

Recovered bulimics poor at perceiving bodies' internal messages, study finds

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(Medical Xpress)—Women who have recovered from bulimia nervosa have a difficult time perceiving their own heartbeat, according to a new study led by a researcher at the School of Medicine.

The ability to sense one's own [heartbeat](#) and other internal body cues, such as hunger and fullness, is called interoception. Poor sensitivity to messages from the body might be related to the binge-purge cycle of bulimia, an eating disorder estimated to affect approximately 1.5 percent of the American population

The gold standard for gauging interoception is the heartbeat detection task, in which a person—sitting in a chair without touching the backrest and with hands in lap—counts his or her heartbeats while being monitored on an electrocardiogram. A person with normal interoception will be able to track his or her own heartbeat with a certain degree of accuracy, though it probably will be difficult to do.

The study compared nine recovered [bulimia nervosa](#) patients to a [control group](#) of 10 people with no previous history of any sort of psychological disorder. The participants were women between the ages of 18 and 45. Those in the recovered bulimia nervosa group were significantly worse at accurately perceiving their own heartbeats than those in the control group. On average, members of recovered bulimia group correctly perceived 46 percent of their own heartbeats, and members of the control group correctly perceived 64 percent.

The results are published in the December issue of *Eating Behaviors*. The lead author is Megan Klabunde, PhD, a postdoctoral scholar at the Stanford Center for Interdisciplinary Brain Sciences Research in the Department of Psychiatry and Behavioral Sciences.

A growing body of literature shows that heightened or suppressed interoception is either a contributor to or a product of many psychiatric disorders. For example, anxiety patients tend to be particularly sensitive to their own heartbeat. They are more likely to accurately detect their own heartbeat than those without anxiety.

This is the first study to use the heartbeat detection task to assess interoception in recovered bulimia nervosa patients, Klabunde said. Previous studies have asked participants to rate their own ability to detect hunger and satiety.

Klabunde said it is unclear whether diminished interoception is a contributing factor to the development of the bulimia, or a consequence of repeated bingeing and purging.

However, she feels that bulimia and other [eating disorders](#) are not purely driven by a vain desire for thinness. "I come from a philosophy that, in terms of psychiatric disorders, symptoms are there for a reason. And if we don't understand the symptom, it means we need to research it better," Klabunde said.

Interoception is an enigma that researchers are still puzzling out. It appears to be associated with a region of the brain called the insula, a part of the cerebral cortex that is implicated in emotions and desires. Klabunde and her research mentor, Victor Carrion, MD, professor of psychiatry and [behavioral sciences](#), are studying the insula's relationship with interoception in children and adolescents with psychiatric conditions. But Klabunde said it is unclear whether diminished

interoception results from structural abnormalities, a dysfunction of signals in the brain or something else.

Klabunde wants to continue to study interoception in the context of eating disorders and in children who show a diminished ability to interpret their body's messages. She hopes to develop new therapies that could help young people with poor interoception, including those with bulimia nervosa.

"The body is clearly involved in emotional processing," Klabunde said. "We might have to be more creative in terms of how we address the body in treating [psychiatric disorders](#)."

Provided by Stanford University Medical Center

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