

More physical activity improved school performance

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Just two hours of extra physical activity each week can improve school performance. This has been shown by a study of approximately 2,000 twelve-year-olds carried out by scientists at the Sahlgrenska Academy, University of Gothenburg.

The scientists Lina Bunketorp Käll, Michael Nilsson and Thomas Linden, at the Centre for Brain Repair and Rehabilitation at the Sahlgrenska Academy, University of Gothenburg, have tested the hypothesis that increased [physical activity](#) stimulates learning and improves school performance.

In the study, published in the scientific periodical "Journal of School Health", 408 twelve-year-olds in the Gothenburg region were given two hours of extra play and motion activities per week, in collaboration with a local sports club. This was approximately twice the normal amount of curricular physical activity.

Comparing the achievement

The effect of the intervention was evaluated by comparing the achievement of national learning goals by the children four years before and five years after its implementation. The results were compared to control groups in three schools that did not receive extra physical activity.

The results are clear, according to the scientists: A larger proportion on students in the intervention school did achieve the national learning goals in all subjects examined – Swedish, English and mathematics compared to the control groups.

"You can express it that two hours of extra physical education each week doubled the odds that a pupil achieves the national learning goals. We did not see a corresponding improvement in the control schools, where the pupils did not receive extra physical activity – rather the contrary, a deterioration," says scientist and neurologist Thomas Linden at the Sahlgrenska Academy.

Carefully chosen schools

The participating schools had been carefully chosen, and the scientists point out that they are fully comparable with respect to the number of boys and girls, the fraction of pupils with foreign background, and the average level of income, unemployment and education of the parents.

"It's difficult in a study like this to have control of all factors that can influence school performance. But the results are so consistent and point clearly in one direction that we believe that we have a scientific base for our conclusion: extra physical activity seems to help children succeed in school."

"The results from the current study are in line with other studies in both animals and humans demonstrating links between physical activity and cognition. We have previously found a strong correlation between cardiovascular fitness, IQ and brain resilience in young adults.

Interestingly, we now demonstrate a link between physical activity and school performance in young children adding to this exciting line of research," Professor Michael Nilsson says.

Better understanding

"We have obtained a significantly better understanding of the mechanisms of learning in recent years. And it's very gratifying to be able to conclude that it is possible to improve the school performance of young pupils with relatively simple means," says Thomas Linden.

Important to policy-makers

"Our hope is that planners and policy-makers will take our results into consideration", says Lina Bunketorp Käll the researcher and project leader of the study.

"In an in-depth study we further investigate gender differences, psychological health and mechanisms behind the observed effects," Dr Bunketorp Käll further explains.

"It's being discussed whether more physical education in school would take time from academic subjects, and in this way weaken school performance. Our study shows that exactly the opposite may be the case." says Thomas Lindén.

The study was financed by the Sten A Olsson Foundation for Research and Culture, the Swedish Brain Foundation, the Swedish National Centre for Research in Sports, and the Kempe-Carlgrenska Foundation.

The article The Impact of a Physical Activity Intervention Program on Academic Achievement in a Swedish Elementary School Setting was published in the Journal of School Health in August.

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