wise multiple regression analysis may prove to be useful in predicting which clients will have the best chances of improving in a weight programme. Indeed, a more recent study, thus far unreplicated, (Quereshi, 1977), reports that 10 factors on a scale devised by the author were able to distinguish remediably and irremediably obese persons.

Still unclear is what factors were the essential ones to which weight loss can be attributed. Since susceptibility in itself shows little relationship to treatment outcome, it must be assumed that the hypnotic suggestions to lose weight per se, were not the main therapeutic ingredients. Instead the causes of change may reside in factors such as subject motivation, placebo effect or believed-in efficacy of the treatment.

The percentage of high susceptibles in this study corresponds to Hilgard and Hilgard's (1975) sample but is high in comparison to what has usually been found in the general population. The reason for this discrepancy is not clear. Hilgard and Hilgard's sample as well as the present sample were self-selected and possibly drawn to both studies because hypnosis was involved. It may well be that high and medium susceptibles will tend to be attracted more to this kind of study and thus be overrepresented.

It is of further interest that Thorne, Rasmus and Fisher (1976) reported that a sample of 258 female undergraduates, at least 20 pounds overweight, volunteering for a weight loss programme had significantly higher scores on the Harvard Group Scale of Hypnotic Susceptibility (Shor & Orne, 1962) than 8 other experimental groups. The authors argued that this may be a feature of the obese but conceded also that the difference could have resulted from the demand characteristics and self-selection involved in the programme.

At present there is not yet enough data to answer questions raised here about the level of susceptibility of different clinical groups.

The factors mentioned earlier such as belief in the efficacy of hypnosis (Lazarus, 1973), the therapist-patient relationship (Sheehan & Orne, 1968) along with patient motivation and the simple fact of therapeutic intervention may all be important in weight loss treatments in general and for hypnotherapy in particular. It may well turn out that no one factor is responsible

for therapeutic change in the treatment of overweight especially given the complexity of the problem and difficulties encountered by all investigators in the field.

Hypnotic Susceptibility and Obsessionality

The other main question which this study set out to answer was whether hypnotizability was related to obsessionality. It was proposed that obsessionals would be less hypnotizable than normals and that high scores on the Leyton would predict low scores on the SCSHS. The results did not show this at all. None of the Leyton subscales correlated significantly with hypnotizability (Table 11) nor did a chi square analysis prove fruitful in revealing a relationship. It will be recalled that the reason for seeking such a relationship was developed from Hilgard's (1977) and Bowers' (1977) cognitive interpretation of hypnotic phenomena. If a negative correlation between susceptibility and obsessionality had been found it was reasoned that this would indirectly support these interpretations.

There are alternate explanations for why this support failed to materialize which does not endanger the original hypothesis. It was previously mentioned that the sample was drawn from a non-clinical population. The mean scores of the present sample were well below the scores of obsessive patients in Cooper's (1970) study, so that the relative paucity of highly obsessive individuals in this present study may have been the major reason for not finding

a relationship. Alternatively, the Leyton Inventory itself may not be the best tool for tapping obsessionality. No validity or reliability data on this test exists; and further, no norms beside those reported by Cooper have been reported. In addition, the Leyton may fall into the category of personality inventory which has been criticized by Mischel (1968) on the basis of situation versus trait theories of personality. This criticism has been used as an explanation for why attempts to find personality correlates of hypnotizability have generally failed to achieve consistent findings (Bowers, 1976).

Finally, it should be emphasized that even if obsessionality and hypnotizability are not related this does not threaten Hilgard's dissociative theory of hypnosis. There is simply not enough data available to make a judgement.

Hypnotic Susceptibility, Depression and Anxiety

The question of possible relationships between susceptibility and/or depression and anxiety was raised earlier when Stanton's (1975) findings concerning freedom from depression and irritability among those successfully treated for obesity via hypnosis was discussed. No such relationships were found nor were changes in anxiety predicted by the independent factors in the study. The IPAT covert anxiety measure was found to predict SDS changes but the meaningfulness of this is unclear. Depression and anxiety are often common features of neurosis and the finding may simply be a

reflection of this. It is possible, though, that depression and/or anxiety changes accompanying weight loss may not be comparable to changes occurring in the treatment of depressive or anxiety disorders. Thus, a relationship may exist but only be apparent in a clinical population undergoing treatment.

It is equally difficult to evaluate Stanton's (1975) report. Admittedly, many of the subjects in this study reported positive subjective changes and reduced their SDS and SRA scores as well. The reductions were not that large however, and it is questionable how psychologically meaningful small changes in these measures are since neither scale has been adequately tested for reliability. The findings in this investigation and Stanton's may in fact have resulted from demand characteristics in both studies.

Concluding Remarks

The results of the present study suggest that hypnotic suggestions alone do not appear to be a direct cause of weight loss yet the losses of weight obtained by some of the participants is more than respectable when compared with other treatments. The treatment offered was actually a combined approach to weight loss in that nutrition, proper eating habits, explanations about environmental stimuli which maintain overeating and the importance of exercise were all stressed. Even though this study was not designed to compare treatment methods, the findings suggest that properly controlled experiments be done to evaluate the kind of

approach used here. This becomes more important when one considers the increasing public popularity of hypnotherapy as a weight loss technique and the relatively small amount of success with single technique treatments.

Generally, high drop-out rates are common for weight loss studies. Hall and Hall (1974), for instance, review 19 studies of which 8 had no drop-outs and the mean rate of attrition for the remainder was 27.3%. The studies with no drop-outs all involved a substantial amount of therapist-client interaction. This study was also highly successful in maintaining the original sample size despite the extremely small amount of contact between the investigator and the subjects. The weight-loss contract and the $40.00 deposit were included for the specific reason of preventing attrition.

It has already been noted that one problem encountered in this study was the difficulty in establishing criteria for "successful" weight loss. The literature on obesity is plagued by inconsistency and lack of comparability. This is partially due to great individual differences which occur in weight loss. Suitable measures, such as percent body fat, are seldom if ever used as criteria for determining how much a person is overweight by. If a person loses 10 pounds using a certain technique but is still substantially overweight, the question of success must rest on whether this person continues to lose weight or at least maintain the loss. This has not been the case in most studies. It has been suggested (Jeffrey, 1977) that the target of obesity studies should resolve

around eating behavior and exercise rather than weight loss (or skinfold decrease), since these behaviors are the key to obesity. The questions concerning how much overweight a person is or how much is a meaningful weight loss would then become less crucial.

To summarize, it was found that hypnotic susceptibility did not appear to be related to weight, skinfold, depression or anxiety changes in a weight loss programme using hypnotherapy. Certain predictors for weight loss and skinfold change were found among the inventory variables used in the study which were able to distinguish those subjects who showed relatively large decreases in weight and skinfold from the remaining participants. No relationship between hypnotizability and obsessionality was found but this may have been a result of the inadequacy of the Leyton Obsessional Inventory as a suitable instrument. This is the first study investigating these particular questions and replication is required in order to evaluate the findings further. Nevertheless, a larger inroad has been made into the little researched area of hypnotic susceptibility and treatment outcome.

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Appendix A

SUBJECT RECRUITMENT ADVERTISEMENT

OVER-
WEIGHT?

If you are seriously interested in losing weight and willing to invest some time and effort, we can help. For information about weight loss programme involving hypnosis call:

Jan Carstoniu
Dept. of Psychology
Concordia University
879-8023 or 879-4146

Appendix B

WEIGHT LOSS CONTRACT

I, the undersigned agree to participate in a weight loss programme for 12 weeks commencing today. As a guarantee of my continuing participation, I have given Jan Carstoniu the sum of $40.00 which will be returned to me at the end of the programme. I agree to forfeit this money if I fail to fulfill the following requirements:

1. That I show up to the two (2) scheduled meetings.
2. That I send in, by mail, once a week, a card showing a record of my daily weight and frequency of using a cassette tape.

I understand clearly the above conditions.

Date_____ _____
Signed

_____
Witness

Appendix C

Self-administered Version of Leyton Inventory

NAME: _____ DATE: _____

INSTRUCTIONS:

Please CHECK appropriately the answer YES or NO to each question.

Please answer all questions and answers as spontaneously as possible without thinking too much about each.

		YES	NO	R	I
1.	Are you often inwardly compelled to do certain things even though your reason tells you it is not necessary?	____	____	____	____
2.	Do unpleasant or frightening thoughts or words ever going over in your mind?	____	____	____	____
*3.	Do you ever have persistent imaginings that your children or husband or significant others might be having an accident or that something might have happened to them?	____	____	____	____
*4.	Have you ever been troubled by certain thoughts or ideas of harming yourself or persons in your family - thoughts which come and go without any particular reason?	____	____	____	____
5.	Do you often have to check things several times?	____	____	____	____
*6.	Do you ever have to check gas or water taps or light switches after you have already turned them off?	____	____	____	____
*7.	Do you ever have to go back and check doors, cupboards, or windows to make sure that they are really shut?	____	____	____	____

LEYTON INVENTORY

		YES	NO	R	I
8.	Do you hate dirt and dirty things?	___	___	___	___
*9.	Do you ever feel that if something has been used, touched or knocked by someone else it is in some way spoiled for you?	___	___	___	___
*10.	Do you dislike brushing against people or being touched in any way?	___	___	___	___
*11.	Do you feel that even a slight contact with bodily secretions (such as sweat, saliva, urine, etc.) is unpleasant or dangerous, or liable to contaminate your clothes?	___	___	___	___
12.	Do you worry if you go through a day without having your bowels open?	___	___	___	___
*13.	Are you ever worried by the thoughts of pins, needles, or bits of hair that might have left lying about?	___	___	___	___
*14.	Do you worry about household things that might chip or splinter if they were to be knocked or broken?	___	___	___	___
*15.	Does the sight of knives, hammers, hatchets or other possibly dangerous things in your home ever upset you or make you feel nervous?	___	___	___	___
16.	Do you tend to worry a bit about personal cleanliness or tidiness?	___	___	___	___
*17.	Are you fussy about keeping your hands clean?	___	___	___	___

		YES	NO	R	I
*18.	Do you ever ask to have clothes washed or cleaned (or do it yourself) that are not obviously dirty, in order to keep them extra clean and fresh?	___	___	___	___
*19.	Do you take care that the clothes you are wearing are always clean and neat, whatever you are doing?	___	___	___	___
*20.	Do you like to put your personal belongings in set places or patterns?	___	___	___	___
*21.	Do you take great care in hanging and folding your clothes at night?	___	___	___	___
22	Are you strict about the house always being kept very clean and tidy?	___	___	___	___
*23.	Do you dislike having a room untidy or not quite clearn for even a short time?	___	___	___	___
24.	Do you sometimes get angry that children spoil your nice clean and tidy rooms?	___	___	___	___
*25.	Do you like furnitue or ornaments to be in exactly the same place always?	___	___	___	___
26.	Do your easy chairs have cushions which you like to keep exactly in position?				
*27.	If you notice any bits or specks on the floor or furniture to you have to remove them at once before you are due to clean around?	___	___	___	___
28.	Do you often do any dusting of cleaning at home without being asked to do so (or when it isn't necessary)?	___	___	___	___

		YES	NO	R	I
29.	Do you ever have to clean or wash things over again several times just to make sure they are really clean?	___	___	___	___
*30.	Do you have to keep to strict timetables or routines for doing ordinary things?	___	___	___	___
*31.	Do you have to keep a certain order for undressing and dressing, or wahing and bathing?	___	___	___	___
32.	Do you get a bit upset, if you cannot do your work at set times or in a certain order?	___	___	___	___
*33.	Do you ever have to do things over again a certain number of times before they seem quite right?	___	___	___	___
*34.	Do you ever have to count things several times or go through numbers in your general mind?	___	___	___	___
*35.	Do you ever get behind with the work, because you have to do something over again several times?	___	___	___	___
36.	Are you a person who often has a guilty conscience over quite ordinary things?	___	___	___	___
*37.	Are you the sort of person who has to pay a great deal of attention to details?	___	___	___	___
38.	Are you ever over-conscientious or very strict with yourself?	___	___	___	___
*39.	Do you ever waste time by doing a thing more thoroughly than is really necessary just to see it really finished?	___	___	___	___

		YES	NO	R	I
*40.	Even when you have done something carefully, do you often feel that it is somehow not quite right or complete	___	___	___	___
*41.	Do you feel unsettled or guilty if you haven't been able to do something exactly as you would like?	___	___	___	___
42.	Do you always fail to explain things properly, in spite of having planned beforehand exactly what to say?	___	___	___	___
*43.	Do you have difficulty in making up your mind?	___	___	___	___
*44.	Do you have to turn things over and over in your mind for a long time before being able to decide about what to do?	___	___	___	___
*45.	Do you ask yourself questions or have doubts about a lot of things you do?	___	___	___	___
*46.	Are there any particular things that you try to keep away from or that you avoid doing, because you know that you would be upset by them?	___	___	___	___
*47.	Do you find it difficult to throw things away?	___	___	___	___
*48.	Do you keep rather a lot of empty boxes, paper bags, old newspapers, or tins in case they come in useful one day?	___	___	___	___
49.	Does your stock of soap, detergents, or cleaning materials ever get large because you find yourself buying more than you actually use?	___	___	___	___
50.	Do you regard cleanliness as a virtue in itself?	___	___	___	___

		YES	NO	R	I
51.	Do you get more pleasure from saving money than from spending it?	___	___	___	___
52.	Are you more careful with money than most people you know?	___	___	___	___
53.	Do you keep regular accounts of the money you spend every day?	___	___	___	___
54.	Do you usually look on the gloomy side of things?	___	___	___	___
55	Do people often get on your nerves and make you irritable?	___	___	___	___
56.	When you feel critical of someone, do you usually say what you are thinking?	___	___	___	___
57.	Do you get angry or irritable if people don't do things carefully or correctly?	___	___	___	___
58.	Do you try to avoid changes in your house or work or in the way you do things?	___	___	___	___
59.	Do you try to avoid changing your mind once you have made a decision about something?	___	___	___	___
60.	Are you a person who likes to stick to principles and decisions whatever the opposition or difficulties?	___	___	___	___
61.	Do you pride yourself on thinking things over very carefully before making a decision?	___	___	___	___
62.	Do you think that regular daily bowel movements are important for your health?	___	___	___	___
63.	Do you often get scared that you might be developing some serious sort of illness or cancer?	___	___	___	___

		YES	NO	R	I
64.	Are you very systematic and methodical in your daily life?	___	___	___	___
65.	Do you like to get things done exactly exactly right, down to the smallest detail?	___	___	___	___
66.	Do you think it is important to follow rules and regulations exactly?	___	___	___	___
67.	Do you like to have set times or orders for doing your work?	___	___	___	___
*68.	Are you ever late because you just can't seem to get through everything in time?	___	___	___	___
*69.	If you have to catch a train or keep an important appointment, do you have to plan out how to do it beforehand in great detail?	___	___	___	___

Now, please go back to the beginning of the test after reading these instructions.

Detatch the two sheets headed by R and I. Start with the R sheet. You will find a series of lettered statements. For each of the original question that you answered YES to and which were also marked with an asterisk choose the appropriate statement and put its letter in the line beside the question in the column marked R.

For example, suppose you answered YES to question 10 which is marked by an asterisk and you choose the statement marked B, you will put a B as shown below:

10. Do you dislike brushing against people or being touched in any way?

YES	NO	R	I
___	___	B	___

This means that for you the dislike of brushing against people is just a habit. You don't really think about it.

Then you have gone through all the questions, start again using the I sheet and do the same thing. If none of the statement seem appropriate choose the best one anyway.

R

A)	Sensible	This is quite a sensible and reasonable thing for me to do.
B)	Habit	This is just a habit - I do it automatically without really thinking about it.
C)	Not necessary	I often realize that this is not really necessary, but I don't bother to try and stop it.
D)	Try to stop	I know that this is not necessary and I try to stop.
E)	Try very hard to stop.	This upsets me a great deal and I try hard to stop it.

I

A) No Interference: This does not interfere with other activities.

B) Interference a little: This interferes a little with other activities OR wastes a little of my time.

C) Interferes moderately: This interferes with other or wastes some of my time.

D) Interferès a great deal: This stops me doing a lot of things and wastes a lot of time every day.

Appendix D

Induction Transcript

First of all, make yourself comfortable in the chair -- and then, look at the dot on the wall. Just begin staring at it. In the meantime, I am going to give you some simple instructions which will help you to experience hypnosis. You'll find that you can quickly learn to follow these instructions and to experience the things I describe to you. With practice on subsequent days you will find that you can experience these things with greater vividness, with greater intensity than you do at first.

As you stare at the dot on the wall, you may find that occasionally your gaze may wander. And that your vision may even blur. If this happens, simply refocus your eyes and continue staring evenly at the dot on the wall.

Now take a deep breath in, and hold it: Hold it until it starts to feel uncomfortable and then, when it starts to feel uncomfortable, just let it out slowly. (Long pause) You find that you are starting to experience a comfortable feeling; -- a feelings of well-being begins to develop as you continue to rest in the chair. Just looking at the dot on the wall, listening to my voice. Now take another deep breath in and hold it --

Notice the feeling of tightness and tension in your chest and abdomen -- and then, as it starts to feel uncomfortable just as

you did before, let it out very slowly (long pause).

Notice that with breathing out -- with letting the tension out of your lungs -- you become even more aware of a feeling of comfort and well-being settling over you.

Just sink deeper into the chair, and focus your attention closely on feelings of relaxation in various parts of your body -- in your head and your neck, in your arms and in your legs, in your chest and in your back. And just breathe freely and evenly and deeply -- freely, even and deeply, not too quickly, not too slowly. Just at a comfortable rate for you to notice that relaxation increases gradually as you breathe out.

You may even be aware of the walls of your chest growing looser -- just rest there for a moment experiencing the sensation. Continue relaxing your chest so that feelings of warmth and comfort radiate to your back and your shoulders and your neck and your arms and your legs.

You're probably starting to notice certain changes in the dot on the wall -- changes that occur from staring at it for so long. Sometimes the dot on the wall looks like its moving up and down, or from left to right. Sometimes it may not look like a coloured dot on the wall, but a small hole in the wall. At other times it might seem like a coloured patch just a few inches in front of the wall. You may see some of these things or even all of these things. Whatever you see, just continue staring at the dot; continue listening to my voice. Continue to be come more deeply relaxed, more deeply

relaxed.

And as you watch the dot on the wall, your eyelids become heavier and heavier and your eyes are becoming tired from staring. Your eyelids start to feel very tired and heavy, as you sit there breathing freely and evenly and deeply -- breathing in, breathing out freely, evenly, deeply. The eyelids are becoming so heavy, so tired that soon they will just close of their own accord, as if they were coated with a lead paste; as if there were magnetic fields in the eyelashes drawing the eyelashes together.

Concentrate now, even more closely on feelings of relaxation and comfort in various parts of your body. First of all, think of relaxation in the muscles of your left arm -- the hand, the fingers of the left hand ... the left forearm ... the left upper arm ... the left shoulder. Think of relaxation in each of these areas and as you think of the relaxation, the muscles become progressively more relaxed.

Then ... relax the muscles of your right arm ... the right hand, the fingers of the right hand, the right forearm, the right upper arm, and the right shoulder.

And then ... relax the muscles of your neck ... your chest ... your back. Relax each of these muscle groups ... the neck ... the chest ... the back. And as you relax these muscles, your facial muscles will also relax and loosen of their own accord. Then relax the stomach muscles by doing this: ... tighten your stomach muscles

... make your abdomen hard ... and then, let the tension out ... notice the feeling of well-being that comes with relaxing your stomach ... like a gentle massaging action all over your stomach and even up to your chest.

Then relax the muscles of your legs ... the right leg ... the right foot ... try to feel it in the toes of your right foot ... and then the right calf ... the right thigh.

Then the left leg ... left foot ... the toes of your left foot ... the left calf ... and the left thigh.

Just thinking about relaxation in these areas causes the muscles to become more relaxed and you may even feel an interesting thing happens. That the feelings of relaxation you feel in each of these areas of the body start to spread and irradiate so that they may seem to join up like parts of a jigsaw puzzle and you feel a deep feeling of overall relaxation. Of contentment and of well-being permeating the whole of your body.

And your eyes will probably have closed now from concentrating so carefully on the dot on the wall, but, if they haven't, just close them gently now of your own accord and take a deep breath in and hold it and then, when it starts to feel uncomfortable just as you've done before ... just let it out slowly.

With your eyes closed, you are ready to experience hypnosis - to experience it more profoundly - but you will find an interesting thing is happening. That no matter how deeply relaxed you ever feel, no matter how deeply in hypnosis you ever feel, your mind is always

clear. You're always aware of my voice and of what I am saying to you. You are completely aware of everything that is happening around you even though you are deeply relaxed -- deeply in hypnosis.

You can now go even deeper into hypnosis. Say to yourself -- just by thinking it -- "Now I am going deeper and deeper." Think it to yourself. And imagine yourself standing at the top of an escalator. Visualize the scene of the escalator -- of the steps moving down -- and picture the moving hand rail.

Count backwards slowly from ten to zero, imagining, as you count that you are stepping onto the first step of the escalator and standing with your hands on the railing while the steps move down carrying you deeper and deeper into hypnosis. You can plan it so that you reach zero just as you reach the bottom and step off the escalator. It will take you about 1 minute.

(Pause 60 seconds)

You have now become so deeply relaxed -- so deeply in hypnosis -- that your mind has become so sensitive -- so receptive to what I say -- that everything I say to you -- will sink so deeply into the furthermost recesses of your mind -- and will make so deep and lasting an impression there.

And because these things will remain -- firmly embedded in the deepest parts of your mind -- after you have left here -- when you are no longer in this room -- they will continue to exercise the same profound impression -- just as strongly -- just as surely --

just as powerfully -- when you are back at home -- or anywhere else you happen to be -- as when you are actually here in this room, listening to my voice.

As a result of this deep relaxation -- this deep hypnosis -- you are going to feel physically stronger and fitter and healthier in every way. You will feel more alert -- more wide aware -- more energetic. You will become much less easily tired -- much less easily fatigued -- much less easily discouraged.

Every day you will become so deeply interested in whatever you are doing -- in whatever is going on around you -- that your mind will become completely distracted away from everything else -- you will no longer think nearly so much about yourself -- you will become much less conscious of yourself -- much less concerned with yourself and with your own feelings.

Every day your nerves will become stronger and steadier -- your mind calmer and clearer -- more composed -- more placid -- more tranquil. You will find that it takes a lot for things to worry you -- that it takes a lot for things to upset you even slightly.

You'll be able to think more clearly -- you'll be able to concentrate more easily -- you'll be able to give up your whole undivided attention to whatever you are doing -- to the complete exclusion of everything else. As a result you will find it easier to remember things than you do now -- you will be able to see things in their true perspective -- without magnifying them -- without ever

allowing them to get out of proportion.

Every day you will become and you will remain emotionally more calm -- much more settled -- much less easily disturbed. Every day you will become -- and you will remain -- more and more completely relaxed -- much less tense each day -- both mentally and physically -- wherever you are -- at home -- or anywhere else you happen to be.

As you become -- and as you remain -- more relaxed and less tense each day -- so -- you will develop much more confidence in yourself.

More confidence in your ability to do -- not only what you have to do each day -- but more confidence in your ability to do whatever you ought to do -- without feeling that you might fail -- without feeling uneasy.

Because of this -- every day -- you will feel more and more independent -- more able to stand up on your own 2 feet -- more able to hold your own -- no matter how difficult or trying things may be.

Every day -- you will feel a greater feeling of personal well-being -- a greater feeling of personal serenity -- than you have felt for a long, long time.

And because all these things will begin to happen -- more and more rapidly -- more and more powerfully - more and more completely -- every time you hear my voice on this tape -- every time you practise these hypnosis exercises by yourself -- you will feel much happier -- much more contented -- much more optimistic in every way.

You will, consequently, be much more able to rely upon and depend upon -- yourself -- your own efforts -- your own judgements -- your own opinions. You will feel -- much less need to have to rely upon -- or to depend upon -- other people.

And now just rest there enjoying the feeling of warmth and comfort and relaxation that have been developing during this hypnosis session. Think particularly about these sensations I've described to you that you find especially pleasant.

TWO MINUTES OF SILENCE

NOW I WANT YOU TO HAVE A CLEAR MENTAL IMAGE OF YOURSELF STANDING ON A SET OF SCALES - AND THE SCALE REGISTERING THE WEIGHT YOU WISH TO BE. SEE THIS VERY .. VERY CLEARLY .. FOR THIS IS THE WEIGHT YOU WILL BE. SEE YOURSELF LOOKING THE WAY YOU WOULD LIKE TO LOOK WITH THE WEIGHT OFF THOSE PARTS OF THE BODY YOU WANT THE WEIGHT TO BE OFF. SEE THIS VERY .. VERY VIVIDLY AND SUMMON THIS IMAGE INTO YOUR MIND MANY TIMES DURING THE DAY: PARTICULARLY JUST AFTER WAKING IN THE MORNING AND BEFORE GOING TO SLEEP AT NIGHT. ALSO HAVE IT VIVIDLY IN YOUR MIND BEFORE EATING MEALS. AND THIS IS THE WAY YOU WILL LOOK AND THIS IS THE WEIGHT YOU WILL BE. AS YOU BELIEVE THIS ... SO IT WILL HAPPEN.

WHEN YOU HAVE ATTAINED THIS WEIGHT ... YOU WILL BE ABLE TO MAINTAIN IT... YOU WILL FIND YOURSELF EATING JUST ENOUGH TO MAINTAIN YOUR WEIGHT AT THE WEIGHT YOU WOULD LIKE TO BE... UNTIL YOU DO ATTAIN THIS WEIGHT YOU WILL FIND YOU WILL HAVE LESS AND LESS DESIRE TO EAT BETWEEN MEALS. IN FACT ... VERY ... VERY SOON... YOU WILL HAVE NO DESIRE TO EAT BETWEEN MEALS ... YOU SIMPLY WILL NOT WANT TO. ALSO YOU WILL FIND THAT YOU WILL BE CONTENT WITH SMALLER MEALS. THERE WILL BE NO SENSE OF UNHAPPINESS OR DISSATISFACTION: SMALLER MEALS WILL BE QUITE SATISFACTORY TO YOU .. AND YOU WILL HAVE NO DESIRE TO EAT LARGER MEALS. AND YOU WILL HAVE LESS ... AND LESS .. DESIRE FOR HIGH CALORIE .. RICH .. UNHEALTHY FOODS.

DAY BY DAY .. YOUR DESIRE FOR SUCH FOODS WILL BECOME LESS AND LESS .. UNTIL VERY VERY SOON .. YOU WILL HAVE NO DESIRE AT ALL FOR RICH .. HIGH CALORIE .. UNHEALTHY FOODS. INSTEAD - DAY BY DAY ...

YOU WILL DESIRE LOW CALORIE .. HEALTHY FOODS ... AND THESE WILL REPLACE THE HIGH CALORIE FOODS .. THE RICH FOODS ... YOU HAVE EATEN IN THE PAST..

AS YOU LOSE WEIGHT AND APPROACH CLOSER AND CLOSER THE WEIGHT YOU WISH TO BE YOU WILL FIND YOURSELF GROWING STRONGER AND STRONGER.. HEALTHIER AND HEALTHIER. YOUR RESISTANCE TO ILLNESS AND DISEASE WILL INCREASE.. DAY BY DAY. WITH LESS WEIGHT YOU WILL FEEL BETTER AND BETTER.. AND YOUR HEALTH WILL BECOME BETTER AND BETTER.

REMEMBER TOO .. THAT YOUR OWN SUGGESTIONS WILL BECOME JUST AS EFFECTIVE AS THE SUGGESTIONS I AM GIVING YOU ON THIS TAPE..

In a moment you will be able to wake up. All you have to do is say to yourself "Now I am going to wake up" and then count from 1 - 3. You will wake up feeling refreshed and buoyant, as though you have been in a deep and dreamless sleep. You will have a feeling of vigor, of vitality -- vigor -- vitality.

When you are practising these hypnosis exercises by yourself it is very important that you always wake yourself up at the end, rather than just going off to sleep. You will find that you get better results this way. Now, just rest there for about one minute and then after 1 minute say to yourself "Now I am going to wake up" and then count from one to three.

And remember to do these exercises in your own time and to practise them regularly.

ONE MINUTE OF SILENCE

And now that the minute is up - say to yourself "Now I am going to wake up" and count from 1 to 3.

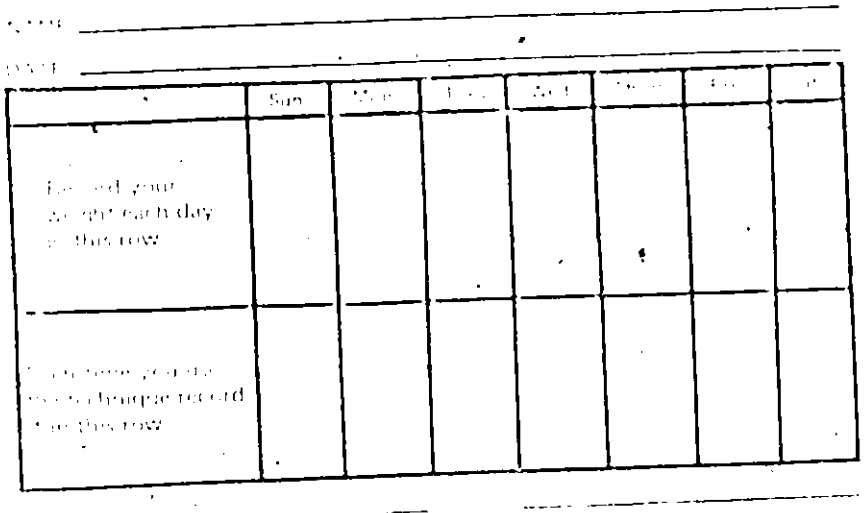
Appendix E

Self Rating of Anxiety

Each subject was asked the same question: "How anxious do you think you are in general and in comparison to others on a scale of 1-10 where 1 is no anxiety, nervousness or tension and 10 is the largest amount of anxiety, tension or nervousness a person could possibly feel?"

Appendix F

Subject Data Card



Appendix G

Height, Initial Weight, Pounds Overweight and Weight Loss for Each Subject

Subject No.	Height Feet	Height Inches	Initial Weight (lbs)	[1]Pounds Overweight	Weight Loss (lbs
1	5	2	176	10	7
2	5	4	214	79	3
3	5	6.5	154	11	increase 4
4	5	3.5	194	63	23
5	5	1.5	123	10	9
6	5	6.5	153	10	increase 2
7	5	3.5	149	19	increase
8	5	5.5	149	10	0
9	5	3	161	31	9
10	5	5	149	10	increase 9
11	5	5.5	184	45	5
12	5	3.5	147	17	increase 1
13	5	2.5	142.5	16.5	3.5
14	5	4	146	11	increase 1
15	5	6	160	17	2
16	5	6.5	217	74	8
17	5	9.5	194	34	increase 4
18	5	1	156.5	35.5	4.5
19	5	6	159	16	1
20	5	9	200	40	5
21	5	2.5	173	54	8
22	5	7.5	157	10	increase 11
23	5	2	139	13	9
24	5	10	220	55	17
25	5	3	129.5	10.5	4.5
26	5	6	146	15	3
27	5	6.5	173	30	increase 2
28	5	6.5	148.5	17.5	6.5
29	5	1.5	151	31	0
30	5	10.5	207	42	37
31	5	6.5	192	45	31
32	5	5.5	157	18	5
33	5	4	220	85	19
34	5	4.5	197	67	4
35	5	2.5	126	10	2
36	5	5.5	159	20	8

[1]This figure is based on standard weight table printed in The Whys of Weight.