

Study finds children's activity levels not influenced by more PE time in school

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Scheduling more physical education time in schools does not mean children will increase their activity levels, suggests new research that discovered those who got lots of timetabled exercise at school compensated by doing less at home while those who got little at school made up for it by being more active at home.

The scientists, who presented their research Thursday at the European Congress on [Obesity](#), found that the total weekly [physical activity](#) among [children](#) attending different schools was much the same despite large differences in the amount of time allocated to PE. The researchers propose it's not the environment that drives physical activity levels in children, but some form of central control in the brain similar to appetite - an 'activitystat'.

"These findings have implications for anti-obesity policies because they challenge the assumption that creating more opportunity for children to be active - by providing more playgrounds, sports facilities and more [physical education](#) time in schools - will mean more physical activity," said the study's analyst, Alissa Frémeaux, a biostatistician at Peninsula College of Medicine and Dentistry in Plymouth, UK. "If health strategists want to alter the physical activity of children, it is important that they first understand what controls it."

The researchers studied 206 children from three primary schools (age 7 years) with widely different amounts of timetabled physical education. Children attending one school got on average 9.2 hours a week of

scheduled PE, while those at the second school got 2.4 hours a week and those at the third got just 1.7 hours in a week.

The study is the first to track the school activity patterns of children repeatedly over a long period of time using accelerometers, gadgets that record clock time and duration as well as intensity of activity. The children wore the accelerometer - the gold standard for measuring physical activity in large population studies - all day, every day for 7 days during each of four consecutive school terms. The researchers analysed the intensity and amount of in-school physical activity, out-of-school activity and the amount of total weekly physical activity. Body measurements for body composition and blood samples for metabolic health were also taken for each child. The results were adjusted for age, gender, daylight hours and rainfall.

The researchers found that although the children attending the high-PE school did 40% more activity during school hours than the other children, their total weekly activity was no different from the others.

"There was, of course, a range in the amount of activity the children did at each school, but the range and its average were the same regardless of what school they went to. We discovered that the children who got a lot of PE time at school were compensating by doing less at home, while those who got very little PE time compensated by cranking up their activity at home, so that over the week, they all accumulated the same amount," Frémeaux said. "We believe the range of activity among children, from the slothful to the hyperactive, reflects not the range in environmental opportunities, but the range of individual activity set-points in the brains of children."

Frémeaux pointed out that rodent experiments, as well as other observations in children and adults such as the same physical activity level in people from different geographical regions and between

weekend and weekdays, lend support to the activitystat theory.

Frémeaux concluded: "There is plenty of evidence that the opportunities for children to be active have changed over recent years, but we cannot find the evidence that more opportunity means more activity."

Source: European Association for the Study of Obesity

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