

Physical activity, school performance may be linked: study

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A systematic review of previous studies suggests that there may be a positive relationship between physical activity and the academic performance of children, according to a report in the January issue of *Archives of Pediatrics & Adolescent Medicine*.

Amika Singh, Ph.D., of the Vrije Universiteit University Medical Center, EMGO Institute for Health and Care Research, Amsterdam, the Netherlands, and colleagues reviewed evidence about the relationship between physical activity and [academic performance](#) because of concerns that pressure to improve test scores may often mean more instructional time for classroom subjects with less time for physical activity.

The authors identified 10 observational and four interventional studies for review. Twelve of the studies were conducted in the United States, plus one in Canada and one in South Africa. Sample sizes ranged from 53 to about 12,000 participants between the ages of 6 years and 18 years. Follow-up varied from eight weeks to more than five years.

"According to the best-evidence synthesis, we found strong evidence of a significant positive relationship between physical activity and academic performance. The findings of one high-quality intervention study and one high-quality observational study suggest that being more physically active is positively related to improved academic performance in children," the authors comment.

Background information in the article suggests that exercise may help cognition by increasing blood and oxygen flow to the brain, increasing levels of norepinephrine and endorphins to decrease stress and improve mood, and increasing growth factors that help create new nerve cells and support synaptic plasticity.

Still, "relatively few studies of high methodological quality have explored the relationship between physical activity and academic performance," the authors conclude. No study in their systematic review used an objective measure of physical activity.

"More high-quality studies are needed on the dose-response relationship between [physical activity](#) and academic performance and on the explanatory mechanisms, using reliable and valid measurement instruments to assess this relationship accurately," the authors conclude.

More information: *Arch Pediatr Adolesc Med.* 2012;166[1]:49:55.

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