

Mental, not physical, fatigue affects seniors' walking ability

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Low "mental energy" may affect walking patterns in older adults more than physical fatigue. New research about the relationship between walking ability and self-reported mood will be presented today at the American Physiological Society (APS) annual meeting at Experimental Biology 2018 in San Diego.

Researchers from Clarkson University in New York observed a group of [older adults](#) (average age 75) while they performed physically and mentally tiring tasks. The volunteers performed the physical task—a timed walking test at normal speed for six minutes—before and after the cognitive components. LED sensors embedded in the five-meter walking track captured gait speed and stride length. The cognitive portion of the test consisted of several math subtraction activities and visually identifying specific numbers and sequences on a computer screen. The volunteers reported their mood, motivation and [energy levels](#) after both the physical and cognitive tests. Vocabulary used to capture the participants' mood included "a list of mood components such as tense, worn out, energetic, confused [and] lively," explained Abigail Avolio, first author of the study.

The research team used a well-known correlation formula (Pearson correlation coefficient) to determine the relationship between self-reported mood and physical performance. There was no change in gait in relation to mental fatigue in the first 30 seconds of the follow-up walking test. However, walking speed and stride length later in the test period decreased significantly in people who reported more cognitive

fatigue, but not in response to lagging physical energy levels.

More study is needed "to further evaluate why feelings of physical energy and fatigue are not related to gait," the researchers wrote.

Abigail Avolio, an undergraduate student at Clarkson University, will present "Impact of [mood](#) after cognitive fatigue on gait in older adults" on Tuesday, April 24, in the Exhibit Hall of the San Diego Convention Center.

Provided by Experimental Biology 2018

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