

Stress and Eating Behaviors

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Abstract

Studies pertaining to obesity, stress, and their impact on organizations are plentiful. Further, there is an abundance of research surrounding stress at work and eating behaviors. However, studies regarding work stress and fasting are absent. Because of this, our study aims to examine the relationship between stress, fasting behaviors, and interoception. Interoception is the perception of physical (body) sensations, such as hunger. We argue that interoceptive awareness will mediate the positive relationships between stress and fasting behavior. We argue that stress fasting behaviors are likely to occur during periods of high stress, such as balancing work and midterm exams. Therefore, we propose to gather data from working college students to test our hypotheses.

Summary

Background

Stress and eating behaviors are widely documented, yet there are other interesting facets being studied as well. The demands of work can lead one to experience stress, which in turn predicts health related behaviors (Bakker & Demerouti, 2017). These health behaviors include nutritional choices, such as eating unhealthy meals and snacks or even skipping meals altogether (i.e., fasting). Widaman et al. (2016) states that skipping meals can lead to the consumption of empty calories, which can be defined as food with little or no nutrients. Eating these empty calories has been linked with anxiety, depression, and decreased brain functioning (Weaver et al., 2021). Thus, we argue that higher levels of work stress will lead to higher levels of fasting.

Additionally, the body's ability to perceive sensations, or interoception, is related to eating in the form of hunger. Interoception can be defined as body-to-brain axis that allows for interpretation of signals from the internal state of the body (Schulz et al., 2020; Robinson et al., 2021). Some studies have shown that a lack of interoception can lead to a higher BMI, linking it to maladaptive eating behaviors (Robinson et al., 2021). Researchers have demonstrated a clear link between stress and interoception, such that stress inhibits interoceptive awareness (Schulz & Voegle, 2015). Thus, we argue that interoception will mediate the relationship between stress and fasting. As such, we hypothesized the following:

H1: Stress will be positively related to fasting.

H2: Stress will be negatively related to interoceptive awareness.

H3: Interoceptive awareness will be negatively related to fasting.

H4: Interoceptive awareness will mediate the relationship between stress and fasting.

Participants

Three hundred undergraduate students will be recruited from a Southeastern University. We will use the school's SONA system to respond to the questionnaires to earn course credit.

Materials and Procedure

Participants will be asked to complete several scales. These scales will measure stress (Perceived Stress Scale), interoception (Multidimensional Assessment of Interoceptive Awareness 2), fasting (self-constructed scale), eating attitudes (Eating and Appraisal Due to Emotions and Stress), eating pathology (Eating Attitudes Test-26), executive function (Webexec), wellbeing (14-Item Scales of General Wellbeing), overall health (self-constructed scale), personality traits (Big Five Mini Markers), and demographic questions.

Proposed Analyses

To test the hypotheses, we conduct a mediation analysis. Further, because fasting behavior may manifest similar to disordered eating, we will control for eating pathology.

References

- Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of occupational health psychology, 22*(3), 273–285.
<https://doi.org/10.1037/ocp0000056>
- Hofmann, W., Schmeichel, B. J., & Baddeley, A. D. (2012). Executive functions and self-regulation. *Trends in Cognitive Sciences, 16*(3), 174–180.
<https://doi.org/10.1016/j.tics.2012.01.006>
- Houben, K., Wiers, R. W., & Jansen, A. (2011). Getting a grip on drinking behavior: training working memory to reduce alcohol abuse. *Psychological science, 22*(7), 968–975.
<https://doi.org/10.1177/0956797611412392>
- O'Neill, J., Kamper-DeMarco, K., Chen, X., & Orom, H. (2020). Too stressed to self-regulate? Associations between stress, self-reported executive function, disinhibited eating, and BMI in women. *Eating behaviors, 39*, 101417.
<https://doi.org/10.1016/j.eatbeh.2020.101417>
- Robinson, E., Marty, L., Higgs, S., & Jones, A. (2021). Interoception, eating behaviour and body weight. *Physiology & behavior, 237*, 113434.
<https://doi.org/10.1016/j.physbeh.2021.113434>
- Schulz, A., Schultchen, D., & Vögele, C. (2020). Interoception, stress, and physical symptoms in stress-associated diseases. *European Journal of Health Psychology, 27*(4), 132–153.
<https://doi.org/10.1027/2512-8442/a000063>
- Schulz, A., & Vögele, C. (2015). Interoception and stress. *Frontiers in psychology, 6*, 993.
<https://doi.org/10.3389/fpsyg.2015.00993>
- Weaver, L. J., Owens, C., Tessema, F., Kebede, A., & Hadley, C. (2021). Unpacking the "black box" of global food insecurity and mental health. *Social science & medicine (1982), 282*, 114042. <https://doi.org/10.1016/j.socscimed.2021.114042>
- Widaman, A. M., Witbracht, M. G., Forester, S. M., Laugero, K. D., & Keim, N. L. (2016). Chronic Stress Is Associated with Indicators of Diet Quality in Habitual Breakfast Skippers. *Journal of the Academy of Nutrition and Dietetics, 116*(11), 1776–1784.
<https://doi.org/10.1016/j.jand.2016.03.016>