

Study looks at excessive exercise in people with eating disorders

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Credit: Andrea Piacquadio

For most people, exercise is healthy for both body and mind. Hours spent jogging, bike riding or lifting weights can elevate mood, boost heart health, build muscle and spur weight loss.

Yet the last of these supposed workout benefits—weight loss—is problematic for people living with an eating disorder such as anorexia nervosa or bulimia nervosa. Both [eating disorders](#) are marked by

distorted negative perceptions of one's body and often a compulsive desire to lose weight.

"Excessive [exercise](#) is a behavior people with [eating disorders](#) can engage in without anybody really noticing that they're doing something that could be harmful," said Danielle Chapa, a doctoral student at the Center for the Advancement of Research on Eating Behaviors in the University of Kansas Department of Psychology. "With [excessive-exercise](#) behavior, people may be exercising with extreme intensity, for two or more hours, or when they have a fever or when they're injured. Exercise can be a compulsive behavior—something they have to do. It's problematic because it could make recovery from an eating disorder a much longer process. There's also a lot of medical complications that go along with excessive exercise—for instance, increased susceptibility to injury."

Now, with an \$84,940 award from the National Institute of Mental Health, Chapa will investigate the causes and effects of excessive exercise on study participants who are experiencing eating disorders. The investigation, called the FuEL Study (Function of Unhealthy Exercise in Everyday Life), represents Chapa's doctoral thesis. She hopes it also will expand the tools available to clinicians to help diagnose and treat eating disorders when lives hang in the balance—20,000 people die each year from eating disorders due to medical complications or suicide.

"Eating disorders have the highest mortality rate out of all other mental health conditions," Chapa said. "That mortality number comes from death by suicide but also deaths from medical complications associated with eating disorders. It's really important that we understand excessive-exercise behavior in people with eating disorders, because it can significantly prolong their recovery—and it's usually missed. Excessive exercise is not always treated in interventions for eating disorders,

because it may go unnoticed."

Chapa now is recruiting 80 participants at fuelstudy@ku.edu. She hopes to better understand the emotional function of excessive exercise in those living with eating disorders, as well as "moment-to-moment predictors" of unhealthy exercise. People in the study will be prompted via smartphone to track their [emotional state](#) for seven days.

"We're interested in seeing how affect changes in relation to exercise—so we're looking at the hours before somebody exercises," she said. "How is their affect changing? And then in the hours after exercise, how is their affect changing?"

For a week, each participant in Chapa's study will receive random surveys via a mobile-phone app every few hours.

"We want to see what their mood is at each of those surveys," she said. "With enough surveys throughout the day, we can see how affect changes."

To track exercise, the same participants will wear a research-grade activity monitor for the duration of their participation, allowing Chapa to detect relationships between participants' emotional states and the timing and intensity of their exercise.

"The Actigraph will collect things like number of steps that a person takes, how long a person is physically active and the level of intensity of their physical activity—if it's moderate or vigorous," she said. "We'll also use that data to identify when exercise occurred in the day, because you get an exact time of exercise. We can then combine the Actigraph data with information we get from the surveys."

At the end of each day, participants will log information about overall

health and injuries.

Chapa, who works with people experiencing eating disorders in a [clinical setting](#) as part of her KU doctoral work, said she hoped her study would produce data that someday could underpin effective interventions for excessive exercise as a follow up to her project.

"In this study, we aim to understand what triggers excessive exercise and if there are individual differences," she said. "If we can predict when someone is going to engage in excessive [exercise](#), then we could send them a quick text message through an app that suggests maybe they use another coping skill rather than exercising excessively. If we know what triggers [excessive exercise](#), we can build these personalized interventions that provide additional support to persons with eating disorders throughout the day."

Provided by University of Kansas

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