Obesity: Etiological and Therapeutic Perspectives

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Lois B. Kuipers
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OBESITY AS A HEALTH PROBLEM

Obesity is termed as one of the most prevalent health problems today by the U.S. Health Service (1967). Obesity is a significant factor in diabetes, heart disease, kidney disease, arthritis, pulmonary difficulties, pregnancy and surgical procedures. This researcher, after extensive review of the literature on obesity, views the problem as a very complex one, both in terms of etiology and treatment. It is significant because of its importance to both physical and mental health. Because obesity is becoming recognized as an aspect of "substance abuse", which is important in terms of both physical and mental health, this researcher will be examining various approaches to obesity as an aspect of substance abuse. The perception of various theorists who have endeavored to understand the etiology and the treatment of the problem which is of great concern of many numbers of individuals will be presented.

There are numerous ways to define the term "obesity". An individual who does not consider himself obese may find that, for health reasons, it is necessary for him to lose weight in order to avoid an incapacitating illness. However, to avoid confusion as to what the use of the term "obesity" means in particular in this paper, a definition will be given which is most appropriate to the purpose stated in writing this paper.
Definition of Obesity

Just what is obesity? the word itself is enough to frighten an individual into trying one of the ever present remedies to be found on television, in bookstores, or reducing salons. Mayer (1968) who has been involved in research of the etiology and treatment of obesity for many years, claims that the most reliable way to determine actual obesity is not by height-weight measurement, but by a skinfold measurement. Many college linemen would be considered obese if judged by height-weight charts; whereas there are individuals who would be considered normal weight judged by the same charts who are actually obese.

The skinfold measurement consists of using an instrument called the calipers, which are used preferably one half the distance between the shoulder and the elbow.

The skinfold measurement to be obtained is the (doubled) thickness of the pinched "folded" skin plus the subcutaneous tissue. The person taking the measurement pinches up a full fold of skin and subcutaneous tissue with the thumb and forefinger of his left hand at a distance of about 1 cm. from the site at which the calipers are to be placed, pulling the fold away from the underlying muscle. The fold is pinched up firmly and held while the measurement is being taken. The calipers are applied to the fold about 1 cm. below the fingers, so that the pressure is exerted by the faces of the calipers and not by the fingers. (1968, p.31)

Mayer suggests that skinfold densities greater than one standard deviation above the mean probably constitute obesity for individuals less than thirty years old. In the
30-50 year old bracket, Mayer (1968) contends that any excess tissue is infiltrated with fat, and suggests that to slowly lose weight is one way of avoiding excess fat accumulation. However, as Mayer, Bruch, and other theorists who have done extensive research on this problem are quick to admit, setting up a cut-off point for obesity as a problem, may be quite arbitrary. One consideration is that certain body types within the general population are prone to irregularity in the distribution of overweight, as delineated by Sheldon (1942).

Sheldon classified body types into three distinct classifications: the endomorph; the ectomorph; the mesomorph. The endomorph has a more or less short body, with short arms and legs; whereas the ectomorph has a relatively small body with long arms and legs. The mesomorph has a massive chest, with muscular characteristics predominating over the abdomen, as well as prominent body joints. In general, it may be said that there are few individuals who can be classified as being a "pure body type". However, this particular factor, that of body type, is so conspicuously important in the etiology of obesity that Mayer (1968) points out that, although the importance of genetic and constitutional factors in animal obesities is recognized and documented, there is a paucity of research undertaken with humans who have the same problem. Some of the pertinent factors that should be looked for are:
1. Do the obese differ from the nonobese in body features other than different amounts of fatty tissues?

2. Does obesity occur among all varieties of physical types?

3. Does obesity occur with greater frequency in some physical types than in others?
PHYSIOLOGICAL APPROACH TO ETIOLOGY OF OBESITY

Mayer's study (1955) utilized physically normal girls, (except for obesity), ages 12 through 17. Their backgrounds were varied: Jewish, English, Scottish, German. However, from a socioeconomic view the sample could not be considered random. The girls were recruited from a summer camp for the economically privileged. However, this experiment is included because it seems an indication that constitutional differences may be a factor in development of obesity. The majority of the girls had been obese for a long time. None seemed to be simply undergoing a stage of "puppy fat". Average body weight was 170 pounds. Since endomorphic body builds do contain more fatty tissue than the other designated body builds, this group was compared first with a group of controls, also designated as primarily endomorphs. It was found that there was a variance of 36% of body fat unaccounted for by this particular body build. It was found that in this sample, the heaviest group showed a tendency toward mesomorphy than among other girls of similar age and body build in the general population, although additional measurements were taken of the mesomorph and her skeletal size (wrist breadth, ankle breadth, hand breadth). Noted also was that, despite the greater muscle bulk of the mesomorph, the muscle tonus was poor. Not unexpectedly, subjects
classified as being high in ectomorphy seldom had weight problems in the general population. Even in the obese group the measured amount of obesity was considerably lower in the girls classified as ectomorphs. As Mayer says, "Apparently nature is intolerant of obesity in ectomorphic types." (1968, p.42). However, the ectomorphic individual can become obese, given improper nutrition, according to physiologically-oriented psychologists.

Mayer also feels that there are certain irregularities in the hypothalamus in certain individuals, affecting the experience of satiety. Mayer (1968, p.68) calls these "regulatory obesities". Grossman describes the process of satiety:

Food is metered in the mouth, pharynx and stomach. The nature of the detectors in these areas are not known, but volume appears to be of great importance and hence distension receptors reach a certain level, feeding reflexes are inhibited, eating ceases. The setting of this mechanism is probably determined by energy balance. (1960, p. 565).

It is believed that as many as three fourths of the obese population may not ever experience hunger or satiety, or if they do experience hunger it may not be the same inner cues which trigger hunger responses in nonobese persons. The etiology of this problem is highly conjectural - if indeed it is a major cause for obesity. Grinker (1973) at Rockefeller University in New York compared two groups of overweight people. One group had been obese since childhood; the other group had weight problems which
developed during their adult years. Both groups were put on diets and observed closely. Grinker found that people who were overfed as children and have been overweight since childhood have more fat cells than nonobese individuals. Because the number of fat cells is fixed early in life, the person with a large number of fat cells may be "programmed" for higher levels of fat storage. His body, which regulates amounts of food eaten and energy expenditure, considers obesity to be his normal and proper weight. Mayer (1968) contends that the problem is an impairment of the central mechanism regulating food intake.

Mayer (1968) also discusses "metabolic" obesities which have their basis in a dysfunction of the metabolism due to an inborn lesion or acquired error of the tissues. Dieting, when obesity is due to a metabolic problem, seems to cause loss of protein rather than fat. The theorists who endorse the physiological approach to obesity are inclined to agree that, whatever the predisposing factors are, the etiology is an excessive caloric intake and not enough energy output.
PHYSIOLOGICAL APPROACH TO TREATMENT OF OBESITY

The energy expenditure patterns between obese and non-obese housewives have been noted by Margen (1969) who observed that obese housewives spend 70% of their time in light activities as sleeping, sitting, and personal activities while 29% of their time is spent in moderate activities such as shopping, walking and standing. Comparable figures for nonobese housewives are 65% and 34%, indicating that obese women are one-sixth less active than nonobese women. This research is more significant when coupled with Mayer's observation that when obese and nonobese do the same task, the former expend more energy than do the latter in its performance. Studies conducted by Johnson and Mayer (1965) suggested that relative inactivity was a more important factor than overeating in the development of obesity. Careful examination of the dietary intake of equal groups of overweight and normal weight girls, matched for age and height, showed that obese girls fall into two groups. One, by far the larger, consisted of girls who ate a little less than normal weight girls, but exercised considerably less. Sitting activities were emphasized at the expense of active sports. Watching television consumed four times as many hours as did in the normal weight group.

In a study done by Stefanik, Heald and May (1959) it was noted that as weight increases, energy decreases.

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However, these experimenters found that when exercising animals with different types of obesity from the experimental subjects used, weight loss occurred. Their conclusion was that lack of activity appeared to be a causal factor in obesity, not a consequence.

There are two misconceptions about the value of exercise as a measure of keeping weight at a normal level that Mayer (1968) seeks to dispel. One is that it requires almost phenomenal amounts of exercise to work off the caloric intake of something like a piece of bread. He maintains that the value of exercise is directly proportional to the amount of weight the individual is moving around. Therefore, more energy expenditure is required for a 200 pound man to split wood for half an hour than for a 150 pound man. This loss of weight is generally absorbed by the body's basal metabolism, albeit at a slower rate than his more active brother.

The second misconception is that an increase in appetite necessarily follows an increase in activity. Not so, says Mayer. From his experiments with white rats at Harvard he found that rats exercised one to two hours daily did not eat more than did unexercised rats; in fact, they ate less. Experimental studies on man show that subjects with regular moderate activity ate somewhat less (and were considerably thinner) than the inactive subjects. To sum up, the psychologist who is convinced that obesity is a physiological problem sees the etiology primarily in terms of gen-
etic (body form) and environment. The treatment is to regulate the caloric input with the energy output.

In the Midtown Manhattan Study, originally designed as a survey of the epidemiology of mental illness, Koore, Stunkard, and Strole (1962) found that the prevalence of obesity was seven times higher among women reared in the lowest social-class category as compared with those reared in the highest social-class category. The authors believed this was a clear indication as to the class-conditioned character of obesity and stated their conclusions as follows:

It has profound implications for theory and therapy. For it means that whatever its genetic and biochemical determinants, obesity in man is susceptible to an extraordinary degree of control by social factors. It suggests that a broad-scale assault on the problem need not await further understanding of the physiological determinants of obesity. (1962, P.90).

The experimenters believed that this study showed that those interested in the problems of obesity ought productively address themselves to such critical factors as education and control, which are now operant in the upper classes of society.

This authoress would criticize such an optimistic conclusion on the basis that the sampling for the lowest social class would necessarily include those ethnic groups whose body types are more susceptible to obesity. Also, that there are strong familial factors involved in ways of eating. Therefore, it is not a matter of simply changing a diet, but also involves changing a whole ethnic pattern.
Another societal attitude is reflected in literature which is not confined to a specific discipline. Often the obese person is at the receiving end of jokes. In this country there is a tendency to regard obese individuals as lazy and weak-willed; thereby becoming an object of ridicule and humiliation.

There is a striking resemblance between the characteristic psychological traits of obese adolescent girls and those of ethnic or racial minorities who were victims of prejudice. In a series of projective tests (1968) Mayer and Honello found that obese girls reacted passively while nonobese girls reacted actively. Obese individuals associate isolation and rejection with peer, and manifest phenomenon of withdrawal. Questionnaires indicate obese girls accept group's opinion of themselves. They blocked on family scores and associated spontaneous painful emotions with family. Whereas nonobese girls gave only one conflicting response to a slide depicting family situation, obese girls gave two or three to the same projective picture. Obese girls, after camp experience, found friends with other obese girls; much like an in-group experience seen in ethnic and racial groups considered unacceptable. This conclusion is not surprising to the authoress who has observed friendships develop on the basis of a common problem with alcoholism, mental health, as well as family problems.
Included in the environmental influences which are important in the discussion of obesity is that of social attitudes toward the obese. Value judgments range from those like Henninger's (1973) who terms obesity a sin.

The taking of far more food and drink than one needs, despite the threat of complications such as obesity, diabetes, nephritis, is often seen in people who declare themselves helpless in the throes of the craving. This can be a symptom of disease as well as sin. I once had a young woman patient who would eat six or seven steaks a day if not prevented from doing so physically, and intervention for which she thanked us. However, she knew that this was not only a symptom but a sin. Gluttony in all its forms represents a degree of self-love which is self-destructive, and is a kind of escapist effort, to abandon the prison of self "by seeking a good in a process or a prison outside of self" or a "subconscious existence". (1973, p.42)

However, there are many theorists who will say without qualification that overeating is not a sin. It is not necessarily a sickness, but it is a medical problem. Some of them feel that obesity is truly the result of some malfunction in the body; whereas others feel that the primary cause is an early developmental problem, to be treated by psychotherapy. However, both groups are agreed that society's attitude toward the obese does much to exacerbate the difficulties suffered by the individual so afflicted, often making a problem which began as purely physiological into a primarily psychological difficulty. To equate gluttony with obesity is a mistake. There is an element in the term "gluttony" which implies willfulness. Most of the pertinent literature seems to indicate that obesity is a condition not chosen by the individual; in fact, he is anxious to be rid of it.
EDUCATIONAL APPROACH TO TREATMENT OF OBESITY

Group participation is employed as a method of achievement in this approach. Not etiology is posited, except in the exceptional cases when subgroups form from the original treatment groups, and members attempt to discuss the etiology of their own problem of obesity with others.

Wyden in *The Overweight Society* (1965) discusses the group called TOPS (Taking Off Pounds Sensibly). It is a group method educated to count calories and also to share the other members' problems. The approach in this group is considered similar to the one Alcoholic Anonymous uses. Self-confession of one's weight problem is considered the first step. The founder, Mrs. Manz, calls it "organized will power, sugar-coated with fun, relaxation and common-sense." (1965, p. 83) There is no attempt to be anonymous - how can a fat person be anonymous? Use is made of "will-power shots" (snacks of ice cubes), cookie jars taped down, small plates to make lo-cal dinners look bigger. After the ritual weighing in, the individual is consigned to either (1) good losers, (2) turtles, those who neither gained or lost, (3) pigs, those who gained weight. A miniature pig is given to the person having gained the most weight to put in his yard until the next meeting. Some of the members form their own exercise groups, and sometimes some of the members will form a group, attempting to gain insight into
what they feel may be the root causes of their eating problems. There are over 2400 chapters in California, Illinois, Minnesota. However, the attrition rate is high. The impression this researcher gets is that the members' joint problem, obesity, may be a good excuse to get together with other "victims" of obesity. Mrs. Manz herself, travels widely to the various chapters. However, she herself has not lost weight, but rather has gained it.

Weight-Watchers (Wyden, 1965) is another group for overweight individuals, devoting far more time to the education of the individual and far less time to group dynamics. The members are given an inspirational lecture by a graduate of the program. Lectures are not only directed what kinds of food to eat, but also how to handle social situations in which the person must explain in an innocuous way that he cannot partake of the "goodies" his hostess has prepared. Weight-Watchers has a Handbook (1972) for its members, which stipulates their choices in food in addition to requiring that each item be weighed. The program is based upon the insistence by the lecturer and, in turn, upon the Handbook that members eat as recommended. The founder, Jean Neditch, is very pragmatic about her reasons for losing weight. She thinks that to be able to get in and out of a phone booth, or the back seat of a two door car is worth working toward loss of weight. She herself has lost seventy two pounds. Like Mrs. Manz, she has profited greatly financially by her program.
However, the diet is pretty grim - comprised of a great deal of fish, cheese, vegetables and fresh fruits, with recipes for a milk shake made with skim milk and ice cubes, pizza made with white bread, blueberry pancakes made with white bread. It is by no means a starvation diet, but different members to whom this authoress has spoken, have mentioned that the cost of buying the foods stipulated in the Weight-Watchers Handbook (1972) raises their food budget to almost astronomical proportions. In this group also, the attrition rate is high. An estimate given was that about 75% of people beginning the class drop out. At the time of graduation (loss of stipulated pounds) a maintenance diet is provided - as there is with the TOPS program. Even of those individuals who successfully complete the program, there are many who regain the weight lost and are unable to maintain the lower weight stably. In order for this treatment approach to be effective for those who persevere, it would seem that the group (and perhaps the support of a resource person) should not be discontinued so abruptly.

The TOPS program seems to flourish in small cities and suburbs, and although it does educate its members in calorie counting, group dynamics seems to play an important part in their program. Their unstructured group situation allows the members to know each other. If the group is congenial, they can help and encourage each other. However, it is reported that this comradery also results in "kicking
over the traces" and indulging in high calorie treats on oc-
casion. Because Weight-Watchers is such a highly structured
group, with complete instructions as to diet combined with a
lecture, there is little to be gained by the group dynamics.
Weight-Watchers would seem to be more appropriate for the in-
dividual who is highly motivated by his own or his family's
concern over his obesity.

The control medical studies have revealed few dif-
ferences among results of group therapy, dieting and effect-
iveness of free dieting. The figures given for success in
mean percentage of weight loss for two years of individual
instruction is 2.92%; mean weight loss in group instruction
therapy is 3.31%; mean weight loss for the free dieting
group is 2.58%. (Wyden, 1965, p.97).

Pertinent to the education treatment approach to
obesity are the recommendations of Rubin. (1966)

First of all, he exhorts the dieter to be realistic -
to be prepared for failures. Then he advises the would-be
dieter to provide himself with "ammunition foods". like
pickles, carrots, celery, for the times when the craving
for food is almost unbearable. However, he says that if
you end up going on an "eating binge, be kind to yourself".
Don't give up. Give your body time to accommodate to dif-
ferent dimensions. Get enough sleep. Be prepared for
diet doldrums. Do try to sit out the plateaus when weight
loss is minimal. Eat a good breakfast to ward off depres-
sion. Eat an early dinner and no late snacking. Take
time to eat graciously slowly. When wolfing down food, the fat man has no memory of eating and soon becomes hun­
gry. Don't be a garbage can. Side reactions may be con­
stipation, which is helped by drinking at least six glasses 
of water a day. There also may be headaches, fatigue, mild 
depression, weakness, insomnia. Ride them out. They will 
pass. There may be an increase or a decrease in libido.

Hubin also feels that group therapy is beneficial in the 
treatment of overweight individuals. His rationale is that 
overweight people, in general, are overly dependent, and 
that group therapy, although it need not be geared to the 
obeese, is helpful. The group therapy he envisions would be 
geared to the individual who finds that he needs solace for 
his self-esteem. Rubin would substitute group therapy for 
raising the individual's self-esteem rather than utilizing 
substance abuse for increasing self-esteem.
**BEHAVIOR MODIFICATION APPROACH TO ETIOLOGY OF OBESITY**

The model which the behaviorists use to posit the etiology of obesity could be symbolized in the following diagram:

<table>
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<tr>
<th>Behavior</th>
<th>Consequences</th>
<th>Thoughts, Feelings</th>
</tr>
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<tbody>
<tr>
<td>e.g. underexercising</td>
<td>e.g. weight gain</td>
<td>e.g. sense of low self-esteem and depression</td>
</tr>
<tr>
<td>by double parking in front of a store</td>
<td>loss of mobility</td>
<td>depression</td>
</tr>
</tbody>
</table>

Instead of trying to isolate and remediate forces deep in the psychological makeup of the individual, an effort is made to change his eating patterns so that he will have experiences which lead to greater social acceptance. This stance, however, does not blind the behaviorist to the fact that some idea of etiology is needed to treat an obese condition. On the basis of many experiments, the behaviorally oriented theorists suggest that obese individuals are more "stimulus bound" than normal weight persons.

Stunkard (1959) devised an ingenious method to study stimulus responses to food between the obese and the nonobese. After an overnight fast, he arranged for each volunteer to go to a laboratory at 9 a.m. Each person was asked to swallow a gastric balloon, inflated with 15 cm. of water and withdrawn until reaching the cardia. The balloon was attached to a Levin tube anchored at the nose with adhesive tape. The tube was attached to a kymograph. For a four hour period, subjects were asked at fifteen minute intervals to report whether they felt hungry. Some of these reports were associated with a kymographic tracing which definitely...
indicated gastric contractions while other reports were not associated with "hunger contractions". The results of this experiments showed that the nonobese individuals were significantly more likely to report hunger in association with gastric mobility. Stunkard concluded that the cues for hunger are different for the obese and the nonobese person. The question now to be answered is, "If obese persons do not experience hunger in association with the obvious internal sensation of gastric contractions, to what cues do they respond?"

Schachter and Gross (1967) were the first to deal with the question by devising an experiment to observe whether it was important to obese subjects to note time as an important aspect when eating. They found that perceived time as opposed to actual time was important to obese subjects, and was a clue as to when they should eat - rather than waiting for the actual time of eating. Ross (1970) found that the visibility of food, through controlling the amount of illumination in which it could be viewed or by wrapping food in non-transparent paper rather transparent paper is a greater influence on the obese than on the nonobese. Schachter, Friedman and Handler (1971) devised a means of testing response cost (how difficult it is to obtain food). They did this by observing in Oriental restaurants Occidental patrons who ate with chopsticks. Since it is more difficult for a Westerner to use chopsticks when the food is served in small morsels as it is in oriental food, it was noted that over
four times as many of those who used chopsticks (22.5% to 4.7%) were normal weight individuals. This would seem to indicate that the overweight individual prefers to obtain food with minimal effort.

A number of studies have been undertaken on the effect of taste for normal and obese individuals as cues for eating. Hasim and Van Italie (1965) concluded, from the diets given to obese and nonobese patients in Saint Luke's Hospital in New York City, that obese persons are more influenced by the taste of food they eat than are nonobese individuals. Nisbett (1968) found by doctoring up ice cream flavors that subjects with a history of overweight ate more good ice cream and less bad ice cream than those without such a history. Nisbett (1968) showed that what is true for ice cream is apparently also true for cake. Goldman, Jaffa and Schachter (1968) interviewing undergraduate students at Columbia University had a choice of fulfilling meal contracts on campus or cancelling them in favor of foraging for meals in off campus restaurants at a penalty of $15.00. 86.5% of the overweight freshmen cancelled their contracts as compared with 67.1% of normal weight freshmen. This study would seem to argue against the theory that overweight individuals are loath to exercise, since certainly it would require more effort to eat off campus than to use the meal contracts. However, it would seem to substantiate the theory that taste, as an external cue, may exert a greater influence upon the obese individual than his physiological in-
take needs.

If the obese person responds to stimuli in the external environment by overeating without apparent physiological needs, is it possible he responds in the same way to internal cues? Schachter, Goldman, and Gordon (1968) devised an experiment involving fear of electric shock so that obese subjects and controls would be in a state of high fear arousal. The results indicated that under this particular experience normal weight subjects were more likely to eat. However, since so much of the experimentation carried on involved deception, one question which was never asked was whether the subjects were actually deceived.

Conrad (1968) in working with 108 undergraduates, half of them obese, attempted to remedy this situation. He exposed one third of the subjects to strong social rejection; one third to a neutral social response, and one third to strong social acceptance. He found that obese subjects tended to eat more when rejected, while normal subjects tended to eat less. This authoress feels as Bruch did (1973) - that anorexia nervosa is the other side of the coin to obesity, and high fear arousal could well produce lack of appetite; whereas anxiety, lack of self-esteem, boredom would be relieved by a food dependency.

Stuart, in a hitherto unpublished study, reported (1972) an experiment performed at the University of Michigan, regarding the feedback importance of his own behavior to the obese person. He used 100 students, half of whom were 15%
overweight or over, to participate in an evaluation of several audiovisual tapes. Subjects were told that because they could not be paid due to lack of funds, they could help themselves to a bowl of assorted cookies. The subjects, who were seen in groups of three pairs for fifteen minute sessions, were given one of five instructions. They were told to:

1. Do nothing but concentrate on the arguments presented in the film.

2. Keep track of the number of cookies they ate by marking down whenever they ate a cookie.

3. Keep track of the number of cookies their partner ate by marking consumption down, so that each knew he was being monitored.

4. Record at the conclusion of session their own consumption of cookies.

5. Record at the conclusion of session the number of cookies they thought their partner had taken.

Meanwhile, the experimenter recorded surreptitiously the actual number eaten by each subject. Controlling for length of time, Stuart found that the obese students did not eat more than the normal weight students. He found the following results:

<table>
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<tr>
<th></th>
<th>Overweight</th>
<th>Normal Weight</th>
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<tbody>
<tr>
<td>No feedback</td>
<td>10.3</td>
<td>7.3</td>
</tr>
<tr>
<td>Self-recording, immediate</td>
<td>7.2</td>
<td>5.4</td>
</tr>
<tr>
<td>Self-recording, delayed</td>
<td>9.8</td>
<td>6.1</td>
</tr>
<tr>
<td>Other recording, immediate</td>
<td>3.1</td>
<td>5.9</td>
</tr>
<tr>
<td>Other recording, delayed</td>
<td>6.2</td>
<td>6.2</td>
</tr>
</tbody>
</table>
The significance of this experiment adds to the conviction that obese persons are, in general, more stimulus bound than the normal weight person, and that a structured program of weight control would be a hope solution to the problem, since social monitoring is so much more effective with the obese individual than self monitoring. The behaviorally oriented theorist is aware of possible psychogenic factors which may exacerbate the problem of obesity. This last experiment by Stuart also gives a convincing rationale for structured group therapy as treatment for "obesities".

The individuals who probably suffer the most and for whom there is probably the least amount of hope that there will be any kind of dramatic change in their lifestyle are the obese adolescents. Too many families treat their overweight child as somebody to be apologized for, increasing the child or adolescent's dislike of his "body image". Harmetz, (1974) in "Oh, How We're Punished for the Crime of Being Fat", details the sufferings of being a fat child and adolescent. The behavior recounted starts at such an early age that many theorists find the prognosis poor when working with adolescents who have been overweight from childhood, because the individual's conception of his body image has been founded at such an early age it is practically frozen into his personality.

Mendelson (1966) did some studies on body image disturbances of 74 disturbed obese patients. He found that the 34 juvenile disturbed obese patients had badly distorted
body images with impaired interpersonal and heterosexual relationships. None of the 40 adults had the same problem with feelings of a distorted body image. In a study of 131 obese patients, he found 22.4% of them reasonably stable individuals, but the remaining 77.8% had problems ranging from eating because of loneliness, boredom, anxiety, depression to the extreme of pathological "binge eating".
BEHAVIORAL APPROACH TO TREATMENT OF OBESITY

Stuart and Davis (1972) have devoted a large share of their book discussing ways of structuring consumption of food, and have set forth a paradigm for reducing the strength of undesirable responses and increasing the strength of desirable responses.

In the treatment program set up by Stuart and Davis (1972), they proceed on the assumption that the obese person is more stimulus bound than the nonobese person. Therefore, the suggestions that are made are based on that assumption. First of all, they consider it "necessary to take a baseline" of problematic behavior. Their Baseline Eating Monitoring Eating Form is set up as follows:

<table>
<thead>
<tr>
<th>Food Eaten</th>
<th>Time</th>
<th>Where Eaten</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Circle time if food was part of meal</td>
<td>Home</td>
</tr>
<tr>
<td>Type of Food</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social</th>
<th>Mood when eaten</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alone</td>
<td>Anxious</td>
</tr>
<tr>
<td>with whom</td>
<td></td>
</tr>
</tbody>
</table>

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Wollersheim (1970) in a program of group therapy for overweight women found anxiety reduction related to weight loss. In his study no emergence of "symptom substitution" was revealed. Thus while the depression observed by Stunkard (1957) to be associated with weight loss undoubtedly occurred in connection with more traditional treatment, it is not found commonly with behavioral treatments. Wollersheim (1970) and Harris (1969) find the percentage of dropouts for this treatment compare favorably to other treatments used. One must bear in mind, however, that a structured treatment of this nature must be one which has limits imposed by a "significant other", whereas the traditional treatment method is one which is limited by the patient himself.

The following suggestions are those of Situational Management as suggested by Stuart and Davis (1972).

1. Elimination Step One. Because it has been concluded that the obese person is stimulus bound, it is necessary that extraneous stimuli be excluded from the eating situation. Therefore the first step is to (a) arrange to eat in only one room; (b) arrange to eat at only one place in that room; (c) do not engage in any other activity while eating.

2. Elimination Step Two. (a) Avoid the purchase of any problematic food. Shop only from a list. There are so many snack foods such as cakes, cookies, soft drinks
and other sweets packaged and advertised to create the desire for such foods.

3. Elimination Step Three. (a) Do not serve high calorie condiments at meals; (b) Allow children and spouses to take their own sweets; (c) Clear plates directly into the garbage. The rationale for this is that condiments are not an integral part of the meal, and would likely be eaten indiscriminately, not because of hunger, but because of availability.

4. Elimination Step Four. (a) Make problematic eating as difficult as possible. To do this, any high calorie foods which are purchased for other members of the family should be only purchased in a form requiring elaborate preparation: e.g. heating in the oven before serving. A long chain of responses achieves three purposes: (a) It interrupts a process in which "automatic eating" can occur; (b) It increases the response cost of eating; (c) It creates a number of choice points at which the individual may choose not to eat.

When cues are suppressed in this manner, they remain present, but do not have the strength which would have been present had they not been altered.

1. Suppression Step One. (a) Reprogram the social environment to render the use of food as constructively as possible. Two essential changes in the social interactional pattern should be made if obesity is a problem. One is
to provide for positive cueing of desirable behaviors. One way of doing this would be that a member of one's social environment keep track of the verbal exchanges regarding food as would the overeater. This can be easily done on a 3 x 5 card. Feedback such as this can be very helpful in efforts to change a pathogenic social interchange to a constructive one.

2. Suppression Step Two. (a) Have others monitor eating patterns. Mayer (1953) maintains that his observation has been that highly obese patients who claimed to maintain their weight on what would be an anorexic diet for a canary lost weight rapidly upon admission to an institution where their eating was held to the self-reported diet.

3. Suppression Step Three. (a) Minimize contact with excessive food. First of all, it is suggested that food be served on plates in measured small quantities rather than serving pieces on an "ad lib" basis. Secondly, it is important for the dieter to leave the table soon after he finishes dessert. Many calories are consumed by "picking" at food while others who eat more slowly are finishing their meals.

Suppression Step Four. (a) Make small portions of food appear as large as possible.

Suppression Step Five. (a) Control states of deprivation. Three types of deprivation appear to be phenomenologically linked to problematic eating. When an overeater
skips a meal he puts himself in a state of deprivation which increases the positive value of food. He can avoid this by planning meals for regular hours and eating every planned meal. The second type of deprivation is "energy" deprivation. It is essential for the overeater to take pains to avoid fatigue due to sleep loss. The third type of deprivation is the stimulus association experienced as boredom. In an earlier unpublished study by Stuart, 40 obese subjects ranked eating fifth in a number of preferred pastimes. Any of the higher ranking responses should be made available with a minimum of effort to keep the overeater out of the refrigerator.

These suppression steps were designed to weaken the impact which problematic foods might have on the behavior of the overeater. Now the next procedure suggested is one of displacing the problematic behavior with a strong cue to strengthen the desirable behavior.

1. Strengthening Step One. (a) Provide a reasonable array of food choices; (b) Provide feedback about the amount which can be eaten. The discussion on the first alternative is a means of providing the overeater with some idea of structure as to "how much" and "what" he is expected to consume within the confines of his diet regimen. The suggestion is made that food consumption be recorded so that the dieter is cued immediately as to how much he may eat during the day.
2. Strengthening Step Two. (a) Make acceptable foods as attractive as possible. This is in line with the behavioral theory that obese individuals are stimulus bound. So make the low calorie foods as attractive in appearance, taste, smell and texture as possible.

Taken together, these varied means of managing the antecedents of eating will produce an environment in which acceptable food choices are more likely to occur. However, many obese individuals complain of difficulty in controlling what they term as their "compulsive" eating behavior. Stuart and Davis (1972) have undertaken to devise a method whereby undesirably characteristics of eating itself can be controlled.

A Response Step (1) Slow the pace of eating. First of all, it may be helpful to interpose a delay shortly after the start of the meal to put the utensils on the plate anywhere from one to three minutes after the start of the meal. The delay gives the overeater a chance to control a behavior defined as "compulsive" and so the pace of eating can be slowed by establishing the requirement that the food already in the mouth be swallowed before additional food be added. One means of promoting this requirement is that utensils be placed on the plate as soon as food is placed in the mouth and not picked up again until food is swallowed. Thirdly, use of utensils can be required at all times and for all foods. And, finally, it may be helpful to resort
to counting mouthfuls per minute.

Many people have complained that while their overeating results in considerable attention, albeit negative, their adherence to a dietary regimen goes unnoticed. It is necessary, then, for the management of this plan to handle this problem also.

1. Deceleration Step One. (a) Respond neutrally to all negative deviations from a weight control plan. In the behavioral treatment plan, this is of utmost importance. To do otherwise is to risk maintenance of negative behavior by virtue of the therapists' differential attention to the negative as opposed to positive behavior.

2. Deceleration Step Two. (a) Bring into focus the ultimate and aversive consequence of overeating. As pointed out before, the ultimate consequences of overeating are heightened risk of contracting serious and incapacitating illnesses and premature death, while the immediate consequences are the embarrassment, immobility, and stigmatization suffered by many obese individuals in his society. Although the deceleration of problematic responses may be of some benefit to weight reducers, according to operant theory, the acceleration responses will be of more value.

1. Accelerating Step One. (a) Update eating, exercise, and weight change daily. Penick and associates (1970) suggested that his patients place in the refrigerator fifteen or twenty pieces of suet. For each pound lost they
suggest that their patients remove one piece of suet as a symbol of fat loss.

2. Accelerating Step Two. (a) Arrange for the provision of material reinforcement following completion of eating/exercise requirement and/or weight loss. The "token" system has been widely used to reinforce patterns of behavior considered desirable. It has been these authors' experience that "tokens" considered worth earning vary greatly with the individual, and while it is very effective for a period of time, the system must be reexamined at intervals. "Token" reinforcement must be provided immediately and must be exchangeable for items valued by the individual being rewarded.

3. Accelerating Step Three. (a) Provide social reinforcement for all constructive efforts to modify weight-relevant behaviors. It is important that the weight reducer be able to discriminate and discuss his activities only with those sympathetic toward his objectives. It is significant that 83% of the subjects who could work with another person to aid in his objectives lost 20% of body weight and maintained the loss for a twelve month period; whereas only 31% of those who did not have the cooperation of at least one other person were as successful.

There have been a number of experiments performed by the behaviorally oriented theorists regarding treatment of obesity. While the results (immediate) have been impressive,
the follow-up has not always been so impressive. Because of the lack of follow-up on these studies, it is difficult to evaluate whether this is the solution so many obese people are waiting for. Janda and Rimm (1972) selected 18 subjects - 15 females and three males - ranging from two to 149 pounds overweight with a mean obesity of 41.4 pounds. They were given medical examinations and diets. During the first interview the subject was told that two methods were being tested - one to reduce anxiety and another to develop self-control. The subjects were divided into (1) a control group; (2) attention control group; (3) covert sensitization group. The latter two groups were seen individually for six forty minute session. Subjects in both groups were given the Taylor Manifest Anxiety Scale. The subjects in the control group were told they were to be excluded from weekly sessions, but must weigh in every week. The second group of subjects in the attention control group were given training in deep relaxation in a non-directive way. The third group of subjects were weighed and given relaxation training; then required to vividly imagine approaching food to be eliminated from diet, feeling ill, vomiting just as he was about to eat it. Subject was then asked to imagine approaching forbidden food, feeling ill, and turning away. For six sessions the subject was presented with this scene. Subject was asked to make a note of any food with which he was having difficulty. The week following the end of treat-
ment, the subjects were weighed and given a Manifest Anxiety Scale; also a 7-item questionnaire as to side effects of the experiment, perception of therapist as warm, interested, and having ability; self-ratings dealing with motivation, visualization ability and physiological reactions.

Six weeks later there was another weight check.

Results: (1st check) Controls - 4.5 lbs.
Attention Controls + .7 lbs.
Covert Sensitization -9.5 lbs. (not significant)

Results: (2nd check) Controls - .9 lbs.
Attention Controls + 2.3 lbs.
Covert Sensitization -11.7 lbs. (now significant)

The experimenters commented that there was a significantly higher level of motivation for the covert sensitization subjects at the end of study. Unfortunately, the study does not reflect on the initial level of motivation. There was also failure to find a relationship in this experiment between weight loss and anxiety reduction, providing little support for the widely held view that going without food is like depriving Peanuts of his "security blanket".

Meyer and Crisp (1964) attempted aversion therapy with two obese women; one a psychopathic 26 year old woman, an amphetamine addict; the other a 51 year old woman with back problems whose husband was unfaithful. "Temptation food" was displayed for increasing amounts of time. Any approach to the food was punished by an uncomfortable electric shock.
Both women had been put on a basic one thousand calorie diet. During the treatment period, the 26 year old woman's weight decreased from 205 pounds to 185 pounds. Three months later she was weighed in at 130 pounds. When seen twenty months later she weighed 133 pounds, but was unable to give up amphetamines. The 51 year old woman attempted to avoid treatment. At first she became hypochondriacal and depressed; later she became aggressive, critical, suspicious and left the hospital. She regained the weight she had lost and re-entered the hospital. She again lost weight, but her symptoms returned. From these two cases the researchers concluded that this experiment indicated the necessity of pairing precisely conditioned and unconditioned stimuli. The 26 year old woman found other pleasurable outlets besides eating and was rewarded by having a good figure. The 51 year old woman not only came from a history of familial over-eating, but experienced a lack of sexual satisfaction, and apparently found eating her only pleasurable experience. Despite the fact that Meyer and Crisp used behavioral techniques on these women, they recognize that obesity is a complex problem. Not only is the factor of overeating involved, but constitutional, biochemical, cultural, personality types, situational causes (e.g. boredom, sexual frustration, menopause); all of which probably evoke the tendency to over-eat.

Thorpe, Schmidt, Brown and Costell (1964) in their re-
search using aversion relief therapy, also are well aware of the problem of finding the appropriate stimuli for the reduction of undesirable behavior. Their technique was to use words as a substitute for the behavior. The subject was put into a room and shown an aversive word (e.g. homosexual). Patient must read the word aloud and then he receives an electric shock. If he doesn't read the word, he receives a more intensive shock. At end of the session he is given verbal stimulus relief. The sessions are continued until the patient claims a cure and there is evidence of one. One of the patients was a highly anxious homosexual. During the treatment he was depressed and had several gastric ailments. His was a case of "binge eating". He would go on periodic eating bouts and stock up with food and eat constantly for two or three days. He thought about food most of the day and dreamed about it at night. Needless to say, he put on a great deal of weight. He burst into tears at the first treatment and again at the second, but insisted upon continuing. By the sixth session, he wasn't thinking about food more than an hour a day and not dreaming about it at night. However, by the time of the eighth treatment, depression recurred, as did the gastric pains. This time he refused to continue treatment. Diagnosis in this case was changed to "hysteria" rather than "recurrent depression". Followup of eight cases treated in this way showed the following results: two were considered failures, diagnosis
changed; one "partial" success; five successes up to four weeks of followup.

One problem theorists face in dealing with the problem of obesity is how much anxiety is generated when an individual accustomed to find his "security blanket" in food is deprived of it. Eysenck (1960, p.277) says, "Aversion therapy may increase neuroticism of patient"; whereas this team of researchers felt there was no relationship between anxiety and response to treatment. However, this authoress would question the validity of changing diagnoses when the treatment procedure failed to produce results, rather than checking more thoroughly the possibility that anxiety is increased when dependency on food is denied.

Wollersheim (1970) used a comprehensive assessment test battery to determine anxiety level of his subjects at the beginning and the end of an eighteen week period during which his subjects were assigned to various treatment procedures for obesity. His conclusion was that food deprivation does not cause undue anxiety.

The theorists who proceed from a different etiological stance will be very much on their guard lest they substitute one difficulty for another. It has been noted, however, the behaviorally oriented theorist is, in most cases, aware of the variety of aspects involved in most cases of obesity.
At this point it is obvious that the problem with which the theorists and others who deal with obesity is one of how to limit caloric intake. Bruch (1973) who has spent most of her professional life studying this problem divides individuals into four categories, relative to body weight:

1. Slenderness with good adjustment
2. Continued obesity with good adjustment
3. Slenderness with emotional maladjustment
4. Continued obesity with emotional maladjustment

This kind of classification is in this researcher's opinion a very good answer to varying opinions as to whether dieting increases anxiety to the individual. Meyer and Crisp (1964) seem to recognize in their research that each individual has constitutional, familial, biochemical, neurotic or non-neurotic makeup as well as a situational involvement, which makes a dogmatic pronouncement about the nature of obesity and its treatment impossible, except on an individual level. Nevertheless, Alexander, (1965), a psychoanalyst says that:

Eating becomes substitute gratification for frustrated emotional tendencies which have nothing to do with the process of nutrition. Intense craving for love and aggressive tendencies to devour or to possess, as well as pregnancy fantasies result in obesity. (p.867)

Bruch, though trained as an analyst, has introduced some new and interesting ideas which cannot be classified

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as bonafide Freudian. First of all, she does not feel that hunger is an instinct in the human infant. She claims that Schachter's experiment (1968) gives support to clinical observation that people show great differences in accuracy of recognizing and conceptualizing a bodily need. If the mother is continuously neglectful, and inappropriately solicitous, inhibiting, permissive, the child will be confused. He may be grotesquely obese, yet fearing starvation, or an emaciated anorexic - a child who doesn't know what hunger is. According to Bruch (1969) hunger awareness and other biological needs are not innate, but learning is necessary for them to become recognizable patterns. Success depends on how appropriately the infant's needs are filled and how consistently his brain will perceive and organize the information. He must have 1) felt and expressed discomfort; 2) recognition of the signal by mother; 3) found appropriate response and relief.

Bruch says that in her studies one conspicuous factor stands out. An unwanted child or a child of the "wrong" sex seems to consume the mother's energy into making him right for her. Inappropriate responses to the child, superimposing the mother's concept of what the child feels or should be, is begun at birth. The most disturbed children had mothers who interpreted any discomfort as need for food. They also restrained any expression of outgoing activity as dangerous for the child. Severe inactivity associated

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with social isolation or withdrawal foretells a poor outcome of severe progressive obesity and poor social adjustment, resulting not infrequently in mental illness.

Kaplan and Kaplan (1957) say that there is a distinction between hunger and appetite. Hunger is a physiological reaction to food depletion and is present at birth; whereas appetite is a desire to eat based primarily upon learned factors. Appetite is learned through the reduction of the hunger drive, but is affected by both cognitive and affective cues. In obesity, the disturbance is not in hunger, but in appetite. However, since hunger itself may be disturbed, physiological aberrations, the urge to eat and the inability to discriminate satiety is still a possible cause for obesity, according to Kaplan and Kaplan. However, their observations are that this accounts for a very small percent of obesity in individuals.

Two types of overeating are seen clinically. The first is the overeating that results from abnormal feeling of hunger and appetite, while the other type of overeating is not associated with excessive hunger. One type of overeating has often been noted and attributed to the "gratification of frustrated impulses", while the other type is usually associated with the avoidance of anxiety. Overeating associated with anxiety seems to be the more common. The desire to eat may also be aroused by ideational and affective stimuli as a result of pairing and conditioning. Thus
if hunger and fear repeated are paired, as they might be in a neglected infant, or, in later life, may occur in a prison camp experience or a socioeconomic crisis, the individuals may find that a feeling of hunger will induce him to eat in order to reduce an anxiety state. For example, if an infant were habitually frightened and neglected by his mother who did not heed his hunger cries, he might be expected to "feel hunger" at a time when he is faced with a stressful situation.

One aspect about obesity pointed out by most of the theorists who have worked in research of this problem is that individuals who are affected by their obesity suffer from an undifferentiated concept of their own body image. Bruch (1973) through the study of other theorists and her own observations feels that the inability of the mother or mother surrogate to perceive the infant's needs results in an inability on the part of the child to perceive himself as a self-directed person as he lives through various developmental stages. Instead he lives in response to demands from others. Food symbolically stands for an insatiable desire for love; an expression of love and hatred; as well as a fear of responsibility. Inability on the part of the individual to distinguish hunger is cause by incorrect and confusing early learning. In her case history notes, Bruch (1973) records the plight of adolescents, who, when society helps them discover that the onus of obesity
is unacceptable socially, will literally starve themselves to death without too much discomfort to themselves. They have a disordered awareness of hunger, and feel as though they are not in control of their bodies. From birth on, two basic forms of behavior occur: (1) behavior initiated in the infant (2) behavior in response to the infant. Appropriate responses to cues coming from the infant in biological fields as well as in social, intellectual and emotional fields are significant for the development of self-awareness and effectiveness. Correct or incorrect learning experiences are codified in the brain on various levels for conceptual representation, depending on the physiological and emotional stage of maturation at the time of the experience. Innate maturing processes are important but awareness comes only as a separate and thorough interaction with environment. If food is given as a pacifier, without discrimination or as a reward, or withheld because of inappropriate responses or behavior, the child grows up confused and unable to differentiate between biological and emotional needs.

Ainsworth and Bell (1970) studied 26 white, middle-class babies for three months. Their interest was in their feeding interactions with their mothers who were divided into groups:

1. Sensitive mothers interested in gratifying baby's rate of feeding, timing and baby's preference in food.
2. Mothers who overfed babies to gratify them.

3. Mothers who stuffed babies to make them sleep long.

At the age of twelve months it was found that babies fed on No. 1 schedule were most attached to mother. The babies in the No. 2 group tended to ignore or turn away from mother. The babies in the No. 3 group were anxious, showed maladaptive behavior in new situations, extreme shyness, fear of new situations.

A group of investigators at Mayo Clinic, Frazier, Fau­bion, Giffin and Johnson (1955) demonstrated the importance of the parental role in childhood obesity by showing that when parents gained insight into the effect of their actions upon their children, the need for the symptom of obesity was abolished and weight reduction followed.

Bruch (1973) states that a warm accepting attitude on the part of the parents is the most important factor in the presence of childhood obesity. Followup of obese children in her studies revealed that about one third made a good adjustment to obesity. About 40% had problems as adults. She attributes these problems to substitution of food for love. She also points out that it seems that the more medical treatment, diets, reducing drugs, the poorer the outcome. As Harmetz (1974) said, "My body was the mirror of my mother's failure to cope with me and that forced her to take sides against me". (p. 23)
Since it is well nigh impossible to state dogmatically when dealing individuals that there is a particular cause for obesity, as we have seen from the variety of research done on the subject, it is unusual, to point out that there are two syndromes connected with overeating that most theorists consider watching carefully. The first is the Night Eating Syndrome, characterized by morning anorexia and followed by evening hyperphagia. It is usually observed in women and tends to occur during stressful situations. The second is the Binge Eating Syndrome—when the individual goes on a seemingly uncontrollable bout of eating. A good example of this pathology would be the late Mario Lanza who once ate 23 omelettes at one sitting. Stunkard (1959) gives as incidence of the Night Eating Syndrome a figure of 10% and for the Binge Eating Syndrome less than 4% of obese persons. Either condition seems to be linked with more serious (possibly situational) disturbances.
PSYCHOGÉNIE APPROACH TO TREATMENT OF OBESITY

Bruch (1957) makes the point in The Importance of Being Overweight that "all this focusing on postponing death by spending so much time thinking about it when we could be thinking about life seems not only stupid, but selfish". (1957, pp. 68-69). However, when too much weight is psychologically damaging to a person's body image, or when he begins to eat in a pathological way, then it is time to intervene. Bruch also says:

There are people who function better when they are overweight. Whether we like it or not, there are people who find being overweight is a balancing factor in their adjustment to life. (1957, p.12)

This, obviously is not a solution for all heavy people. There are those individuals who maintain their physical and emotional health even though obese all their lives. For those who find being fat causes them great feelings of insecurity, worthlessness, self-hatred; for those who are faced with medical problems such as arthritis, hypertension, diabetes, other serious and chronic ailments; those who find that their mates do not accept them when they are obese; those whose positions require a normal weight; we cannot accept Bruch's suggestion that seeking appropriate measures for weight reduction is too "time consuming".

For those who have no situational stresses, manipulating the energy balance is recommended, accompanied by a mod-

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erate caloric diet prescribed by a physician. When there are familial conflicts, be they marital problems or rejected children compensating by overeating, help from a therapist with a friendly and respectful interest is indicated. Bruch (1973) did experiments on children and adolescents. She found it more difficult to make an obese individual active than it is to make him diet. It is important for him to be made aware that obesity is a lifelong problem, and that for him to indulge in even one high calorie meal means extra effort if he wishes to reduce his weight. Then there are those obese individuals whose emotions, habits, eating patterns have caused a child or a teenager to have a diet problem long before he had the power to decide things for himself, and his eating problems are a part of his personality. These are the people who may be helped by an educational group therapy approach; who need constant supervision until eating patterns are changed. Or, if this doesn't produce lasting results, they need to understand some of the dynamics of their development of food dependency to reduce anxieties, feelings of worthlessness. This psychogenic approach may entail a year or more of therapy to discover the reasons for food dependency.

When/if the individual becomes aware of his need for independence, he will probably go on a diet/exercise regimen voluntarily. It is important that the individual doesn't (as it is in all therapy) manipulate his way out of the res-
ponsibility of changing his lifestyle by blaming his par-
ents. Psychotherapy, while not easy or necessarily short-
range in terms of time involved, appears to be the best way
of helping young people to a more constructive life. Fol-
lowup inquiries show that, with psychotherapy, up to 35
years later, there is lasting improvement.

Most theorists will concede that the psychoanalytic
approach to obesity has proven to be of little value.

Harmetz (1974) who writes so insightfully about the
trauma of the fat person in society states that:

It only occurred to me about a year ago to won-
der why fat people should be ashamed. Stuffing
our bodies with food is the private poulticing of
a private wound. Mildly destructive. On a par
with compulsive cigarette smoking. But leagues
below alcoholism, drug addiction, suicide. Yet
I became ashamed of my body so long ago that I
no longer remember when or how it happened.
(1974, p.23)

We can plead that society not be so harsh on those who
are overweight; yet it is true that anyone really grotesque
(a woman ninety pounds overweight as she was) is playing
in a different league from those who manage to keep their
dependencies out of view. Perhaps this is the factor that
drives many obese individuals to seek help.
SUMMARY AND CONCLUSIONS ON PROBLEM OF OBESITY

Those who are not emotionally or physically endangered by an accumulation of fat, may well find that they function best with the weight to which they are accustomed. Those who are still adolescents, or children, and are finding more feelings of worthlessness, depression, and are becoming more withdrawn, should consider entering a program—preferably a group program in which their eating/exercise habits can be structured as outlined in the Situational Control Program discussed in the Behavioral Treatment Approach in this paper. A concerned adult would be necessary for intervention at various developmental stages. Such a program may be available through a mental health clinic, a college, or a family doctor may suggest its equivalent.

Those adults who have been obese all their lives, and are just encountering emotional and/or physical problems would do well to consider psychotherapy. As was pointed out previously their attitudes toward food in all likelihood stem from a dependency problem begun long before they had any control over their eating habits. However, some adults begin to have weight problems because of transient situational stress: find they are unhappy about their appearance: that too many pounds make a difference in their feelings about themselves, society's attitude toward them, their mobility, their lack of interest in life,
their sexual lives. They would do well to consider the educational approach to obesity. If organized groups are not available or appealing, get a sensible diet from an interested physician. Exercise, also, in these circumstances would be a positive help in regulation of the energy output vs. the caloric input. It would also be a device to keep the individual from dwelling overmuch on the difficulties he is currently facing - instead of using food as a palliative.

It was made clear at the outset that the term "obesity" should be changed into the term "obesities". There are so many causes for the abuse of food; as an outlet for feelings of worthlessness, depression; not being loved or needed; as well as the habitual use of food as a blanket against the disapproval of parental figures; that it is impossible to tie the problem up in a neat and tidy package and state that this is the etiology and this is the treatment for what we call obesity.

The United States Public Health Service issued a warning that obesity is a serious health problem in this country. It is known that there are many psychological problems connected with being obese. It is also known from the news media that public is clamoring to find a way to get "thin quickly". Approximately seventy nine million Americans are overweight. The reducing industry, be it by publications, medication, physicians, clinics, surgery, hor-
mones, grosses a billion dollars a year. Five thousand doctors devote themselves fulltime to the overweight and make two hundred fifty million dollars a year. The above figures should give the reader some idea of the extent of the public's concern with the problem.

As yet there are not satisfactory solutions - mostly because the problem of obesity is so highly complex, with many factors acting and interacting variously in the individual.

In this paper the authoress has tried to sort out the problem and reveal the many dimensions with which the researchers have to work. All of the theorists are agreed upon one thing, and that is, that if the individual wants to lose weight, and keep his weight down, he needs to be highly motivated.
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