

Exercise helps overweight children reduce anger expression

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Regular exercise seems to reduce anger expression in overweight but otherwise healthy children, Medical College of Georgia researchers say. According to Dr. Catherine Davis, clinical health psychologist in the MCG School of Medicine, aerobic exercise may be an effective strategy to help overweight kids reduce anger expression and aggressive behavior. Credit: Phil Jones

Regular exercise seems to reduce anger expression in overweight but otherwise healthy children, researchers said.

The first published study on the topic looked at 208 typically sedentary 7- to 11-year-olds who participated in a 10-15 week afterschool aerobic exercise program or maintained their usual inactive routine. The Pediatric Anger Expression Scale, used to gauge common anger

expressions such as slamming doors and hitting, was given before and after the program.

"Exercise had a significant impact on anger expression in children," said Dr. Catherine Davis, clinical health psychologist in the Medical College of Georgia School of Medicine. "This finding indicates that aerobic exercise may be an effective strategy to help overweight kids reduce anger expression and aggressive behavior."

The finding fits with evidence that exercise reduces depression and anxiety in children and with what's considered common knowledge that exercise helps adults manage anger, she said.

It also gives parents and other caregivers another reason to get and keep children moving. "I think it's reasonable to encourage children to exercise for a lot of good reasons," said Dr. Davis whose research on overweight children has shown regular physical activity not only reduces fatness but improves cognition and reduces insulin resistance – which can lead to diabetes.

"I think if teachers could see that exercise helps kids control their behavior and get along, they would be the top proponents of physical activity for kids," said Dr. Davis, noting that other studies suggests overweight children are more likely to be bullies and to be bullied. High levels of anger and hostility have been associated with delinquency in children, cardiovascular disease in adults and metabolic syndrome - which can lead to heart attack, stroke and diabetes - in adolescents.

The new finding, published in the November issue of *Pediatric Exercise Science*, appears to apply to overweight children generally, regardless of factors such as race, gender, socioeconomic status or even fitness or fatness levels, the researchers wrote. In fact, even though all participants in the exercise portion lost a significant amount of weight, they remained

overweight at the study's conclusion.

With help from a five-year \$3.6 million grant from the National Heart, Lung and Blood Institute, Dr. Davis already is looking to see if the finding holds in a similar group of children, who are part of a study on the impact of exercise on cognition. The goal is to determine if it was the exercise or participation in an after-school program that made the difference.

Extra attention from adults and time away from usual routines that could include disagreements with siblings and watching violence on television definitely could have a psychological impact. "With a psychological outcome like cognition or anger control, positive interaction with adults can make a big difference," Dr. Davis said.

In the published study, only the exercising children came to MCG's Georgia Prevention Institute after school. In the new study, both groups are coming to the institute, with non-exercisers enjoying arts, crafts and games. "We are trying to make it so the only difference is exercise," said Dr. Davis.

Source: Medical College of Georgia

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