

Acute and Chronic Stress and Their Impact on
Weight and Food Choices

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Abstract

Scientific evidence suggests that when the hypothalamic pituitary adrenal (HPA) gets involved with stress responses, changes are created in the peripheral metabolic substrates and central neuroendocrine, which alter cortisol production and thus change individual eating behavior and choices. The purpose of this systematic review was to determine the impact of stress on weight, and more specifically, the effect of acute and chronic stress, on emotional eaters and restrained vs. non-restrained eaters and how cortisol plays into eating choices and patterns. Of the six studies reviewed, all assessed chronic, perceived and/or acute stress within the subjects. In addition, emotional eating and restrained vs. non-restrained eaters and the role of cortisol within the subject of stress eating were discussed in most, but not all studies. Two of the six studies had men mixed within their trials, five used pre-menopausal women as subjects, while one of the studies used women with the mean age of 20. The studies were held within laboratory settings, the subjects' home, or the subjects self-reported online. Although still controversial, these six studies suggest that chronic stress may have an impact on eating choices that lean toward foods higher in fat and sugar. Although still in its early stages, this research will be beneficial because stress has been linked to an array of health issues, specifically obesity—and has now itself become a health concern.

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The study of stress and its implications on the body have been a fairly new area of study, especially within the field of nutrition, such as food choices and weight. With the rise of obesity and new research finding that cortisol and other stress-related hormones may impact individual eating behaviors and choices—there has become more of an emphasis on studying the connection between stress, eating habits and weight.

The objective of this research was to take a closer look at the topic of stress, mainly acute and chronic, and the effect on individuals' food choices that either lead to weight gain or loss. But, while the intent was to focus on acute and chronic stress, some research discussed general stress, and others focused on perceived stress. One study also discussed emotional eating. All but one study discussed the impact of cortisol within stress and food choices. The research was mixed amongst the six on whether higher or lower cortisol levels or the propensity for emotional eating relate to unhealthy food choices. Many of the questions that were posed within these six studies were: what kind of stress makes an individual eat less or more? And if they eat more are they predisposed to certain foods? Are there people who are more predisposed to eating these foods when stressed, like emotional eaters? But together no matter what term or type of stress it was, all of the studies sought to

connect the impact of stress mainly on individual food choices, which in turn impacts weight and long-term health.

There is correlational evidence that stress is related (for some) to unhealthy food choices, or food binges leading to weight gain. But correlation is not causation, so at this point, researchers cannot say with complete confidence that stress leads to poor food choices and weight gain. Additional research is needed for men and women, as well as different age groups and cultures, in order to fully understand who is at the most risk for stress-related food choices and weight gain. In addition, as stated above, more research is needed to understand how the psychological and physiological effects are connected. Moreover, emotional eating and its correlation to psychological symptoms, such as depression, should also be further addressed within larger studies. As several studies pointed out, this is a complex topic. Every individual has a different stress trigger, for example, a common one is an ego threat.¹ In addition, it seems that those who have more rigidity with food have more incidences of overeating than those who have flexible restraint.¹ Interestingly enough, most of the studies correlate a raise in cortisol to an increase in choosing unhealthy food. Yet two of the studies showed that those with lower cortisol levels had a greater consumption of unhealthy foods, such as chocolate cake.⁵ One suggested hypothesis is that the act of eating these foods is connected to a physiological activity that decreases cortisol in the body that we do not yet fully understand.⁵ And another study found that those who were more prone to

emotional eating would binge more than an individual with cortisol levels that are elevated.⁷

These six studies, and others like them, have shown a strong correlation to stress and unhealthy food choices that will and are currently setting the stage for additional studies to eventually prove the connection between stress, food choices and weight. This will eventually lead to better care for patient stress, workplace stress management, in addition to more effective treatment of stress-related conditions by physicians, dietitians, psychologists as well as, individuals themselves. Most likely new techniques or screening processes will be developed. In addition, practices that have been around for centuries like meditation and yoga will be more commonplace for individuals and within corporations—as we've already seen.

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