

# 12 minutes of exercise improves attention, reading comprehension in low-income adolescents

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A new Dartmouth study [Dartmouth study](#) shows 12 minutes of exercise can improve attention and reading comprehension in low-income adolescents, suggesting that schools serving low-income populations should work brief bouts of exercise into their daily schedules.

The study, published as part of the June volume of *Frontiers in Psychology*, compared low-income adolescents with their high-income peers. While both groups saw improvement in selective visual attention up to 45 minutes after exercising, the low-income group experienced a bigger jump. (Selective visual attention is the ability to remain visually focused on something despite distractions.) The low-income students also improved on tests of reading comprehension following the physical activity, but the high-income students did not.

Study author Michele Tine , assistant professor of education and principal investigator in the Poverty and Learning Lab at Dartmouth, suspects the two groups respond to [exercise](#) differently because they experience different levels of stress in life.

"Low-income individuals experience more stress than high-income individuals, and stress impacts the same physiological systems that acute aerobic exercise activates," Tine said. "Physiological measures were beyond the scope of this study, but low-income participants did report experiencing more [stress](#). Alternatively, it is possible that low-income

individuals improved more simply because they had more room to improve."

This study is a follow-up to one [Tine published](#) in 2012. The earlier study found that brief [aerobic exercise](#) improved selective [visual attention](#) among children, with low-income participants experiencing the biggest improvement. Tine's latest study shows the effect holds true for adolescents (participants this time ranged from 17 to 21). It also explores, for the first time, exercise's effects on reading comprehension, an important research area because the gap between low- and high-income adolescents' [reading comprehension](#) is growing steadily.

Provided by Dartmouth College

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