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Stress Eating

Most people recognize that their eating patterns change during periods in life when stress is more intense. Studies suggest that during stressful times, approximately 40% of people eat more food, 40% eat less, and 20% eat the same amount. Importantly, however, is that regardless of the quantity of intake, food choices are affected by stress. Not surprisingly, when stressed, people prefer foods that have higher fat and/or sugar content (i.e., comfort foods).

Obviously this phenomenon is more about the brain than the stomach. One factor is the learning that occurs in childhood. Children are often treated with “sweets” as a reward for enduring something stressful (e.g., immunizations). Children might be promised dessert if they tolerate the consumption of vegetables. Even as adults, we commonly treat ourselves after completing something difficult --- often the reward is pleasurable, energy-dense food. Comfort food intake when experiencing stress can readily become reflexive/habitual.

Stress eating is more than simply a product of learning, however. Levels of cortisol increase under stress. This stress hormone tends to increase desire and motivation, potentially increasing appetite. Additionally, levels of insulin increase under stress, and insulin is known to specifically increase desire for pleasurable foods. Together, these hormonal changes lead us to have strong urges for comfort foods.

Furthermore, cortisol can affect the functioning of the prefrontal cortex (the executive center of the brain). This part of the brain is critical for the capability to override habitual urges

or responses. When stressed, cortisol weakens the prefrontal cortex's ability to override the urge for comfort foods.

The sleep deprivation that frequently accompanies stress also impacts eating. In the intestinal tract, levels of the hormone ghrelin (which accelerates appetite) increase with sleep deprivation, while levels of the hormone leptin (which slows appetite) decrease. In the brain, sleep deprivation affects the functioning of the prefrontal cortex. A recent study found that sleepy people had less activity in the prefrontal cortex when shown high calorie foods, compared to well-rested individuals. This means that sleepy people's ability to resist high fat and high sugar foods is diminished. This research is consistent with other evidence that people have less self-control when sleep deprived (or stressed).

Paradoxically, restrained eating ("dieting") itself can be a source of stress, effectively making it more difficult to manage eating. Investigators have found that people who are "dieting" are more likely to increase their food consumption when stressed than are those not dieting. Overeating and the ensuing guilt become yet additional sources of stress, further fueling this vicious cycle.

As stated at the outset, most people already know that stress affects eating so perhaps all this additional information isn't necessary. But it can be useful to appreciate the mechanisms that contribute to this phenomenon.

Given these processes, there are several things to remember, and practice. First, finding rewards that don't involve comfort foods is important, both for children and adults. Second, when trying to lose weight, extreme eating restraint is something to be avoided, whereas making gradual changes in eating habits has more potential for long term success. Third, the ability to think and reason (i.e., executive functioning of the prefrontal cortex) is an asset to be emphasized, used, and practiced during times of stress. Fourth, things that promote effective functioning of the prefrontal cortex are important. These include adequate (or better yet, plentiful) sleep and physical activity.

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