1'hr Journal of Psreholoqr, 124(1), 5-24

Women and Weight: Fad and Fiction

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ABSTRACT. In this article, I argue that women's concern with body weight is a "fad," when taken in an historical context, and is limited to Western societies. I have presented evidence that the following aspects of weight are myths rather than reality: (a) There are objective definitions of obesity; (b) obesity is prevalent among women; (c) obese people take in more calories than the nonobese; (d) dieting is an effective way to reduce weight; and (e) obesity is related to poor physical health.

DESPITE THE CURRENT PREOCCUPATION with weight and dieting in the United States, it is actually a relatively new concern. *The Psychological Abstracts*, first published in 1927, first referred to weight in 1955. (Lest the reader assume that psychologists were not interested in women's issues back then, the first entry on lesbianism was in 1928.) What factors contributed to the rise of interest in weight?

It is important to emphasize that concern with overweight is limited to affluent Western nations. In developing countries, the major causes of death are malnutrition and infectious disease, and thinness is unlikely to be viewed with envy; rather, increased body weight is associated with wealth (Powers, 1980). Research among adults in India, Latin America, and Puerto Rico, and among children in China and the Philippines has shown that an increased standard of living is correlated with increasing body weight (Furnham & Alibhai, 1983). Asian women living in Kenya gave more positive ratings to drawings of heavy women and more negative ratings to drawings of thin women than did Asian women from Kenya who had emigrated to Britain and British women (Furnham & Alibhai). Japanese college students tended to assign more negative stereotypes to thin body build stimuli and more positive

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stereotypes to fat stimuli, whereas the reverse is true for American students (Iwawaki & Lerner, 1974).

Even in a Westernized country such as Australia, college students showed less concern with weight, a lower frequency of dieting, and less self-consciousness about their bodies than did students in the United States (Tiggeman & Rothblum, 1988). In Europe, full-bodied female Venus figures have been found in paleolithic excavations. According to Freedman (1986), "In western cultures, female beauty has been equated with slimness for only sixty of the past six hundred years. Between 1400 and 1700, the maternal role was idealized, and fat was considered both fashionable and erotic" (p. 148).

In the United States at the turn of the century, thinness was associated with tuberculosis, a prevalent cause of death at that time (Bennett & Gurin, 1982). Life insurance companies also began to proliferate and to look for ways of screening out applicants who were likely to die early and thus cause the company a loss of income. In 1901, Oscar Rogers, a physician with the New York Metropolitan Life Insurance Company, reported that overweight and underweight policyholders had higher than average mortality rates, based on the review of a small sample of the company's records (Bennett & Gurin). For the first half of the 20th century, Louis Dublin, a statistician and employee of the Metropolitan Life Insurance Company, wrote in popular and medical journals about the risk of obesity in shortening life, naming it "America's No. 1 Health Problem" (Bennett & Gurin, p. 133).

Paralleling the concern with weight proliferated by the life insurance companies in the United States, slimness also became associated with standards of beauty. The flappers of the 1910s and 1920s had flat, adolescent bodies; Twiggy, a major model of the 1960s, weighed 97 lb (Freedman, 1986). Both the media and health professionals began to advocate slim bodies. "In the 1960s, obstetricians routinely placed expectant mothers on strict diets that permitted a maximum gain of twenty pounds (a procedure they later rejected because it threatened fetal growth)" (Freedman, p. 149).

The *American Heritage Dictionary* (1985) defines a fad as "A fashion that is taken up with great enthusiasm for a brief period of time." Given the relative recency of concerns with weight, the obsessive nature of these concerns, and the link with standards of beauty, weight is the prototype of a fad in the United States today.

In the present article, I have examined the new fad of weight and dieting that has faced the postwar baby boom, particularly women. I have discussed the lack of or conflicting evidence for five aspects of weight that are usually stated as facts: (a) that there are objective definitions of obesity; (b) that obesity is prevalent among women; (c) that obese persons take in more calories than the nonobese; (d) that dieting is an effective way to reduce weight; and (c) that obesity is related to poor physical health.

Myth 1: **There are** Objective Definitions of Obesity

To discuss the prevalence of obesity, it is necessary to describe briefly how obesity is measured and defined. Clearly, the most widely used technique is to place people on a scale, ignoring individual differences in muscle and fat distribution. Weight is then compared with a standard weight table, and obesity is commonly defined as weight that is at least 20% above standard "ideal" weights. Some researchers have recommended the following terminology to further refine degrees of obesity: 10-20% over ideal weight, slight; 21-30%, mild; 31-50%, moderate; 51-75%, severe; 76-100%, massive; 101% or more, morbid (Hanna, Loro, & Power, 1981). The weight table used most frequently in the United States is the "Desirable Weights for Men and Women," published by the Metropolitan Life Insurance Company. This is the table available in diet books, on drugstore scales, and in physicians' offices.

The U.S. Metropolitan Life Insurance Company table of ideal weights has been heavily criticized (see Bennett & Gurin, 1982, for a review). The table was based on life insurance applicants in 1959, who tended to be White, male, of Northern European descent, living in the Eastern United States, and with high incomes. It was constructed by Dublin, who wrote so determinedly about the risks of obesity. According to Mann (1971) and to Bennett and Gurin, Dublin made two assumptions in constructing these tables: (a) that weights do not change after age 25, and thus there are few provisions on the table for weight gain with age; and (b) that people can be divided into small, medium, and large "frames," and so he arbitrarily split the desirable weight for each height into three relatively equal categories that still confuse readers of the table today. The assumption was that the lightest people can expect to live longest, and any increase in weight is associated with an increase in mortality. "To prevent early death, the *average* young man (at five feet seven inches) should lose about twenty pounds, and the *average* young woman (at five feet three inches) about eighteen pounds" *(Statistical Bulletin of the Metropolitan Life Insurance Company,* in Bennett & Gurin, p. 108).

Twenty years later, the United States population was becoming heavier but was also living longer. When the norms of the table were revised in 1979, results once again indicated an ideal weight for men and women that was associated with the lowest mortality. However, this ideal weight was now 10 to 15 lbs more than in 1959 (Build Study 1979, in Bennett & Gurin, 1982). Although the table had never been valid for, say, working class ethnic minority women in the South, it now indicated that millions of people in the United States needed to *gain* weight in order to optimize their longevity.

Although the Metropolitan Life Insurance tables are by far the most frequently used ways of assessing weight, the Body Mass Index (Powers, 1980) is sometimes used to measure obesity. This equation (usually weight divided by height squared) controls for height so that people's weight is unaffected by

thtfir height; it is used in cross-cultural studies, because insurance policyholders from the United States are an inappropriate comparison group and most countries do not have independent surveys of ideal weights.

Other researchers have attempted to develop ways of more directly assessing body fat rather than weight. Skinfold thickness measures consist of applying calipers to various parts of the body in order to assess the degree of body fat. However, this measure has low interrater reliability (Durnin, Armstrong, & Womersley, 1973) and is time consuming and intrusive to subjects. For both the Body Mass Index and skinfold thickness, ideal weights are based on comparisons with a standard group, and the assumption is ". . . that, in adults, increase in body weight is undesirable and that *after age twenty, an individual should not gain any more weight with each year of age"* (Abraham & Johnson, 1980, p. 364, italics mine). Once again, value judgments have influenced objective indices of obesity.

Although these indices of obesity are not as objective as they seem, at least they are conventional. At times, researchers develop their own, equally whimsical definitions, such as: "Subjects were classified as obese if they would look better after a 15 pound or more weight loss and nonobese if not" (Steinberg & Yalch, 1978, p. 244).

Myth 2: Obesity is Prevalent Among Women

It is clear that the Metropolitan Life Insurance tables of ideal weights were never a valid measure for women in general and working class, non-White women in particular. The 1979 revision of this table led to a marked decrease in the number of obese men and women.

Regardless of the assumption that ideal weights should not change after age 25, most people's weight increases from early childhood until old age (National Center for Health Statistics, in Dwyer, Feldman, & Mayer, 1970). There are no gender differences in the prevalence of obesity in childhood and adolescence. Citing U.S. Public Health Service statistics, Dwyer et al. state:

> Men gain more weight with age during their early 20's than do women, and by the end of their 20's and 30's more men are obese or overweight than women . . . Women achieve their maximum weights about two decades later than men and have a greater relative gain with age, however, so that by early middle age the proportion of obese women exceeds that of men. By late middle age many more women arc obese than men. (p. 270)

Thus, obesity is not as prevalent among young adult women as it is among young men, although weight-reducing diets, advertisements, and food products are predominantly targeted at young women.

However, there is a problem with the evidence that more women are obese in middle and late adulthood than men. The life insurance tables of ideal weights assumed that no one should gain weight after age 25. This discriminates criminates against women more than men, because men gain their maximum weights in their 20s and 30s. Women tend to be leaner in early adulthood, however, and this slimness is held against them as the ideal, even though they tend to gain more weight in later life. No wonder, then, that medical textbooks and diet manuals alike record the prevalence of obesity among women to be higher than among men.

There is also a problem in comparing fatness of men and women. Even in young children, nonobese girls may have twice as much body fat as do boys (Garn & Clark, 1976), and adult women differ markedly from men in body fat distribution. Furthermore, women gain weight during pregnancy, and up to 72% of nonobese women become obese during pregnancy (Bradley, 1982). Obesity researchers, aware of this, have excluded pregnant women from prevalence data on obesity. Nevertheless, they have not excluded formerly pregnant women (i.e., any women with children), yet women maintain some of this weight gain after pregnancy, sometimes for several years (Bradley).

In addition to obese individuals, epidemic proportions of nonobese people, mostly women, consider themselves to be above their ideal weight. National opinion polls conducted in 1950, 1956, and 1966 found that 44% of women and 21% of men would like to weigh less than they do (Dwyer & Mayer, 1970). Respondents with higher educational levels tended to be more dissatisfied with their weight. With each survey, greater numbers of men expressed concern about weight, although the figures for men continued to be far lower than those for women.

Excessive concern with weight is particularly prevalent among adolescents. Dwyer et al. (1970) reported a survey in which 25% of girls and boys in a high school were found to be slightly or moderately obese. Nevertheless, 50% of the girls reported being too fat; the percentage of boys who felt fat more closely matched those who were actually obese.

Thus, obesity is more prevalent among women because their weight, regardless of age, is compared with the leaner weight of young women. Furthermore, the myth that obesity is prevalent among women is fueled by the millions of women, especially adolescents, who feel overweight.

Myth 3: The **Obese Take in More** Calories Than the Nonobese

Hamburger, a renowned obesity researcher of the 1950s, analyzed the causes of obesity. He ruled out metabolic, endocrine, and genetic factors, and summed up: "Thus, we arrive at the conclusion that the one consistent and demonstrable finding in obesity is overeating" (1951, p. 484). In reaching this conclusion by default, as it were, he is not alone. Most medical textbooks, popular diet books, and media programs will state that the obese cat

more than the nonobese. In fact, overwhelming evidence suggests that this is not the case.

Woolcy, Wooley, and Dyrenforth (1979) reviewed the results of decades of research that examined food consumption of the obese and nonobese. In 19 studies that used a variety of methodologies (e.g., observing people in public restaurants, monitoring eating in laboratory settings, and relying on self-report), 18 studies found the obese to eat amounts less than or equal to the nonobese. They state: "The belief that obese people `overeat' is so widespread that one wonders if this conviction will give way to the actual data on this question" (p. 5).

Coates, Jeffery, and Wing (1978) asked observers to visit a random sample of houses in a neighborhood and list the amount of food available in the kitchen as well as its caloric value. Observers gained entrance to 82% of all houses. They found no evidence that heavier families had more food in the house, had more readily edible food, or had more high calorie food than did nonobese families. In fact, 60% of the food of both heavy and nonobese families was high calorie and 30% was readily edible without preparation.

Wing and Jeffery (1978) observed nearly 1,500 people eating in a variety of restaurants (e.g., bakery, ice create shop) in a shopping mall. Observers estimated the weight of the customers and found no difference in the percentage of obese individuals who frequented high and low calorie restaurants, nor did they find an effect for age or gender. Similarly, Coll, Meyer, and Stunkard (1979) had observers rate the food choices of several thousand people at nine types of restaurants. They found no significant differences in food choice by weight in eight of the nine restaurants.

The specific eating behavior of obese and nonobese people has also been observed (Adams, Ferguson, Stunkard, & Agras, 1978). In this laboratory setting, people were asked to perform a visual task and were given free access to a buffet while they worked. Observers behind a one-way mirror found no significant differences between obese and nonobese subjects in the amount of food consumed, number of calories consumed, carbohydrate, fat, or protein content of food consumed, number of bites taken, or pauses while eating. Obese women spent less time actively eating, more time drinking, and less time chewing than did the thinnest (but not than the average weight) group of subjects. Similarly, Rosenthal and Marx (1978) found no significant differences between obese and nonobese people in meal duration, and in the number of bites, chews, and sips while eating.

Similarities in eating amounts and patterns between obese and nonobese people have led researchers to conclude that the differences must lie in activity level. Wooley et al. (1979) reviewed this literature and found the results to be mixed: About equal numbers of studies found the obese to be less active than the nonobese compared with those that found no differences. The methodologies of these studies differed tremendously, and included motion picture sampling of obese and nonobese adolescents while engaged in sports, pedometer levels, a device that measured movement while sitting in a chair, a device that measured sitting versus standing, and self-report. Woolcy et al. remarked that it is important to keep in mind that the obese expend more energy doing the same activities as the nonobese because of their heavier weight and also that neither obese nor nonobese people in our society are very active. For example, only 1.5% of obese and 6.7% of nonobese people use stairs instead of an escalator when there is a choice (Brownell, Albaum, & Stunkard, in Wooley et al., 1979). They also point out that the obese may be made to feel embarrassed when engaged in athletic activity in public.

Finally, researchers have investigated differences between the obese and nonobese in metabolism. Nisbett's (1972) set point theory is now widely accepted by obesity researchers and holds that each individual has a natural set point (similar to a thermostat, in that metabolism changes to maintain this point or range, regardless of amount eaten). Although set point can vary tremendously between individuals, Western society dictates a very narrow allowable, desirable range of weights, and so individuals with higher set points are chronically engaged in self-starvation.

From an evolutionary viewpoint, the set point is an adaptive phenomenon, since people undergoing famine would quickly starve to death without body fat storage. From the perspective of the modern dieting fad, this leads to accusations of poor will power and feelings of failure, as individuals quickly regain the weight they lose. In fact, periodic famines (or periodic diets) will result in *increased* weight over the long run, as the body adapts to constant deprivation by lowering metabolism and storing fat "just in case" (Nisbett, 1972). Given societal pressures to be thin, many people are in a state of food deprivation or even semi-starvation despite weights that may place them into the range of extreme obesity.

Nisbett (1972) has compared the obese who are restraining their weight with other hungry populations. Hungry people tend to eat more and eat more rapidly, express more irritability and depression, become more inactive to conserve energy, and lose interest in sexual activity. Set point theory has led to a tremendous proliferation of studies on restrained eating (Herman & Mack, 1975; Herman & Polivy, 1975; O'Neil et al., 1981; Ruderman & Christensen, 1983), which have generally found that dieting accounts for more of this behavior than obesity. As more nonobese people begin to diet, they too begin to behave in ways comparable to starving individuals. The decrease in activity associated with dieting may account for differences in activity levels between obese and nonobese people.

Despite evidence that obese and nonobese people have a natural set point that determines their weight regardless of what they eat, the medical profession is reluctant to abandon the notion that obese patients are lying when they remark that they do not eat excessively. For example, Forbes (1967) states:

> Why is it that the patient so frequently insists that his food intake is not excessive? . . . This is what I mean by denial. Calories *do* count, but the obese person is all too ready to believe that they do not. . . . True, it is an immature method of dealing with reality (it is so frequently used by children), but then, many obese people are immature. . . . In general, obese children (the age group with which I am most familiar) tend to be immature, passively and orally dependent, petulant, demanding, and uncooperative. . . . Others ... see them as suffering from feelings of inadequacy and distorted life goals, for which eating comes to serve as a comfort and solace. And as the years go by, they learn that others are as disappointed in them as they are in themselves. (pp. 353-354)

This quotation represents one of dozens of interpretations of the seeming permanence of body weight, but it is not atypical even in the 1980s.

Brownell and colleagues .(Brownell, Greenwood, Stellar, & Shrager, 1986) used rats to demonstrate the metabolic changes that result from dieting. A group of rats was placed on a high fat diet until they became obese. Next, they were placed on a diet to lose weight until they reached their initial weight. Then they were given unrestricted access to food and quickly regained the weight they had lost. The diet was then repeated. The results indicated that it took the rats 21 days to lose weight during the first diet but 46 days to lose it during the second diet. Furthermore, it took the rats 45 days to regain the weight after the first diet was over but only 14 days to regain it after the second diet. Thus, weight loss was twice as slow and weight regain was three times as fast after subsequent diets. In short, the rats were using food more efficiently, conserving calories taken in, and slowing their metabolism-exactly the opposite of what dieters hope for when they embark on diets!

Myth 4: Dieting is an Effective Way to Lose Weight

If millions of women in the United States consider themselves to be above their average weight, it is not for lack of trying to be thin. In Dwyer and Mayer's national opinion surveys of the 1950s and 1960s, 14% of women and 7% of men were dieting to lose weight at the time they were polled. These figures were even higher among adolescents. In a high school survey, over 60% of girls had dieted and 30% were on diets on the day they were surveyed. Only 16% of the girls on diets were obese, and virtually all obese girls had dieted (Dwyer et al., 1970). Only 24% of the boys had dieted, and 6% were on diets on the day they were surveyed. Nineteen percent of the boys were obese, yet only a small percentage of obese boys had dieted. Dwyer, Feldman, and Mayer (1967) also demonstrated a high correlation between increased body weight and dieting among female adolescents. Most girls in their survey had begun dieting at ages 14 or 15, spent an average of 11 weeks in the previous year on diets, and spent over 7 weeks on the most recent diet.

Thus, it is certainly not the case that the obese are heavy because they are not dieting.

Twenty years after these surveys, the rate of dieting has doubled for females in the United States. Rosen and Gross (1987) found 63% of high school girls to be on diets on the day on which they were surveyed, compared with 16.2% of boys. In this ethnically diverse survey, Whites and Hispanics were more likely to be dieting to lose weight, whereas Black students were more likely to be trying to gain weight. Again, most students in this survey were nonobese. Nearly all of the obese girls were dieting to lose weight, and so were two thirds of nonobese girls and even 18% of the underweight girls. Only 50% of the obese boys and 25% of the nonobese boys were dieting to lose weight (Rosen & Gross).

Parents of obese girls are more likely than are parents of obese boys to restrain their child's intake of food (Woody & Costanzo, 1981). Parents of obese girls are also more likely to view the girls' obesity as due to problematic eating behavior than are parents of obese boys..

Reasons given by dieters for beginning and terminating a diet have more to do with physical appearance than with health. Berman (1975) found that 90% of dieters were motivated to lose weight because of their appearance. followed by health reasons (56%), family opinion (18%), sex appeal (17%), a pending event (17%), or the opinion of friends (11%). Similarly, Dwyer et al. (1967) found that adolescent girls were motivated to diet because of beauty (43%), and for other reasons, such as clothes not fitting, feelings of self-consciousness, dissatisfaction with figure, or wish for a lower clothes size (25%), or because they just felt like dieting (6%).

Subjects in Berman's study (1975) terminated their diets because of undeserved gain (34%), undeserved loss (32%), and ridicule (28%). Half of all subjects indicated that they had been close to their goal and then gained most or all of the weight back; this was particularly true of dieters who were most obese. Adolescent girls in the Dwyer et al. (1967) study reported terminating diets because of boredom, hunger, and failure to lose weight quickly enough.

Are diets effective? In over 100 controlled studies for the treatment of obesity through weight reduction programs, the dropout rate was between 10-20% (Brownell, 1982). For those who stayed in treatment, weight loss was approximately 11 lb during treatment; after a 1-year post-intervention follow-up, weight loss was about 10 lb (Brownell, 1982). To view this 10 to 11 lb weight loss in perspective, it is important to emphasize that participants in research weight reduction programs are usually obese, weigh approximately 200 lb, are four times more likely to be women than men, and are about 40 years old (Dubbert & Wilson, 1983). An average weight loss of this small magnitude will not significantly affect the individuals' appearance, clothes size, or feelings of self-control. Additionally, an average weight loss

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masks individual differences; in one study, the 13-lb mean weight loss after treatment reflected a range from an 80-lb loss to a 40-lb gain (Jeffery, Vendor, & Wing, in Abramson, .1983).

Although few weight reduction programs follow participants for more than one year, those that do follow up find that almost everyone regains weight; the 5-year failure rate of diets is 98-99% (Allon, 1982). Similar low success rates have been found in reviews of hundreds of treatment studies by Foreyt, Goodrick, and Gotto (1981), Leon (1976), and Wooley and Wooley, (1979). Finally, the criteria for success are usually set by the program leader or researcher, not by the participants.

Brownell and Stunkard (1978) have provided evidence that weight loss in programs that provide specific techniques does not result from these techniques. Participants who lose weight are not necessarily the ones who are carefully keeping food records or complying with the program. Furthermore, Dubbert and Wilson (1983) found that individuals who remained in weight reduction programs lost about the same amount of weight as those who dropped out. Finally, the research of Rosenthal and Marx (1978) indicated that researchers could change eating behaviors (such as the frequency of bites, meal duration, etc.) of those clients during treatment, but that this behavior change was not related to success or failure in weight loss.

According to Volkmar, Stunkard, Woolston, and Bailey (1981), 1 million people participate in group weight reduction programs in the United States each week. They found dropout rates from these programs to be high: about 50% dropped out in the first 6 weeks and 70% by 12 weeks. Volkmar et al. caution against interpreting data about successful group weight reduction programs without considering that over half the participants have already left the program, presumably without losing much weight.

In 1979, Stunkard and Penick wrote: "Paradoxically, those who lost weight during treatment tended to regain it during follow-up, while those who failed to lose weight during treatment tended to lose during follow-up... . This paradoxical pattern was particularly apparent in weight losses of over 18.2 kg during treatment" (p. 802). They subsequently state that it is difficult to examine this phenomenon in other controlled studies because so few participants lose more than 6.4 kg.

Nevertheless, psychological journals continue to publish studies on the treatment of obesity, which usually demonstrate group comparisons (that differ in type of diet program) with slight, although statistically significant, differences in weight after treatment and follow-up. For example, in a recent issue of the *Journal of Consulting and Clinical Psychology*, Klem and Klesges (1988) presented the results of a weight reduction program in which they either awarded cash prizes to participants who lost the most weight (Group C), gave participants a self-help manual to read on their own (Group 13), or both (Group B +C). The average weight of the (mostly female) participants was 170 lb before treatment (about 44 lb over ideal weight). About 17-65% (depending on the treatment group) of participants dropped out during treatment and an additional 22-75% dropped out during follow-up. Although actual weights lost were not reported anywhere in the article, the authors indicated that participants in this program regained either 105% (Group C), 77% (Group B), or 48% (Group B + C) of their weight during follow-up. That is, the participants in Group C were 5% heavier 6 months after treatment than before treatment, and those in Group B + C regained about half the weight they had lost; dropouts were included in the analyses at pretreatment weights. In using the example of this particular study, I am not suggesting that all treatment programs are this superficial; rather, I am indicating that the most prestigious and only APA journal of clinical psychology publishes weight treatment studies of this sort.

Even intensive programs, such as that set up by Harris, Sutton, Kaufman, and Carmichael (1980) for 36 adolescent girls, which covered 1 year of contact by an educator, psychologist, physician, and nutritionist, found little weight loss and a 53% dropout rate. Ironically, Wing and Jeffery (1984) argued that obesity treatment studies should increase the number of participants, because a weight loss of 5, 10, or 15 lb needs a large number of subjects to appear statistically significant. There is no mention of the clinical significance of such a small weight loss! Several researchers have published articles emphasizing the poor outcomes of weight loss reduction programs (e.g., Jeffery & Wing, 1978, "Why aren't they losing weight?" and Dubbert & Wilson, 1983, "Failures for behavior therapy for obesity: Causes, correlates and consequences"), but the tone is still one of trying to find the right program and technique that would turn this failure rate into success.

Few health and mental health professionals approve of the more drastic methods to lose weight, such as fasting and surgery, yet few have done much to stop these procedures. Health complications and fatalities have been found due to fasting, liquid protein ingestion, intestinal bypass surgery, stomach stapling surgery, and fat suction.

The tendency for individuals to lose some weight and then regain it has been termed "yo-yo dieting" (Brownell, 1988). The study by Brownell et al. (1986) with rats who gained weight more efficiently after "dieting" was described earlier. This phenomenon has also been found with people (Brownell, 1988). Whether or not clinic patients in this study had lost weight quickly or slowly during their first diet, the rate of weight loss was slower for them during their second diet.

As early as 1959, Stunkard and McLaren-Hume described the ineffectiveness and safety hazards of diets. Specifically, they concluded that, although both men and women fail to maintain weight loss in the long run, diets for women are particularly unsuccessful in the short run, compared to men.

There has been little investigation of what effects failures in dieting have on the self-image and emotions of the dieters. The abstract of Swanson and Dinello's (1970) study entitled "Follow-up of patients starved for obesity" illustrates some of the victim blaming that researchers have used in explaining diet failures.

> A follow-up *of 1-50* months is presented in *25* superobese subjects who were *starved for an average of 38 days. None of the patients sustained their weight loss but four have had partial success.* The patients had marked difficulty dieting after hospital discharge in the face of routine family and work stresses. The maintenance *of* weight loss was *complicated by the psychological problems which were more apparent in these subjects when they were thin,* and by the great amount *of* energy which they had to devote to dieting particularly when they faced the stresses of daily life outside the hospital. *For most patients a return to obesity was more comfortable and tolerable than trying to fight with their problem in the presence of environmental demands. (p. 209,* italics mine)

Despite the vague reference to "psychological problems," the only psychological problem described in the text of the article is that "Subject No. 15 .. . developed a paranoid psychosis during starvation, left the hospital against advice and since discharge his only communication has been an indignant, accusatory letter to the chief metabolic investigator" (Swanson & Dinello, p. 211).

Goldney and Cameron (1981) reported that women with an internal locus of control had greater weight loss than did women with an external locus of control; however, those with an internal locus of control were also more likely to drop out of the weight loss program. Presumably, women with an internal locus of control who drop out are blaming themselves for the failure. Goldney and Cameron did not address this possibility.

Stunkard's quotation (1958) is reprinted probably more than any other in the obesity literature: "Most obese persons will not stay in treatment of obesity. Of those who stay in treatment most will not lose weight and of those who do lose weight, most will regain it" (p. 79). Unfortunately, few researchers who reprint this view have heeded its message to leave the obese alone. In conclusion, Fullarton (1977) has stated:

> The cardinal principle for the management of overweight should be: *If you cannot help, at least do no harm.* We must consider very seriously what we have to offer people when we stimulate them to change, especially in light of research indicating that prior failures at behavior change correlate with future failures *in* behavior change. (p. 175, italics hers)

Despite the overwhelming evidence that diets rarely result in much weight loss, millions of people continue to try new diets. What accounts for this motivation in the face of failure? Kimbrell (1975) has argued that diet book covers promise weight loss success with ease. Specifically, she indicates that over 100 new diet books arc available in a typical year, most of which promise a completely "new" diet, yet one that is thoroughly tested and founded on old principles. Additionally, according to Kimbrell, many diets promise freedom from hunger, permission to eat high calorie foods, and permanent weight loss, and are often written by a formerly obese and now glamorous and slim author.

Studies that find slow and minimal results from weight-reducing diets often recommend exercise as a substitute. If the obese cannot reduce caloric intake, the reasoning goes, then they should increase caloric output. Epstein and Wing (1980) demonstrated that exercise is an ineffective method of weight loss, because large amounts of exercise and time are necessary to expend relatively small numbers of calories. Furthermore, compliance with exercise programs depends on enjoyment and availability of equipment, and obese athletes often complain about ridicule by peers when they exercise or the unavailability of equipment and athletic clothing that is suitable for their weight.

However, *nonobese* persons showed more energy compensation (by increasing food intake or decreasing other activities) than did obese persons (Epstein & Wing, 1980). There is little question that increasing exercise does little harm (certainly not if compared with the risks of dieting) and may increase fitness. and health. However, if exercise is promoted as a weight reduction program, then participants need to understand that weight loss will be very minimal. In fact, Thompson, Jarvie, Lahey, and Cureton (1982) describe research indicating that strenuous exercise in female rats has resulted in heightened caloric intake, and that exercise is not associated with large amounts of weight loss in humans, particularly with extremely obese people.

Myth 5: Obesity is Related to Poor Physical Health

In 1966, the U.S. Department of Health, Education, and Welfare (Fullarton, 1977) cited obesity as the number one nutritional problem in the United States. Fullarton stated that attention is focused on obesity ". . . primarily because it is easier to measure than most aspects of nutrition. The problem of measuring what is easiest to measure is not a problem special to obesity; economists usually measure what they can measure and then try to convince us what they can measure is important" (p. 169).

There are two major confounds in the research that purport to demonstrate a relationship between obesity and health risks. First, there is no control for dieting. There is some evidence that weight-reducing diets (rather than obesity) result in health problems. Brownell (1988) found that rats who had lost and regained weight had a greater preference for fat in their diet than rats who had never "dieted." If this occurs in humans who diet, high fat diets have been associated with health risks such as cardiovascular disease and certain

forms of cancer (Brownell, 1988). Ernsberger (1985) found that rats who had been placed on several diets tended to have high blood pressure. This "dieter's hypertension" began after sizable lose-gain cycles and then became set. Ernsberger found the source of the hypertension to be the dieting cycle, not the actual poundage. The combination of overeating and the stress of deprivation increases norepinephrine (the "fight or flight" hormone), resulting in increased heart beat and hypertension. Repeated dieting has also been shown to result in hypertension and heart disease in swine (Smith, Smith, Mameesh, Simon, & Johnson, 1964), and to shorten the lives of mice (Emsberger, 1985).

Emsberger (1985) stated: "In humans, this may lead to congestive heart failure, rather than the heart attacks and kidney disease common to other forms of hypertension. Doctors know overweight people are twice as likely to have hypertension as lean folks, but they have always thought the problem was the extra weight" (pp. 29-30). Hibscher and Herman (1977) found that both obese and nonobese dieters exhibited elevated levels of free fatty acids, which was associated with the dieting rather than with obesity. In contrast, obese subjects who were not dieting showed normal levels of free fatty acids. Weight loss diets (independent of weight regain and subsequent diets) have been related to hypotension, fainting, elevated serum cholesterol, gallstones, diarrhea, aching muscles, weakness and fatigue, bradycardia and tachycardia, abdominal pains, elevated uric acid levels, anemia, headache, nausea, cardiac disorders, and even death (cf. Polivy & Herman, 1983, for a review). There is some evidence that natural famines and starvation diets result in increased risk of hypertension, heart failure, and diabetes among both obese and nonobese people (Emsberger, 1985).

Obese people diet in greater proportions than do the nonobese (Dwyer et al., 1967; 1970). The greatest health risks associated with obesity are cardiovascular disease, hypertension, and diabetes mellitus (Gordon & Kannel, 1973; Rimm & White, 1979). Yet researchers continue to ignore the confound of dieting as possibly contributing to these diseases. And how many millions of individuals with hypertension and diabetes are told to go on weight-reducing diets?

Of course, it is not easy to find populations of obese nondieters in Western nations. Given the historical recency of dieting, however, it is possible to conclude that studies of weight and health conducted before the postwar dieting epidemic contain fewer dieters. In 1976, Anderson and Cowan (in Andres, 1980) concluded a study of Scottish women and men who were followed all the way to their death. These individuals, most of whom were born at the turn of the century, were unlikely dieters. The correlation between their body weight at the time of the first assessment and length of survival was essentially zero for both men and women. Even for more recent surveys, however, it is possible to covary out frequency of dieting to obtain a more

accurate picture of obesity and health without the potential health risks of diets.

Bulimia, predominantly a disorder of young college women in the United States, has increased dramatically in the past decades. Health risks associated with bulimia are intestinal damage, nutritional deficiencies, and dehydration in the short run (Davison & Neale, 1986), and cardiovascular dysfunction in the long run (Carson, Butcher, & Coleman, 1988), as a result of the stress on the body of the frequent binding and purging. When predominantly young, White, middle-class women develop cardiovascular dysfunction, health practitioners are quick to attribute the health problem to the disrupted eating patterns. When the obese, who tend to be middle-aged, non-White, and poor, are diagnosed with cardiovascular problems and also show evidence of chronic dieting, practitioners are less likely to blame the diet and more likely to blame the lack of will-power, self-indulgence, and laziness of the obese individual.

Bulimia has been estimated to affect as many as 15% of all college-age women in the United States (Foreyt, 1986). Given this prevalence, there should be large numbers of young women developing diet-related health problems in the next decades. Perhaps this finding will alert health professionals to the risks of dieting. As increasing numbers of nonobese women (and men) embark on diets (mostly because they view themselves as above their average weight) it will also be possible to compare obese and nonobese individuals who are comparable in diet histories, for existing health risks.

Furthermore, surgical procedures and extreme weight-loss methods are more frequently recommended to obese persons than to the nonobese and can cause significant health problems and death. Fasting and semistarvation can result in cardiovascular, metabolic, gastrointestinal, neuromuscular, and renal complications due to protein and fat loss (Bray, 1972; Stunkard & Rush, 1974). The intestinal bypass has been linked with progressive liver failure and death due to intestinal obstruction (Bray, 1972). Stomach-stapling surgery has been associated with leakage of stomach fluid into the abdomen, ventral hernia, potassium deficiency, urinary tract infection, anemia, vitamin deficiency, osteoporisis due to lack of calcium, diarrhea, constipation, vomiting, malnutrition, stomach cancer, and death (Emsberger, 1986).

A second confound in much of the obesity and health risk literature is that there is no control for socioeconomic differences between the obese and nonobese. The prevalence of obesity is affected by socioeconomic class, particularly for women. In the Midtown Manhattan Study (Moore, Stunkard, & Srolc, 1962), women in the lowest socioeconomic group were seven times more likely to be obese than women in the highest category. Specifically, about 30% of women in the lowest socioeconomic category were obese compared with 4% in the highest group. For men, the same trend existed, but to a lesser extent: Corresponding figures were 33% in the lowest group and 22%

in the highest group. Although Blacks have higher rates of obesity than do Whites, this is due to Blacks' lower socioeconomic status.

When nonobese subjects are found to be physically healthier, there is no control for the fact that this population is likely to earn a higher income and to be better educated. Thus, nonobese individuals are likely to receive better medical and preventive health care and to be more educated about new developments in health care techniques. The confound between body weight and social class has led to the confusing observation that obese adults who were *underweight* as children have *a higher* mortality than obese adults who were overweight as children (Bradley, 1982). This finding is not surprising when more information is revealed: Underweight children who become obese adults are more likely to be poor and Black; obese children who become obese adults are more likely to come from high income families (Bradley, 1982).

Maddox, Anderson, and Bogdonoff (1966) found the relationship between weight and hypertension to disappear when they controlled for race. Blacks were found to have a greater frequency of hypertension. Although the study did not control for income, Blacks are overrepresented among low income groups in the United States.

Finally, health risks of obesity do not seem to appear until men are at least 30% over ideal weights and women even more so (Bradley, 1982; American Cancer Society Study, in Lew & Garfinkel, 1979). In the Framingham Study (Sorlie, Gordon, & Kannel, 1980), obesity did not affect mortality rates until women were at least 110% over average weight and men were 90% over average weight! Bradley (1982) concluded: "The inescapable conclusion . . . is that the Western idealization of the almost emaciated human form is in general not rational on medical grounds nor for that matter, on aesthetic ones" (p. 50).

In addition to studies that have demonstrated health risks associated with obesity, there are others that have not found these effects. Andres (1980) examined the data from several large community surveys (e.g., the Framingham Study and the Alameda County Study) and found the relationship between weight and health to be far from linear. Especially for older men, the greater the weight, the better their health. Clearly, one interpretation of this finding is that some of the older men were losing weight and dying, which indicates that losing weight in these surveys may be confounded with illness. Others have argued that nonobese individuals are more likely to be cigarette smokers (since smokers weigh less and quitting smoking results in some weight gain). Nevertheless, a community study in England (Cole, Gilson, & Olsen, in Andres, 1980) reported health separately for smokers and nonsmokers, and found that individuals who were 30% over their average weight had the *lowest* mortality in both groups. In the Framingham Study (Sorlie et al., 1980), cigarette srnokine accounted for some of the health problems of lean subjects,

but both smoking and nonsmoking lean subjects had high mortality rates.

Given the high standards of methodologic controls required for publication of research results, it is surprising that these major confounds have not been more adequately addressed in the literature. It is hard to believe that a community survey of health risks among cigarette smokers would be published if this survey compared two such groups as the following: a group of nonsmokers from a middle-income neighborhood without other health risks with a group of low-income smokers who were also engaging in another practice (say, frequent caffeine intake) potentially damaging to health. Yet that is precisely how the obese and nonobese, with socioeconomic status and dieting uncontrolled, have been compared for evidence of health risks. Again, the assumption of obesity as a health risk is so ingrained in our culture that we are willing to forego tight standards in order to demonstrate this foregone conclusion.

A desire for slimness is absent in developing nations and is a fairly recent phenomenon in Western societies. Possibly, as the AIDS epidemic increases in the United States, extreme slimness might be viewed with suspicion (in some African countries, AIDS is referred to by the English word "slim"). Becker (in Schur, 1984) has stated:

> *Social groups create deviance by making the rules whose infractions constitutes deviance,* and by applying these rules to particular people and labeling them as outsiders. From this point of view, deviance is *not* a quality of the acts the person commits, but rather a consequence of the application by others of rules and sanctions to an "offender." The deviant is one to whom that label has successfully been applied; deviant behavior is behavior that people so label. (p. 5)

The obsession in the United States with body weight is a fad that is physically and psychologically harmful to millions of people, especially women.

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Received May 26, 1989