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The impact of chronic stress on the predictors of acute stress-induced eating in women

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Chronic stress is associated with palatable food intake and thus, the development of obesity. This may be due to chronic stress disrupting the regulatory effects of the hypothalamic pituitary adrenal (HPA) axis on stress-induced eating. Thus, the primary objective of the current study was to investigate how chronic stress (CS) and cortisol stress reactivity affect eating behaviors following acute stress. Exploratory analyses also sought to determine the distinct psychophysiological factors driving acute stress-induced eating in women with high versus low CS. Women with high (n = 21) and low (n = 14) perceived CS were subjected to the Trier Social Stress task and a rest period on two separate days in order to assess HPA axis and subjective psychological responses to acute stress. Following either stress or rest, participants portioned and consumed snack foods. Women displaying high cortisol reactivity to acute stress ate a smaller percentage of the food they poured than low cortisol reactors, but only in the low CS group. Additionally, stress-induced eating behaviors were associated with cortisol stress reactivity, depressive symptoms, and hunger for women with low CS, but only with a reduction in negative affect for women with high CS. Results indicated that chronic stress may disrupt HPA axis regulation of acute stress-induced consummatory behavior in favor of affective regulation. Replication in women across the weight spectrum may yield a greater understanding of how chronic stress affects the mechanisms underlying acute stress-induced eating, and inform prevention and treatment efforts for conditions related to stress and obesity.