

Few children get 60 minutes of vigorous physical activity daily

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Credit: Robert Kraft/public domain

Children are far from meeting national guidelines for physical activity, and girls are at greatest risk of falling short of recommendations according to a study measuring the physical activity of 453 schoolchildren in Massachusetts during a one-week period. Led by researchers at Tufts University School of Medicine and the Friedman

School of Nutrition Science and Policy at Tufts University, the study examined children's activity patterns during school-time and out-of-school, compared to national recommendations.

The Physical Activity Guidelines for Americans recommend that [school](#)-age children get at least 60 minutes of moderate-to-vigorous [physical activity](#) (MVPA) every day and the Health and Medicine Division of the National Academies of Sciences, Engineering, and Medicine (formerly the Institute of Medicine) recommends that 30 minutes of this activity occur during the school day. The researchers studied physical activity among children in grades three through five, not only during the school day, but also after school and on weekends to determine when children were more or less active. Measurements of the children's physical activity were taken from accelerometers worn for seven consecutive days during all waking hours. Notably, the study included a representative sample of children across several school districts in Massachusetts with 30 percent of the study participants being overweight or obese.

Researchers found that across the entire sample of 453 children, only 15 percent achieved 60 minutes of daily MVPA and even fewer, 8 percent, met the HMD recommendation of 30 minutes of MVPA during school. The greatest disparity was between boys and [girls](#), with girls being far less likely than boys to meet both of these guidelines, with only 8 percent and 2 percent meeting total daily- and school-time recommendations respectively. As compared to normal or underweight children, overweight and obese children were also less active overall and achieved fewer minutes of MVPA during school, out-of-school, and on weekends.

"We thought that the school day would offer a protective effect where there would be few differences in activity levels between boys and girls and children in different weight categories during the school day as compared to weekends and out-of-school time. Instead, we found that

girls and overweight children were less active for all measured segments, including during the school day," Kristie Hubbard, Ph.D., M.P.H, R.D., first and corresponding author on the study and an adjunct instructor in the department of public health and community medicine at Tufts University School of Medicine, said,

Understanding children's patterns of physical activity throughout the week can assist researchers to recommend policies and programs that increase activity levels in the settings where children live, learn, and play. The authors note that schools are uniquely positioned to encourage millions of children to increase physical activity and reduce the prevalence of obesity.

"We have to find ways to increase activity levels, especially given that few states mandate and provide opportunities for children to achieve the HMD's recommendation of 30 minutes of school-time moderate-to-vigorous physical activity. In fact, many schools are cutting back on and even eliminating physical education and recess time," said Jennifer Sacheck, Ph.D., the study's senior author and an associate professor at the Friedman School of Nutrition Science and Policy at Tufts University,

The majority of a child's day is spent in sedentary and light physical activities (LPA) with LPA contributing the greatest amount to total [activity levels](#). Importantly, the researchers found that LPA decreased with increasing grade level and girls were similar to boys on weekends and during out-of-school hours, but were significantly lower than boys during the school-day. This school-time disparity in LPA was not seen between normal weight and overweight/obese children.

Sacheck continued, "We need to also continue to create opportunities for LPA during school-time and recognize that a distinct disparity exists for girls for not only MVPA, but also LPA during the school-day which is

not apparent during out-of-school time. Clearly, schools need to be aware of this disparity and should focus on increasing all intensities of physical activity equally for all [children](#) across the school-day."

More information: Kristie Hubbard et al. Disparities in moderate-to-vigorous physical activity among girls and overweight and obese schoolchildren during school- and out-of-school time, *International Journal of Behavioral Nutrition and Physical Activity* (2016). [DOI: 10.1186/s12966-016-0358-x](#)

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