Will Physically Active Lessons Improve Academic Achievement for All or Widen the Achievement Gap?

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In this issue of *Pediatrics*, Mullender-Wijnsma et al report findings from an intervention to evaluate the effects of physically active lessons on enhancing children’s academic achievement. Conducted in primary schools in the Netherlands, results of the study are promising. After 2 years, intervention children showed greater gains in standardized mathematics and spelling test scores compared with control children. To what extent overall activity levels and health of the children have been affected is unknown, and we look forward to results from the children’s fitness tests, which are likely forthcoming.

Globally, rates of physical activity in children are low,2,3 and schools are 1 potential setting for health promotion efforts. Indeed, physical activity interventions in primary schools have been implemented with some success.4 Although physically active lessons are 1 example of how children’s physical activity might be increased,5 it is imperative that these lessons do not detract from children’s learning and overall educational attainment. The article by Mullender-Wijnsma et al adds to a growing body of evidence showing that physically active lessons in schools may actually improve academic test scores.5 Previously, the large-scale US-based PAAC (Physical Activity Across the Curriculum) trial reported improvement in children’s academic achievement by using standardized tests after implementation of physically active lessons over multiple academic years.6 They also found positive effects on BMI. Thus, 2 large-scale trials have now shown positive effects on test scores for children participating in physically active lessons. Based on this evidence, wider scale implementation of physically active lessons in schools may warrant consideration.

It is important, however, to consider the context of these studies and the children who participated. Mullender-Wijnsma et al do not report racial or sociodemographic information about the children in their study, but given the geographic location in the northern Netherlands, we may assume that the majority of children are white. Seventy-seven percent of the children in the PAAC study were white, and more than one-half were from middle to higher income families.6 Of the studies included in a recent systematic review on physically active lessons by Norris et al,5 most were also conducted in small samples of predominantly white children. Physically active lessons for children therefore appear to improve the academic outcomes of more advantaged white children, but are these effects similar across population subgroups, and what is the feasibility of implementing active lessons in schools serving disadvantaged children?

The existence of socioeconomic,7–9 racial and ethnic,10,11 and gender12 inequalities in academic achievement has been well documented. School-level factors7,8 and children’s health status13 also affect cognition and academic performance, potentially...

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Interventions may need to be adapted or tailored to be suitable for wider implementation. It has been suggested that poverty influences brain development and is associated with lower neurocognitive functioning, negatively affecting children’s executive function, language ability, and recall. Poverty and social disadvantage can also create adverse home environments (e.g., food insecurity, violence in the home), and children from lower income families have been shown to have more behavioral problems. These conditions may affect children’s ability to benefit from physically active lessons. Moreover, already-stretched teachers in disadvantaged schools may find it difficult to implement physically active lessons in their classrooms.

Despite these potential difficulties, however, such interventions may be of great benefit to young children from less advantaged backgrounds, improving not only their academic attainment and physical activity levels but also their overall health. The study by Mullender-Wijnsma et al adds to the increasing body of evidence supporting the potential of physically active lessons in schools. Although there may be cause for cautious optimism, further research is required to assess the potential of these lessons to reach large populations and positively affect inequalities in health and educational attainment. Until such evidence exists, it may be preliminary to advocate for wider implementation.

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