

# Why does physical activity during childhood matter?

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Over the past thirty years, physical activity among children has declined markedly. The public health implications of this decline include a growing prevalence of obesity and chronic diseases such as diabetes and hypertension.

A new issue of *Monographs of the Society for Research in Child Development* expands the focus to ask whether physical activity is also related to children's brain and cognitive development and achievement in school. Scholarly articles published by over 20 researchers in *Monographs*, titled "The Relation of Childhood Physical Activity to Brain Health, Cognition and Scholastic Achievement" indicate that while physical activity in schools has diminished in part because of a growing emphasis on student performance and academic testing, decreased physical activity is actually related to decreased academic performance.

Approximately 55.5 million children are enrolled in pre-kindergarten - 12th grade in the United States in a given academic year. According to research presented in *Monographs*, while there is variation across states and schools, overall, opportunities to engage in physical activity have diminished. Current U.S. Department of Health and Human Services guidelines call for children to have a minimum of 60 minutes of intermittent physical activity per day. However, in 2012, according to the Centers for Disease Control and Prevention, only 30 percent of children attended a school in which they were offered physical education daily. The majority of students do not engage in any form of planned physical activity during the school week.

Yet physically active children tend to outperform their inactive peers in the classroom and on tests of achievement. The research presented in the monograph helps to make clear why. When compared to their less fit peers, those who engage in more physical activity have larger brain volumes in the basal ganglia and hippocampus, areas associated with [cognitive control](#) and memory. Cognitive control refers to the control of thought, action, behavior, and decision-making.

Physically active children also have increased concentration and enhanced attention spans when compared to their less active peers. The authors find that fitness is related to the ability to inhibit attention to competing stimuli during a task, an ability that can help children stay focused and persevere to complete an assignment. The findings on attention encompass children with special needs as well as typically developing children. The authors also report on physical activity as a non-pharmaceutical intervention for children with attention-deficit/hyperactivity disorder and children with autism spectrum disorders, with positive results.

According to Dr. Charles Hillman, professor of kinesiology and community health at the University of Illinois at Urbana-Champaign and lead author on this issue of Monographs, "these results point to the important potential of approaches focusing on physical activity for strengthening children's [brain health](#) and educational attainment. It is important for state governments and school administrators to consider this evidence and promote physical activity in the school setting, which is where children spend much of their time."

Hillman also notes that the findings in the monograph come not only from studies looking at variation in physical activity and fitness level as they occur spontaneously among children, but also from studies in which children are randomly assigned to physical activity interventions or to continue their ongoing activity levels. This helps to assure that the links

between [physical activity](#), brain development and achievement are actually caused by the differences in activity rather than reflecting the characteristics of the [children](#) who choose to be more or less physically active.

Provided by Society for Research in Child Development

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