**Obesity or EDs (1.1) ~half a page**

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**Stress (1.2) ~one page**

Physiologically, stress is a challenge to the homeostasis of an organism (Bose et al., 2009), or the perceived threat to homeostasis (Charmandari et al., 2005). The organism then responds to regain equilibrium (Bose et al., 2009). In humans, stress activates the hypothalamic-pituitary-adrenal (HPA) axis and the sympathetic adrenomedullary system (SAM) to different degrees (Adam and Epel, 2007; Charmandari et al., 2005). Activation of the SAM activates epinephrine which suppresses appetite and stops digestion (Adam and Epel, 2007). The HPA includes corticotrophin releasing hormone (CRH) release from the paraventricular nucleus (PVN) of the hypothalamus which stimulates adrenocorticotrophin hormone (ACTH) release from the pituitary gland which stimulates cortisol release from the adrenal cortex (Bose et al., 2009; Adam and Epel, 2007). In an acute, short-term stressor, cortisol should negatively feedback to prevent prolonged secretion (Adam and Epel, 2007), since the acute stress response is necessary for homeostatic recovery, chronic or prolonged stress can be harmful (Bose et al., 2009).

**Stress and appetite (1.2.1) ~two pages (**sex difference can be here: pandemic example**)**

-short term

Acute stress decreases appetite (Nakamura, 2020) IN THE MOMEMNT.

-long term (leads into)

Davies et al. (2023) found females were at higher risk for pandemic stress-induced binge eating, and females ages 10 to 19 showed the greatest increase in eating disorder released hospitalizations (Auger et al., 2023) during this time. In contrast, acute stressors tend to suppress appetite (Torres et al., 2007).

-sex differences

Cortisol, a glucocorticoid, stimulates hunger and feeding (Adam and Epel, 2007). The balance between SAM and HPA, effectors of the stress response, results in… Chronic stress and excess glucocorticoids play a role in obesity by interfering with energy homeostasis (Tamashiro et al., 2011) and increasing food intake and visceral fat deposition (Adam and Epel, 2007).

Acute stress decreases appetite (Nakamura, 2020) IN THE MOMEMNT.

But behaviour following an acute stressor is highly variable (Klatzkin et al., 2023).

**-The hypothalamus (1.3) ~paragraph**

**The DMH (1.4) ~half page**

**DMH and food intake (1.4.1) ~one page**

**DMH and stress (1.4.2) ~paragraph**

**-CRH receptors and glucocorticoid**

**Synapses (1.5) ~one page**

**-Glutamate (1.5.1) ~one page**

**Stress on synaptic transmission (1.5.2) ~half page**

**Current Study (1.6) ~one page**

**-females under researched (1.6.1)**