

Mastery of physical goals lessens disease-related depression and fatigue

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Physically active individuals have an increased sense of accomplishment, or situation-specific self-confidence, which in turn results in reduced depression and reduced fatigue, said Edward McAuley, a professor of kinesiology and community health at the University of Illinois and lead author on the study. Credit: Photo by L. Brian Stauffer, U. of I. News Bureau.

Physical activity is known to reduce depression and fatigue in people struggling with chronic illness. A new study indicates that this effect stems from an individual's sense of mastery over - or belief in his or her ability to achieve - certain physical goals.

The study appears in the journal [Psychosomatic Medicine](#).

"We base our arguments on [fatigue](#) being a symptom of [depression](#)," said Edward McAuley, a professor of kinesiology and community health at the University of Illinois and lead author of the study. "Interventions to reduce depression have consistently resulted in reductions in fatigue. The opposite is not always the case."

Depression and fatigue also are highly susceptible to changes in a person's sense of his or her ability to achieve certain goals. This belief in one's own abilities is called self-efficacy, McAuley said. The conviction that you can jog down the block or climb several flights of stairs without stopping is an example of self-efficacy.

Previous studies have shown that increases in [physical activity](#) increase self-efficacy. The effect is almost immediate, McAuley said.

"The evidence is monumental that physical activity has some effect on well-being," McAuley said. "The question is: Why?" He and his colleagues wanted to determine whether self-efficacy plays a significant role in the sequence that leads from physical activity to reduced depression and fatigue.

"Our argument was that physically active individuals would have higher self-efficacy, which in turn would result in reduced depression and reduced fatigue," McAuley said.

To test this hypothesis, the researchers reanalyzed data from two previously published studies, the first involving breast-cancer survivors and the second focusing on individuals diagnosed with multiple sclerosis. Both studies included self-report questionnaires, but the second used different measures of health status, physical activity, self-efficacy, depression and fatigue. It also required that participants record their physical activity with an accelerometer worn during waking hours for seven days, and it tested them again on all measures after six months.

A statistical analysis showed that in both groups, higher levels of physical activity corresponded to higher self-efficacy and lower levels of depression and fatigue. But when the researchers controlled for the influence of self-efficacy on depression and fatigue, they found that the effect of physical activity on both depression and fatigue was significantly reduced.

This suggests, McAuley said, that physical activity influences depression and fatigue by increasing self-efficacy.

"What we're showing is that the relationship between physical activity and reductions in fatigue in breast-cancer survivors and people with MS can be explained in part by the effect of physical activity on mastery experiences," he said. "That sense of accomplishment, or situation-specific self-confidence, serves to reduce depression, which in turn reduces fatigue." Increased self-efficacy also has a direct effect on reducing fatigue, he said.

Physical activity programs can be designed to effectively enhance self-efficacy and, in turn, well-being, McAuley said.

Provided by University of Illinois at Urbana-Champaign

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