

Regular exercise reduces depressive symptoms, improves self-esteem in overweight children

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Dr. Karen Petty, postdoctoral fellow in psychology at Medical College of Georgia's Georgia Prevention Institute, is first author on a study showing that less than an hour of daily exercise reduces depressive symptoms and improves self esteem in overweight children. The study is published online in Journal of Pediatric Psychology. Credit: Medical College of Georgia

Less than an hour of daily exercise reduces depressive symptoms and improves self esteem in overweight children, Medical College of Georgia researchers say.

The study included 207 overweight, typically sedentary [children](#) ages 7-11 randomly assigned to either continue their sedentary lifestyle or

[exercise](#) for 20 or 40 minutes every day after school for an average of 13 weeks. The 40-minute group sustained the most psychological benefit, according to research published online in the *Journal of Pediatric Psychology*.

The MCG researchers were the first to demonstrate this dose response benefit of exercise - meaning the more the better - on [depressive symptoms](#) and self worth in these children. Benefits came despite the fact that the children's weight did not change much over the three months.

"Just by getting up and doing something aerobic, they were changing how they felt about themselves," says the study's first author, Dr. Karen Petty, postdoctoral fellow in psychology at MCG's Georgia Prevention Institute. "Hopefully these children are taking home the idea: Hey, when we do this stuff, we feel better."

The study focused on fun activities that increase heart rate, such as running games, jumping rope, basketball and soccer and typically included short bursts of intense activity interspersed with lower-activity recovery periods.

Participants in these activities reported feeling better about themselves. "If you feel better about yourself, maybe you are going to do better in school, maybe you are going to pay more attention," Dr. Petty says. MCG is compiling a mound of evidence that supports the case that these go hand-in-hand.

Dr. Petty works with Dr. Catherine Davis, clinical health psychologist at the Georgia Prevention Institute, who has shown that [regular physical activity](#) not only improves fitness and reduces fatness but also reduces [insulin resistance](#) ([diabetes risk](#)), improves cognition and reduces anger expression. "This adds to the evidence that exercise is great for people of

all ages, physically and mentally," Dr. Davis says of the latest finding. "Our physical and mental well being are intimately interwoven."

One exception was that even a longer daily exercise regimen did not impact the general self esteem of black adolescents although it did improve their depressive symptoms and how they felt about how their appearance. The researchers noted previous evidence that the black culture is more accepting of obesity. Their study, one of a few to test race as a moderator of psychological risk in [overweight children](#), appears to support that. However a better way to measure self esteem in blacks also may be needed, say the researchers who call for more study on race's influence on the psychosocial consequences of obesity and exercise.

For this study, children filled out the Self-Perception Profile for Children and the Reynolds Child Depression Scale reports before and after the 13-week period. "We asked them about feelings of sadness, how they sleep - most don't sleep well when depressed - and their appetite - some eat more, others less when depressed," Dr. Petty says. As with most children, most of the study participants had some symptoms associated with clinical depression but few would be given a diagnosis of clinical depression.

There's some irony in that depression and low self esteem may decrease the chance you'll feel like moving yet moving decreases depressive symptoms. Dr. Petty, a runner, experiences that herself. "Even if it's hard and I don't want to go, 15 or 20 minutes after I do, I feel so good I could go for another run."

Acknowledging running isn't for everyone, she suggests a more festive family affair that could include a walk in a park or around the neighborhood, a game of pickup basketball or tennis. Peer group activities may work better for some children, she says, such as study

participants who could routinely be found in the Georgia Prevention Institute, laughing and joking as they exercise.

"There's a message here for all of us that taking some time out of our day to do something physical helps make us better mentally," says Dr. Petty, whose postdoctoral fellowship is supported by a National Institutes of Health training grant to MCG's Vascular Biology Center.

The researchers already are following another group of children for eight months to determine the longer term impact of exercise. They also are bringing the control subjects to the Georgia Prevention Institute each day to ensure that it's exercise, not just the extra attention from participating in an after-school program, that's making the difference.

About 37 percent of children in the U.S. are overweight and about 16.3 percent of children age 2-19 are obese, according to the Centers for Disease Control and Prevention. Animal studies have shown exercise may help regulate genes that increase levels of brain chemicals that combat depression.

Source: Medical College of Georgia

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