

LINE ON LIFE

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Fighting Obesity *

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Each summer, many women try to lose weight to look better in skimpy bathing suits. These women – most of them within 10% of their ideal weight – think they are fat. However, 10% either way from the ideal is considered merely normal variation. On the other hand, over 20% above ideal body weight – as I am – is considered **obese**. Although some obese people do overeat, obesity isn't caused simply by gluttony. If not, what causes obesity?

First, we need to understand the effects of *any* severe changes in weight. In 1944, a starvation study was done with 36 volunteers of average height and weight. They went on a strict diet to lose half of their body fat. They became miserable and irritable. Even when gaining their weight back after the experiment was over, they were still miserable and irritable. They did not seem comfortable or happy until their original weight had been gained!

In 1964, volunteers in a Vermont prison were required to *gain 25%* beyond their starting weight. This was extremely difficult for the subjects. One subject – who went from 110 to 143 pounds – had to consume 7000 calories (twice his average daily intake) just to maintain his new level for a few months. After the experiment – without any conscious effort to do so – most of the prisoners returned to their original weights.

These findings led to a **set point theory** – an extremely sensitive homeostatic (balance-maintaining) mechanism that creates feelings of hunger or satisfaction depending on body fat levels. But in some people, this set point can be reset. This type of person might maintain a weight gain of 10 pounds for a long time. Then – as though the original set point has been changed – they might gain another 10 pounds. Currently, we do not know why this happens.

If they have malfunctioning internal set-point mechanisms, people might rely on external cues to tell them when to eat. In the 1960s, psychologist Stanley Schachter did experiments that suggested an **internal-external dichotomy** – normal weight people use internal set-point cues, while obese people rely on external cues. Normal weight people were typically unaffected by external factors. In contrast, obese people tend to eat more if

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1. more food was set before them,
2. the food was easier to eat (e.g., shelled vs. unshelled nuts),
3. the food tasted better, and/or

4. external time cues were quickened.

As an example of the last cue, obese and normal subjects were placed in rooms where the clocks went faster than normal. Schachter found that only obese subjects ate more as fast clocks reached "*mealtime*."

Recent evidence indicates that the internal-external dichotomy is too simple. In the 1970s, research indicated that some normal weight people were externally cued. They will eat more if placed in an environment with a greater amount of food (like a cruise ship, for example). Other studies found that even some slender people – if they rely solely on internal signals – regulate their intake poorly.

In contrast to thinner people, some obese people may have inherited body cells that require less energy – burning as little as 80% of the calories that a normal person would! According to Dr. William James, a clinical nutritionist at Cambridge University in England, "*It is not so much that obese people get fat because they eat too much, but because they eat a normal amount.*" In other words, they might eat normally, but they burn less of what they eat. A study at Beth Israel Hospital in Boston found that obese people tend to burn calories at a slower rate – even *after* they became thin! Rather than the obesity preceding the low metabolic rate, this suggests that the lower metabolic rate causes the fat!

In times of famine, a lower metabolic rate and a tendency to store fat can be advantageous. Obesity-prone individuals may have inherited these predispositions. Among the Pima Indians of Arizona, the vast majority is extremely obese. They seem to be able to store calories easily. It seems like natural selection has prepared Pima Indian bodies for famine. However, in the current food-rich United States, this is not an advantage. By the age of 35, about half of them have diabetes.

At this time, the outlook is depressing. Most research seems to support what psychologists said in the 1950s.

"Most obese persons will not stay in treatment of obesity. Of those who stay for treatment, most will not lose weight, and of those who lose weight, most will regain it."

However, this conclusion is based only on those people who had specifically sought help for their obesity. Stanley Schachter thinks that these subjects might not represent obese people as a whole. The research subjects – who sought help – might have had especially difficult problems. Those who do not seek help may be able to lick the problem on their own – so researchers never hear about them. In a 1982 study of individuals who either were currently or had been obese, Schachter found that a great many had lost a significant amount of weight and kept it off. Thus, there might be successful dieters out there who generally don't come to the attention of researchers.

Unfortunately, there is still not easy way to fight obesity. It takes a great deal of effort. If your obesity poses a severe physical or emotional problem, you might be able to change. However, it involves an increase in exercise ("*will power*"), a lifetime change in eating habits ("*won't power*") or some combination of the two. May the "*power*" be with you!

* Adapted from John Dworetzky's *Psychology*, West Publishing, 1985, pages 278-279.