SUBLIMINAL SUGGESTION: ITS USE IN WEIGHT CONTROL THROUGH BEHAVIOR MODIFICATION

By

GREGORY C. HARRISON

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Report Approved:

Claudia Peck

Report Advisor

Dorothy Goss

Donna H. Branson

Norman N. Durham

Dean of the Graduate College

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NATURE AND JUSTIFICATION OF THE PROBLEM

Nature and technology have combined to provide Americans with the highest standard of living in the world. Food is so plentiful that programs have been developed to curtail crops and store surplus grains to prevent glutting the market and depressing the agricultural economy. Despite these drastic measures, however, our grocery markets are crowded with a profusion of basic and exotic food. This abundance is not in itself bad, in fact the opposite is quite true. What has occured for some, however, is an abuse of that readily available stockpile of food and the resultant problem with body weight and fat. When people are asked about this obesity they are likely to answer with discussion about the 300 pound fat lady or the 500 pound fat man at the circus. Interestingly enough this could not be further from the truth.

It has been determined by the American Medical Association that 80 million Americans are overweight and that perhaps half of these could be technically classified as obese, i.e., accumulated fat makes them weigh 20% or more above the normal weight range for their age, sex, and height. The Metropolitan Life Recommended Weights, (Table 1), and the Gerontology Research Center: Age-Specific Weight Range for Men and Women, (Table 2), are examples of what is

Table 1

Metropolitan Life Recommended Weights

Height	Men	Women
4'10"		100-131
4'11"		101-134
5'		103-137
5'1"	123-145	105-140
5'2"	125-148	108-144
5'3"	127-151	111-148
5'4"	129-155	114-152
5'5"	131-159	117-156
5'6"	133-163	120-160
5'7"	135-167	123-164
5'8"	137-171	126-167
5'9"	139-175	129-170
5'10"	141-179	132-173
5'11"	144-183	135-176
6'	147-187	
6'1"	150-192	
6'2"	153-197	
6'3"	157-202	

These weights correlate to maximum life span.

Source: Metropolitan Life Weight Table. (1983). New York: Metropolitan Life Insurance Company.

Table 2

Gerontology Research Center: Age Specific Weight Range for Men and Women

Height	20-29	30-39	40-49	50-59	60-69
4'10"	84-111	92-119	99-127	107-135	115-142
4'11"	87-115	95-123	103-131	111-139	119-147
5'	90-119	98-127	106-135	114-143	123-152
5'1"	93-123	101-131	110-140	118-148	127-157
5'2"	96-127	105-136	113-144	122-153	131-163
5'3"	99-131	108-140	117-149	126-158	135-168
5'4"	102-135	112-145	121-154	130-163	140-173
5'5"	106-140	115-149	125-159	134-168	144-179
5'6"	109-144	119-154	129-164	138-174	148-184
5'7"	112-148	122-159	133-169	143-179	153-190
5'8"	116-153	126-163	137-174	147-184	158-196
5'9"	119-157	130-168	141-179	151-190	162-201
5'10"	122-162	134-173	145-184	156-195	167-207
5'11"	126-167	137-178	149-190	160-201	172-213
6'	129-171	141-183	153-195	165-207	177-219
6'1"	133-176	145-188	157-200	169-213	182-225
6'2"	137-181	149-194	162-206	174-219	187-232
6'3"	141-186	153-199	166-212	179-225	192-238
6'4"	144-191	157-205	171-218	184-231	197-244

These Weights correlate to maximum life span.

Source: Consumer Reports, Aug 1985, (p.456).

Table 3

National Institute of Health Panel:

Weight Indicating Obesity

Height	Men	Women
4'10"		137
4'11"		139
5'		143
5'1"	157	146
5'2"	160	150
5'3"	162	154
5'4"	164	157
5'5"	167	161
5'6"	172	164
5'7"	175	168
5'8"	179	172
5'9"	182	175
5'10"	186	179
5'11"	190	182
6'	194	
6'1"	199	
6'2"	203	
6'3"	211	

Source: Consumer Reports, Aug 1985, (p.456).

considered ideal weight parameters. These are used by the Life Insurance industry to establish preferred weights based on actuarial tables. The National Institute of Health Panel: Weight Indicating Obesity, (Table 3), attempts to establish a weight at which a person is considered obese. It should be noted that there are differences in both weight determining criteria and weight limits given. The health hazards accompanying obesity are of increasing concern, particularly in respect to cardiovascular diseases and diabetes. Mortality from heart disease, for example, is 40% higher among moderately overweight persons and 65% higher among the obese.

Unlike the major killer diseases which have research foundations supported by the public, obesity is considered generally the problem of the individual. Consumers are allowed to dig their graves with knifes and forks, undeterred by information and methods which would help them understand the compulsive nature of their destructive habit. They are as helpless when confronted with a platter of food as an alcoholic when confronted with a drink.

The compulsive eater, like the alcoholic, is aware of the consequences of the habit and attempts to control it. This attempted control often involves fad diets and practices. There is constant discussion about diets, including but not limited to, starvation diets, chemical diets, sleep diets, low-exercise diets, and hypnotic diets using subliminal suggestion tapes. These diets may vary

greatly in listing the foods an individual may or may not eat, but they all have two things in common. Their success depends on the users desire to lose weight and the expressed or implied promise that the individual may resume normal eating habits as soon as the desired weight is lost.

Recent Weight Loss Gimicks

Spirulina is a dark-green powder made from pond algae and sold as a food supplement. A chemical in the algae supposedly acts on the brain's appetite center to switch off hunger pangs, magazine ads say. A Food and Drug Administration (FDA) panel in 1979 found no proof for this claim.

The 24-Hour Diet Plan, which contains pills that supposedly speed up the body's metabolism and allow weight loss while you sleep. The FDA calls this "quackery", it defies all the laws of chemistry, biology, medicine, and physics (DeBrosse, 1984).

Human chorionic gonadotropin (HCG), is a hormone extract. Diet clinics may give weekly injections of the drug to curb appetite. The American Medical Association has determined that HCG is worthless.

More recently, newspaper and magazine ads have been advertising "Glucomannan - The Weight Loss Secret That's Been In the Orient For Over 500 Years." Glucomannan is made from the konjac root, which has been eaten as a food in the Orient for years. The FDA can find no proof that the chemical facilitates weight loss.

Besides the many miracle pills for losing weight, there are numerous gadgets for losing weight. These are usually garments or body wraps that reportedly melt fat away in a very short time. Whether the wrap is worn by day or night, during sleep or exercise, it is still no use, the FDA says. Wraps will not dissolve fat, even temporarily, because body fat is not broken down by sweating.

Subliminal suggestion makes the claim that by merely listening to music, the subconscious mind will perceive and receive a message. That message will effect ones behavior so as to cause weight loss. Clinical test results prove this to be false (Stanton, 1975; Cochrane & Stunkard, 1986).

The American marketplace is strongly oriented toward meeting consumer demands and a main thrust of that consumer demand is oriented toward making life easier and more comfortable. The problem of weight control occurs when the lessening of exercise and physical exertion is not mated to a reduction in the amount of food consumed. The food industry also spends in excess of $1 billion annually on advertising (Wilson, 1969). The American public spends an estimated $10 billion annually on weight loss aids (Haney, 1983).

These instantaneous cures for weight loss remove billions of dollars annually from the American consumer. Although each of these areas of weight control and loss warrant study, this report will focus primarily on subliminal suggestion.

PURPOSE OF THE RESEARCH

Self-help weight control and diet products represent a $10 billion dollar annual business and high-tech aids are almost always accompanied with some form of autosuggestion format (DeBrosse, 1984). The purpose of this study is to examine subliminal suggestion and its use in weight control and to determine if there is any correlation between weight loss and its use. Does it work? If so, what evidence exists? How does it work? Can it create basic behaviorial changes?

To answer these questions, the following format will be used. First, the problem of obesity will be reviewed with a discussion including some potential causes and related theories. Second, the use of hypnosis and its relationship to subliminal suggestion as applicable to weight control will be discussed. Third, subliminal suggestion will be evaluated as a weight control technique and, lastly, a review of medical evidence regarding the effectiveness of subliminal suggestion as a weight control technique will be presented. A summary and conclusion of the findings will follow.

REVIEW OF THE LITERATURE

Obesity

Obesity is one of the most common problems in the United States today. As defined by Dr. Louis Lasagna (1974), "Obesity is the excess accumulation of body fat or adipose tissue usually associated, but not synonymous with, overweight. It is associated with and exacerbates many other problems such as sexual inadequacy, feelings of inferiority, and anxiety states" (p.5). The risks and complications of obesity have been well documented: shorter life expectancy; diabetes; high blood pressure; cardiovascular, gall bladder, and degenerative joint diseases; and increased danger during surgery. For people suffering from high blood pressure, even moderate obesity heightens the risk of early death. Many hypothesis have been suggested concerning the causes of and cures for obesity.

Causes

According to Cormillot, Fuchs, and Zuckerfield (1986), "For the past 25 years we have been treating and studying obesity using a multifaceted approach, based mostly on the additive model. Many patients fulfill the criteria for the diagnosis of substance abuse, and show remarkable similarities with drug abusers, alcoholics,

heavy smokers, and compulsive gamblers." (p.375)

In early studies it was thought that in addition to the deeper psychological forces at work, the ordinary difficulties of daily living contributed to the desire to overeat and to the inability to diet (Hull, 1961). Thus, domestic upsets, fatigue, sexual problems, economic worries, and many other such common sources of tension made it difficult, if not impossible, to reduce food intake. It was noted that the patients who felt well as a result of reduced tension and frustration generally achieved successful weight reduction.

Tension and frustration can also lead to excessive caloric intake and subsequent obesity. These reactions usually depend on early developmental patterns. For example, the hungry infant soon learns that frustration is relieved by the pleasurable experience of nursing, thumb sucking, or sucking on a bottle. Although these earlier tension-relieving mechanisms are repressed, the individual always remembers the route by which this gratification was once afforded (Kroger, 1976).

Other oral methods for the relief of tension are chain smoking, gum chewing, and nail biting. Many insecure adults, when faced with frustration, resort to one of these tension-reducing outlets. This "return-to-the-breast" mechanism now involves the use of food to satisfy the oral cravings, since the bottle, the nipple, and the thumb are no longer acceptable (Kroger, 1976).

Excessive food intake can also result from other causes. For instance, in certain food addicts, overeating is often a substitute for suppressed hostile impulses. Since they cannot express anger toward those around them, they take it out on food, which they smashed to pieces. In homes where food is hard to get, children eat everything as soon as they get it, for tomorrow there may be no food. Many parents warn against wasting food, and also praise their children for being good eaters. Even after becoming wealthy, such individuals must always clean the plate. Parental attitudes and other psychosocial factors have a great impact on and can determine one's eating habits.

Overeating due to tension may follow the death of a friend or a relative. Frequently, food is used as a substitute for love. For example, people who are alone and who feel unwanted and unloved substitute the pleasure of eating for affection (Kroger, 1976). Unwanted children often become obese. To relieve their guilt feelings, some mothers become overprotective and stuff the children with food as proof of their love. Then, being concerned about their children's weight, they seek a physician's help. Psychotherapy for both the parent and child is usually suggested and generally refused because of the parents emotional problems.

An occupation may sometimes be the cause of obesity. In high-strung individuals such as actors, singers, or executives eating may be used for relaxation. Conversely,

people who lead dull lives may eat more often than usual to relieve the monotony. This could be the reason housewives raid the icebox between meals. There are also fat women who remain obese because their spouses prefer them fat. These husbands usually have an inferiority complex and feel more secure with plump, unattractive wives. Sterile women often use obesity as a symbol of the wish for pregnancy (Kroger, 1976).

Persons with heightened sexual impulses often displace these drives by food intake and eat ravenously. Sooner or later this type of individual reacts toward eating with the same feelings as he or she had about sex--mainly, shame, guilt, and anxiety--and then more food is required to alleviate the tension (Kiell, 1973). Many emotionally insecure individuals unconsciously believe that a heavy layer of body fat is a protective armor against a hostile world. For instance, the young girl, guilty over her sex drives, often retreats behind a wall of obesity. By doing this, she now has a ready-made alibi for not being attractive to men (Kiell, 1973).

Many young athletes enjoy eating large quantities of good food, and they do not gain weight when they are physically active. As they grow older and their lives become more sedimentary, their caloric intake exceeds their energy requirements, yet their level of satiation is raised because of their previous eating habits. This type loses weight with difficulty.

Most experts today believe that obesity results from an interaction among many factors--genetic, social, psychological, environmental, and hormonal. They have offered a number of explanations for the cause of obesity. Two hypothesis that are currently receiving a good deal of attention are the fat-cell theory and the set-point theory.

Current Theories

The fat-cell theory of obesity holds that high calorie diets in childhood lead the body to produce excessive numbers of fat cells that a person carries for life. Diet and exercise can only shrink these fat cells. Recent studies (Kolata, 1986) show that the number of fat cells cannot be diminished. They can still increase, however, in cases of extreme obesity.

According to the set-point theory of obesity, each of us is programmed to maintain a certain weight--much as a home's temperature is regulated by a thermostat. What we regard as an attempt to lose weight our body regards as famine and responds accordingly. Shrunken fat cells, crying out to be filled urge us to eat more. The body further defends its set point weight by lowering its metabolic rate, the rate at which energy is used by normal bodily processes.

If valid, the set-point theory may help explain why diets often fail and why after a person has shed a few pounds, losing more weight becomes increasingly less likely. Some proponents believe that an intensive exercise program can, however, alter the body's set point.

Other obesities derive from heredity, glandular diseases, eating habits, cultural attitudes that equate corpulence with success, circumstances that encourage eating cheap and fattening foods, and emotional maladjustment.

Most overweight people may no longer need to feel guilty about overeating; researchers find that they usually cannot trace obesity to simple gluttony. Instead, fatness comes largely from defects of body regulators in the brain and elsewhere. To study further this concept of the brain and its affect of body weight, we will discuss hypnosis and hypnotherapy.

Hypnosis

In 1888, Alfred Binét and Charles Féré made the following statement in their controversial book Animal Magnetism;

> The study of hypnosis bristles with difficulties, although this has not occurred to the numerous persons who have expected to find in these questions the occasion of a brilliant and easy success. Although nothing is more simple than the invention of dramatic experiments, which strike the vulgar with fear and astonishment, it is on the other hand very difficult, in many cases, to find the true formula of the experiment which will give its results with convincing accuracy (Hull, 1961, p.12).

Although hypnotism is an old and much studied technique, no one is quite sure what it is or how it works. Experts know

that it brings about some changes in the electrical and chemical activity of the brain that are different from the activity of either the sleeping or the wakeful state, but the exact nature of these changes is not known. The best hypothesis seems to be that placing the individual in a calm, relaxed state reduces the stress on the brain. Then, presumably, something happens that allows the brain to continue functioning, while accepting suggestions at the same time.

One of the earliest theories of hypnosis was that it was a magnetic force that flowed from the hypnotist into the subject. During the eighteenth century, the Austrian doctor Franz Anton Mesmer (1734-1815) was able to hypnotize people and cure their illnesses by touching them with his magical magnetic wand.

In 1850, Liebeault wrote of the hypnotic process, "The patients told to go to sleep apparently fell at once into a quiet slumber, then received their dose of curative suggestions, and then were told to awake, the whole process rarely lasting longer than ten minutes" (Hull, 1961, p.12).

Emile Coué in 1885, after studying Liebeault's technique, developed what was called waking suggestion or autosuggestion. The idea was to allow the patient to administer self-hypnotic treatment in a waking state after clinical hypnotic treatment.

Therefore, he would tell his patients, everytime you have a pain, you will go quietly to your room...sit

> down...shut your eyes and pass your hand lightly across your forehead, or upon the part that hurts and repeat the words 'It is going, it is going, it is going etc, very rapidly, even at the risk of babbling' (Beinheim, 1902, p.12).

Hypnosis as a form of sleep was once a quite popular definition but is now generally discredited. Sleep and hypnosis may look alike, but laboratory studies show that they are quite different. In fact, during hypnosis some important functions, such as heartbeat, breathing, and body movements, are more like what is found in the waking state than while asleep (Udolf, 1987, p.192).

Therapists today agree that suggestion plays a significant role in hypnosis. That is, the subject tends to accept directions from the hypnotist. Some say that hypnosis is the direct result of suggestion (Cordon, 1984). Others feel it comes about indirectly, by suppressing a person's conscious thoughts and will (Udolf, 1987). Still another theory holds that hypnosis splits off parts of the human mind from the main stream of consciousness (Udolf, 1987). The split part acts independently and may actually begin to control the person.

Certain psychiatrists say that the success of hypnotism has more to do with a person's desire to be hypnotized than anything else (Barber, 1969). The need some people feel to submit their will to another may also be a factor. According to a Freudian belief, hypnotism can allow subjects

to return to the childlike state to become aware of repressed, or buried emotions.

Finally, there is the notion that hypnotized subjects act or play out a game according to what they think is expected of them. They act helpless, silly, or forgetful depending on what they believe the hypnotist wants. Certain evidence to the contrary, however, indicates that subjects often do not act in expected ways at all (Udolf, 1987).

"Once considered mere trickery, hypnosis is emerging as a valuable technique for controlling pain and anxiety," writes Dr. Long in Medical Mesmerism (1986, p.28). Dr. Harold Wain, a psychologist at Walter Reed Army Hospital in Washington D.C. reports, "There isn't a medical ward here in which hypnosis hasn't been used effectively with some patients. It isn't a particular syndrome, it's the patient" (Long, 1986, p.29). Joseph Barber of the School of Medicine at the University of California, Los Angeles, states: "By itself it's not a treatment. It's the counciling and therapy one receives with the hypnosis that is important" (Long, 1986, p.29). "In the case of stress-related eating disorders, hypnosis may be beneficial in several ways," according to psychologist Helen Peltinate, Assistant Director of Research at the Carrier Foundation in New Jersey. "Patients learn to relax during the critical, often tension filled, period preceeding an eating binge" (Long, 1986, p.28). In his article Hypnosis: Will It Help You Lose Weight?, Dr. Cordon (1986) relates that hypnosis is not

magic. It is a technique to help you relax, focus attention, and enhance concentration. Hypnosis is not a diet, but can help to change the behavior associated with overeating. Whether you lose weight depends upon your motivation.

Hypnotism clearly can be used to aid in the fight against obesity. How it relates to subliminal suggestion is found in the following chapter. Before we leave, however, let us look at some common misunderstandings about hypnosis:

1) Hypnosis is a condition induced in the subject by the hypnotist.

"All hypnosis is self-hypnosis in the sense that any effect produced, including the trance state itself is produced by the concentration and imagination of the subject, not the operator" (Bateman, 1980, p.90).

2) A hypnotist must be dynamic, forceful, or a charismatic person.

"Different subjects require different stimuli" (DeZulueta, 1984, p.542).

3) Hypnosis involves a battle of wills with the hypnotist who needs a stronger will than the subject.

"If the subject comes to the session with this opinion, hypnosis will not occur" (Perry, 1983, p.360).

4) Hypnosis is an unusual, abnormal, or artificial condition.

"Most members of a movie audience exhibit many of the

characteristics of people in a hypnotic state" (Bennett, 1985, p.189).

5) Hypnosis is a form of sleep.

"Hypnosis is similar to the waking state. None of the [electroencephalogram] EEG data is like that of sleep" (Udolf, 1987, p.13).

6) The subject is under the control of the hypnotist and can be made to do things that he ordinarily would not do or to reveal secrets.

"The weight of evidence seems to support the notion that if a subject is directly requested to do something that is objectionable to him, he will simply refuse to do it or in some cases "awaken" from the trance" (Udolf, 1987, p.13).

7) Hypnosis may be harmful to the subject.

"The misuse of a transference reaction by a lay hypnotist is not a danger of hypnosis but of untrained people doing psychotherapy" (Udolf, 1987, p.13).

8) Hypnosis is a form of treatment and is beneficial of itself.

> Hypnosis is simply a natural psychological phenomenon that is neither helpful nor harmful in itself. It is a technique that may be useful, in a proper case, as a supplement to a variety of standard psychotherapeutic techniques. As Kline (1977) pointed out, one does not treat a patient with hypnosis, one treats him under hypnosis (Levitt, 1975, p.264).

9) A subject develops enhanced physical, mental, or extrasensory power under hypnosis.

> There is some evidence that memory may be expanded and some perceptual effects may be obtained under hypnosis, but the extent of this enhancement and the advantages of the hypnotic state, as opposed to a high degree of motivation while awake, in producing these effects is still of considerable controversy (Orne, 1971, p.110).

10) Hypnosis, can it help you?

Dr. David Spiegel, Associate Professor of Psychiatry at Stanford University, "Hypnosis doesn't cure anything, it enhances people's ability to control psychological processes, so they can be used for therapeutic benefits." (Udolf, 1987, p.13).

Subliminal Suggestion

Subliminal communication is much older than one might think. As far back as the turn of the century behavioral scientists were utilizing a technique referred to as whisper technology in clinical sessions with patients. The idea was, and still is, very simple. When the conscious mind listens to a statement, for the most part it has the prerogative to accept, reject or modify the statement. For instance, if the conscious mind is told that one feels good, it may argue with the statement. However, the subconscious does not have the same discriminative ability. When the subconscious accepts that one feels good, one feels good. According to Erickson (1980), "When one is relaxed, the

parasympathetic nervious system is predominant, and one is physiologically predisposed not to do rather than to make any active effort of doing" (p.95). Because of this it is easy to accept suggestions such as: you do not have to eat or, you do not have to be fat.

Taken literally, subliminal means below threshold. There is, however, no absolute cutoff point below which stimulation is imperceptible and above which it is always detected. Instead, a particular stimulus is sometimes detected and sometimes undetected. As a result, a person's perceptual threshold is usually defined as the stimulus intensity that is correctly detected 50% of the time. For a given person, this threshold may vary from day to day or from minute to minute (Zajone, 1986).

In the 1950s, a New Jersey theater owner reported flashing refreshment subliminals during the showing of the movie "Picnic". According to claims, flashing the words Drink Coca-Cola over Kim Novak's face resulted in a 58% increase in Coca-Cola sales over a six-week period.

Vance Packard's work Hidden Persuaders (1957) relayed a London Sunday Times account of a New Jersey theater where ice cream ads were flashed onto the screen during a movie showing. This action reportedly resulted in an otherwise unaccountable increase in ice cream sales. The Times referred to this technology as subthreshold effects. Packard's work also warned of psychologists turned merchandisers and of the resulting psychoseduction of the

American consumer. From belief systems to product indentification, Packard presented a case for persuasion through the art and science of motivational analysis, feedback, and psychological manipulation. Hidden Persuaders (Packard, 1957) was the first open attempt to inform the general public of a potentially Orwellian means to enslave the mind and to do so surreptitiously.

Since the New Jersey theater story, headline stories have appeared in nearly all major publications denying reports of subliminal technology use. The subject matter of these stories range from sports motivation to the reduction of pilferage.

In September 1957 a public relations executive with a psychology background announced that he had discovered a technique whereby irresistible messages could be delivered to consumers without their knowledge. The words--Drink Coke and Eat Popcorn--were alleged to have been superimposed on a movie screen at such a low light level that the audience was not consciously aware of their presence. Coke and popcorn sales purportedly soared, though no evidence was provided to support the claim (Moore, 1985).

In 1980, the McDonaugn Medical Clinic in Gladstone Missouri installed a subliminal processor to mix spoken words at an imperceptible level with music to relax patients. The clinic reported a decrease in patient anxiety levels, attested to by the absence of fainting. When the subliminal message was removed, patients began fainting again.

In 1984, Charles E. Gritton stated:

> A basic aspect of learning is allowing mental procedures to take place by themselves. We ask the students to "relax and let things happen." Not doing is thus a basic form of indirect suggestion that is of particular value in passive concerts. Most people do not know that most mental procedures are autonomous. They believe they think by driving and directing their own associative processes. And to a certain degree, they do. But it comes as a pleasant surprise when they relax and find that associations, sensations, perceptions, movement and mental mechanisms can proceed quite on their own. This autonomous flow of undirected experience is a simple way of defining learning. Suggestion comes into play when the teacher's directives have a significant influence in facilitating the expression of that autonomous flow in one direction or another (p.206).

Whether labeled as subthreshold or subliminal, the nature of the communication is such that the conscious mind does not perceive it and, in many instances, could not perceive it.

In 1984, Gary Render conducted a test wherein he attempted to determine the effect of music, relaxation, and the combination of music and relaxation on college students' test performance. The results revealed no significant differences between groups.

The earliest audio use of subthreshold communication (aside from the whisper therapy alluded to earlier) was

employed by Lozanov in Bulgaria and used to enhance learning abilities in the areas of language and mathematics (Lozanov, 1974). Lozanov's technique put more emphasis on other aspects of what has become known as suggestopedia, however, than it did on the use of subliminals.

Then along came the Becker black box. Dr. Becker, a former professor at Tulane University, patented a little black box that mixed spoken words with music at levels subaudible to the conscious mind. Becker's box was initially tested in department stores where messages such as --I am honest and I will not steal-- were credited with dramatic reductions in inventory shrinkages.

It is difficult to determine at what point in the past subliminals were used and at what level of activity they are currently existing. It is, however, nearly impossible to imagine an individual in today's population that has not been exposed to subliminal persuasion techniques of one kind or another.

In 1961, Dr. Clark L. Hull wrote the book, Hypnosis and Suggestibility: An Experimental Approach. In it he alluded to subliminal suggestion by stating, "Despite the widespread and longstanding belief to the contrary, no phenomenon whatever can be produced in hypnosis that can not be produced to lesser degrees by suggestions given in the normal waking condition" (p.391) and "Direct suggestion is indicated to be closely allied with hypnosis, but indirect suggestion to be probably distinct in its basic determination" (p.391).

Given an understanding of how subliminal messages are passed to the subconscious and how this phenomenon relates to hypnosis and obesity, we will now discuss the clinical evidence supporting or refuting subliminal claims.

Clinical Evidence

In recent years, hypnosis and behavior therapy have become increasingly popular. Much recent work has been carried out on obesity (see Table 6). Ferster (1962) emphasized that obesity involved a classical instance of the short-term reinforcing effects of overeating becoming dominant over longer-term aversive consequences. A study by Harris (1969) at Stanford University, concluded that by using hypnotherapy only, patients we able to lose 10.5 pounds over a two and one-half month test. Wolleisheim (1970) discovered that by using group therapy and support, each patient was able to lose eight pounds in three months. Bray and Bethane (1974) conducted a one year study on the treatment and management of obesity utilizing behavior modification. All participants lost more than 20 pounds, six lost more than 30 pounds, and three lost over 40 pounds.

A group of 42 female patients were selected in 1959 by Winkelstein. They were 10 to 15 pounds overweight with an average for the entire group of 32 pounds. Over a six month period, the maximum loss was 58.5 pounds and the minimum was 9.25 pounds. The group averaged 27 pounds. This was accomplished using hypnotherapy only. Winkelstein discovered:

> The initial result of hypnotic suggestion was notably temporary, lasting only a few hours or at most a day. However, repetition and reinforcement substantially increased both the degree and the effective time continuation of the suggestions (1959, p.181).

Stanton (1975) conducted a test over a two year period. He employed hypnotherapy using direct suggestion, auto-hypnosis to reinforce the therapist's suggestions, and audio-tape to provide additional support after therapy. The approach was very successful with the group averaging a weight loss of 22.2 pounds. Although he used audio-tapes in the study he stated, "Emphasis is placed upon the importance of the therapist-patient relationship and, in particular, the fostering of positive expectation that the treatment will be successful" (p.94).

In another recent study conducted by Cochrane and Friesen (1986), 60 women between the ages of 20 and 65 who were at least 20% overweight were tested to determine the effectiveness of hypnotherapy for weight loss. The study confined itself to hypnotherapy, no diet was given or discussed. Subjects were assigned to three groups. Subjects in the two experimental groups met with therapists for a total of 24 hours (two three hour group sessions per week for four weeks). At the end of the treatment periods, the experimental and control group subjects were weighed. Prepared audiotapes were given to the hypnosis treatment plus audiotape subjects. The tapes were 15 minutes long and

the subjects were instructed to use the tapes daily. There was no contact with the members of the three groups until the six month follow-up and weigh-in. The findings indicated that hypnosis was an effective treatment for weight loss, however, the use of audiotapes did not have a significant influence.

Table 4

Cockrane & Friesen Test Results

Group	Initial Wt	One-Month loss	Six-Month loss
Hy-T	215.99	-6.53	-17.82
Hy	184.76	-8.00	-17.12
Cont	175.79	+1.50	- 0.50

Hy-T = Hypnosis treatment plus audiotapes

Hy = Hypnosis treatment only

cont = Control group

Cochrane stated:

> Tape recorded suggestions did not provide the reinforcement or motivation component that Fromm (1979) had considered possible. It seems that active participation in the hypnotherapy program, and not auxiliary tape use, can be credited with the weight loss results that were achieved (1986, p.491).

The study further demonstrated that suggestibility, education level, socioeconomic status, and age of obesity onset were not significantly related to the outcome.

In a study conducted by Wadden and Stunkard (1986), hypnotherapy was combined with a diet. Three important findings emerged from the study: (a) weight is regained rapidly after treatment by very low calorie diet alone; (b) behavior therapy produces favorable long-term results when used with either a conventional diet or a very low calorie diet; and (c) weight loss achieved through behavioral treatment is associated with improved psychological functioning.

Table 5

Wadden & Stunkard Test Results

Mean weight loss (lbs) at intervals according to treatment

Group	1 mo.	3 mo.	posttreat	1-year follow-up
VLC Diet	6.6	29.1	31.1	10.4
Be-T	9.0	21.2	31.5	20.9
Comb	8.2	33.7	42.5	28.4

VLC Diet = Very Low Calorie Diet

Be-T = Behavior Therapy Only

Comb = Combined Treatment

Subjects in the very low calorie diet alone condition regained two-thirds of their weight loss in the year after treatment. Subjects who received standard behavior therapy lost 31.5 pounds and regained only one-half as much weight as the very low calorie diet alone subjects. The combined program of very low calorie diet plus behavior therapy produced the largest weight losses of the three conditions at both the end of treatment (42.5 pounds) and at the one-year follow-up (28.4 pounds).

The Foreyt (1982) study demonstrated successful weight loss and weight maintenance by employing hypnotherapy only. Of the 590 who participated in the year long study, males lost an average of 15.0 pounds and females an average of 9.5 pounds. More importantly, 73% either maintained the loss or lost additional weight. At the close of the study, Foreyt stated:

> As presently taught, behavior modification seems to be a reasonably effective tool, both in terms of weight loss and maintenance, for many patients with mild to moderate obesity. Most patients who completed our program lost weight and maintained their treatment losses (p.160).

A graphic presentation of recent studies on weight control and behavior modification can be seen in Table 6. It should be noted that the use of hypnotherapy was very significant in the modification of behavior and that subliminal suggestion was not considered effective as a stand alone procedure in any of the studies (Cochrane & Friesen, 1986; Stanton, 1975).

Table 6

Recent Studies in Weight Control

Study	Condition	Weight Loss (lbs)
Wilkelstein, 1959	Behavioral	27.0
Harris, 1969	Behavioral	10.5
	Adverse Conditioning	11.1
Wolleisheim, 1970	Behavioral + Group	8.0
Janda & Rimm, 1972	Behavioral	9.5
Abrahms & Allen, 1974	Behavioral	12.2
	Behavioral + Contract	11.7
	Social Reinf.	7.6
Bray & Bethune, 1975	Behavioral	20.0
Stanton, 1975	Behavioral + Subliminal	22.2
Taylor, Ferguson, & Reading, 1978	Behavioral	9.8
Weisz & Bucher, 1980	Couples	8.8
	Self control	4.8
Craighead, Stuckard, & O'Brien, 1981	Behavioral + Diet	24.0
Brownell & Stunkard, 1981	Behavioral	15.6
Foreyt, Mitchell, Garner, Gee, Scott & Gotto, 1982	Behavioral	12.2
Wing, Marcus, Epstein, & Kupfer, 1983	Behavioral	11.6
	Behavioral	13.4
Wadden & Stunkard, 1986	Behavioral	14.3
	Behavioral + Diet	19.3
Cochrane & Friesen, 1986	Behavioral	17.12
	Behavioral + Subliminal	17.82

SUMMARY AND CONCLUSIONS

Obesity will probably be with us well into the future and with it will come a plethora of diet aids, diet chemicals, weight loss contraptions and contrivances, and anything else that can be marketed to those unsuspecting consumers looking for an easy way out of a very difficult and dangerous situation. For the obese population, there will continue to be an increased chance of heart attack, a much greater possibility of diabetes, and a higher risk of many other degenerative diseases. Consumers will spend over $10 billion annually on weight loss gimmicks and devices and will suffer a loss of money, not a loss of weight (Haney, 1983).

Overweight Americans have been diagnosed as fulfilling the criteria for substance abuse and show behavior similarities with drug abusers, alcoholics, heavy smokers, and compulsive gamblers (Cormillot, Fuchs, & Zuckerfield, 1986). It has been suggested that their obese condition may be caused by psychological difficulties stemming from childhood and early development (Kroger, 1976). People who are insecure or possess inner hostility are prime candidates for obesity (Kroger, 1976). Many high pressure occupations lead to excessive eating as may the sometimes dull and routine lifestyle of a homemaker. Even those with social

problems may use obesity as a wall of protection (Kiell, 1973). As can be seen, obesity results from an interaction of many factors. Two of the newest theories are the fat-cell theory and the set-point theory.

According to the fat-cell theory high calorie diets in childhood lead the body to produce excessive numbers of fat cells that a person carries for life (Kolata, 1986). Diet and exercise can only shrink the cells, they cannot be naturally diminished. The set-point theory holds that each of us is programmed to maintain a certain weight and that the body regulates itself to maintain that weight (Consumer Reports, 1986). How the body regulates itself may be accessed or discovered within the study of hypnosis.

Hypnosis was being studied as far back as 1888 when Binet and Fere wrote their book Animal Magnetism. In the 1700s Franz Mesmer was healing with his magical magnetic wand. Hypnosis is not sleeping nor is it like being awake (Udolf, 1987). It cannot cure obesity by itself but can be used quite effectively to aid in the healing process. It is a technique to help focus attention and enhance concentration. It is a state created by the therapist but allowed to happen by the patient (Bateman, 1980). It is not an unusual state and does not involve a battle of wills (Perry, 1983). Hypnosis is simply a natural psychological phenomenon that is neither helpful or harmful in itself (Levitt, 1975).

Subliminal suggestion, in its most liberal since, is a

form of hypnosis that allows for communication with the subconscious mind without the knowledge of the conscience (Zajone, 1986). It has been acclaimed for its ability to increase food sales at movie theaters and for decreased thievery in department stores. Vance Packard even warned of psychologists turned merchandisers and seducing the American public.

It can be concluded that obesity is much more complex than just gluttony. It is the result of many interrelated aspects and circumstances. It is also important to note that weight control is paramount in the areas of health, self esteem, and longevity. Weight loss can be achieved by many means, however, diet coupled with exercise and hypnotherapy appear to achieve the best results (Craighead, Stuckard, & O'Brien, 1981; Wadden & Stunkard, 1986). Clinical studies, (see Table 6), have proven that hypnotherapy is an effective aid but that it is not a cure. It has also been shown to be safe when employed by a qualified therapist.

Subliminal suggestion and its use as a weight control program has yet to be proven. It has, however, been shown to be ineffective when used in conjunction with hypnotherapy (Cochrane & Friesen, 1986; Stanton, 1975). More research is needed in the area of subliminal suggestion and its uses before a judgement can be passed. It must also be expressed that weight loss products and gimmicks should be more closely scrutinized by the consumer before purchase and

that, if necessary, government regulation should be imposed.

This report has answered the question of subliminal suggestion and its use in weight control when used in conjunction with hypnotherapy. It has determined that it is not effective. This report also warns of quick fix weight loss products that are a sham and a waste of money. Three important findings emerge: (a) obesity is not a sign of gluttony but the result of the interaction of many psychological as well as physical factors, it may even be hereditary if the set-point and fat-cell theories prove true; (b) hypnosis and hypnotherapy are very beneficial and test results indicate that their use in weight control is exceptionally noteworthy; and (c) effective weight control begins with a physician guided regime of diet, exercise, and behavioral modification. This all adds up to a defined and definite change in attitude and lifestyle.

REFERENCES

Barber, T. (1969). Hypnosis: A Scientific Approach. New York: Van Nostrand Reinhold.

Bateman, W. (1980). The Use of Hypnosis in the Interrogation of Witnesses. Australian Journal of Clinical Hypnotherapy, 7, 87-90.

Beinheim, H. (1902). Suggestive Therapeutics, Translated by C.A. Herter. G.P. Putnam and Sons.

Bennett, L., Scott, N. (1949). The Production of Electro-cardiographic Abnormalities by Suggestion Under Hypnosis: A Case Report. American Practitioner. 4, 189-190.

Bray, G., Bethune, J. (1974). Treatment and Management of Obesity. Maryland: Harper and Row.

Cochrane, G., Friesen, J. (1986). Hypnotherapy in Weight Loss Treatment. Journal of Consulting and Clinical Psychology, 54(4), 489-492.

Cordon, L. (1984). Hypnosis: Will It Help You Lose Weight? Glamour, 82, 238-240.

Cormillot, A., Fuchs, A., & Zuckerfield. (1986). Recent Advances in Obesity Research: V. Proceedings of the 5th International Congress on Obesity. Jerusalem, Israel.

DeBrosse, J. (1984, July 29). Weight-loss Remedies. St. Petersburg Times. p. A1.

DeZulveta, F.I.S. (1984). The Implications of Bilingualism in the Study and Treatment of Psychiatric Disorders: A Review. Psychological Medicine, 14, 541-557.

Epstein, L. (1986). Family-Based Behavioral Weight Control In Obese Young Children. Journal of the American Diet Association, 86(4), 481-485.

Erickson, M. (1980). The Collected Papers of Milton H. Erickson On Hypnosis (Vols. 1-5). New York: Irvington Publishing.

Ferster, C., Nurnberger, J., & Levitt, E. (1962). The Control of Eating. Journal of Mathetics, 1, 87.

Foreyt, J., Mitchell, R., Gardner, D., Gee, M., Scott, L., & Gotto, A. (1982). Behavior Therapy, 13, 153-161.

Gritton, C. (1984). The Erick-onian Approach to Suggestive Linkage. Journal of the Society for Accelerative Learning and Teaching, 9(3), 201-210.

Haney, D. (1983, December 17). Weighty Subjects. Fort Lauderdale News/ Sun-Sentinel, p. 1D+.

Harris, M. (1969). Self-directed Program for Weight Control: A Pilot Study. Journal of Abnormal Psychology, 74, 263-270.

Hull, C. (1961). Hypnosis and Suggestibility, an Experimental Approach. Denver: Appleton-Century Co.

Kiell, N. (1973). The Psychology of Obesity. Illinois: Thomas Books.

Kolata, G. (1986). Weight Regulation May Start In Our Cells, Not Psyches. Smithsonian, 16, 91-97.

Kroger, W., Fezler, W. (1976). Hypnosis and Behavior Modification: Imagery Conditioning. Philadelphia: J.B. Luppincott Co.

Lasagna, L. (1974). Obesity: Causes, Consequences, and Treatment. New York: Medcom Press.

Levitt, E., Overley, T., Rubinstein, D. (1975). The Objectionable Act as a Mechanism for Testing The Coersive Power of the Hypnotic State. American Journal of Clinical Hypnosis, 17, 263-266.

Long, P. (1986). Medical Mesmerism. Psychology Today, 20, 28-29.

Lozanov, G. (1978). Suggestology and Outlines of Suggestopedia. New York: Gordon and Breach.

Metropolitan Life Recommended Weights. (1983). New York: Metropolitan Life Insurance Company.

Moore, T. (1985). Subliminal Delusion. Psychology Today, 19(2), 10.

Orne, M. (1971). The Simulation of Hypnosis: Why, How, and What it Means. International Journal of Clinical and Experimental Hypnosis, 19, 183-210.

Packard, V. (1957). Hidden Persuaders. New York: Affiliated Publishers.

Perry, C., Lawrence, J. (1983). Hypnosis, Surgery, and Mind-Body Interaction: A Behavioral Evaluation. Canadian Journal of Behavioral Sciences, 12, 351-372.

Render, F., Hull, C., Moon, C. (1984). The Effects of Guided Relaxation and Baroque Music on College Students' Test Performance. Journal of the Society for Accelerative Learning and Teaching, 9(1), 33-38.

Stanton, H. (1975). Weight Loss Through Hypnosis. American Journal of Clinical Hypnosis, 18(2), 94-97.

Stunkard, A. (1972). New Therapies for the Eating Disorders: Behavior Modification of Obesity and Anorexia Nervosa. Arch. General Psychiatry. 26, 391-398.

Udolf, R. (1987). Handbook of Hypnosis for Professionals. 2nd Ed. New York: Van Nostrand Reinhold.

Wadden, T., Stunkard, A. (1986). Controlled Trial of Very Low Calorie Diet, Behavior Therapy, and Their Combination in the Treatment of Obesity. Journal of Consulting and Clinical Psychology, 54(4), 482-488.

Wing, R., Epstein, L., Marcus, M., Kupfer, D. (1986). Mood Changes in Behavioral Weight Loss Programs. Journal of Psychosomatic Research, 28(3), 189-196.

Winkelstein, L. (1959). Hypnosis, Diet, and Weight Reduction. New York State Journal of Medicine, 59, 301-306

Wolleisheim, J. (1970). the Effectiveness of Group Therapy Based Upon Learning Principles in the Treatment of Overweight Women. Journal of Abnormal Psychology, 74, 462-474.

Zajone, R. (1986). Persuasion in a Flash. Psychology Today, 20, 50.

VITA

Gregory C. Harrison

Candidate for the Degree of

Master of Science

Report: SUBLIMINAL SUGGESTION: ITS USE IN WEIGHT CONTROL THROUGH BEHAVIOR MODIFICATION

Major Field: Housing, Interior Design and Consumer Studies

Biographical:

Personal Data: Born in Seattle, Washington, December 2, 1949, the son of George C. and Helen N. Harrison.

Education: Graduated from Edison High School, Tulsa, Oklahoma, in May 1968; received a Bachelor of Science Degree in Business Administration from the University of Tulsa, in December 1972; completed the requirements for the Master of Science Degree at Oklahoma State University in July 1988.

Professional Experience: Entered the U.S. Air Force Undergraduate Pilot Training in May 1974. Co-Pilot in the KC-135A, 2nd Bombardment Wing, 913 Air Refueling Squadron, Barksdale A.F.B. Louisanna, June 1975 to April 1978. Aircraft Commander KC-135A,D,T, EC-135L,G, ART-135A, 305th Air Refueling Wing, 305th Air Refueling Squadron, Grisson A.F.B., Indiana, April 1978 to May 1983. E-3 Instructor Pilot, Flight Commander, and Flight Crew Training Contract Manager, May 1983 to present. Command Pilot and member of the Order of Daedalians.