

Binge Eating May be a Matter of All-Consuming Stress

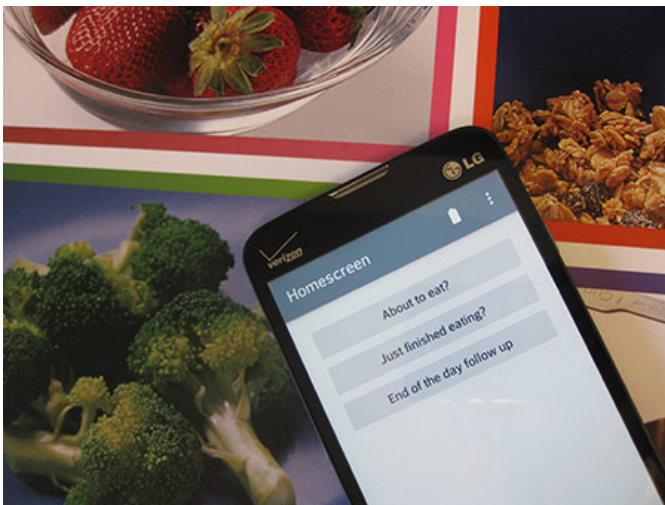
Study seeks participants to test heart rate hypothesis and a possible cell-phone solution

By Christina Johnson | November 16, 2015

A new study led by researchers at UC San Diego School of Medicine is examining whether changes in a person's heart rate could be used to identify stress levels that put them at risk for binge eating.

The study, which is currently recruiting participants, is based on the well-established observation that a person's heart rate typically increases during stressful experiences and that stress can trigger impulsive, unhealthy behaviors, such as overeating, in some individuals.

"We know that people with binge eating problems experience an overwhelming sense of loss of control over their eating," said the study's lead investigator Niloofar Afari, PhD, an associate professor in the Department of Psychiatry, UC San Diego School of Medicine. "They start eating. The ball gets rolling and they feel they cannot stop even if they want to. Our study asks whether heart rate can help us identify that critical moment when people are about to lose control."



In the first component of the study, researchers will ask participants to wear a heart rate monitor around their chest while they complete a series of five-minute tasks that include relaxation exercises, such as controlled breathing and sitting, as well as a task that invokes mild to moderate stress.

The resulting data will be used to model and gauge each person's unique baseline heart rate pattern, response to stress and recovery. It will also be used to test the hypothesis that people

who are prone to binge eating have a steady, less variable heart rate than others.

"Our stress response system is like a car," said Kathryn Godfrey, a doctoral student in the San Diego State University/UC San Diego Joint Doctoral Program in Clinical Psychology. "A high-

performance car with fast acceleration and sensitive brakes can respond quickly and efficiently to changing demands. We want to investigate whether slower acceleration and braking of heart rate is associated with more frequent binge eating episodes.”

In the second part of the study, participants will be asked to monitor their emotional state and eating patterns for a week, using a smartphone app Godfrey designed for the study. Before every meal or snack, participants will be asked to answer four multiple choice questions on their stress levels and emotional well-being. For one full day, they will wear a heart rate monitor around the chest to monitor their physiological stress. These data will be used to analyze the degree to which self-reported stress levels correlate with self-reported binge eating episodes and heart rate.

“If heart rate variability is linked to binge eating episodes, we will begin to ask how technology such as heart rate monitors linked with smartphones can be used to target that exact moment when changes in a person’s stress levels may trigger binge eating,” Godfrey said.

Potential interventions might be a text message alert, a phone call or delivery of a calming photo that could serve as a cue about what is happening and a reminder to develop a healthy response to daily stress levels.

To be eligible for the study, participants must be 18-65 years of age; have a body mass index (BMI) of 30 or greater and have problems with overeating, as well as moderate stress levels.

Participants in the week-long study will receive \$95 for their time and will be reimbursed for transportation expenses. Interested individuals can call or text 858-365-3770 for more information.
