Opinion

School-based physical activity interventions for children and youth: Keys for success

Arto Gråstén

Faculty of Education, University of Tasmania, Launceston, TAS 7250, Australia

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Given the rising trend in obesity in children and youth and age-related decline in moderate-to-vigorous-intensity physical activity (MVPA) in several Western, African, and Asian-Pacific countries and strong evidence that past physical activity (PA) interventions have had only a small effect on children’s and youth’s overall activity levels, it is important to clarify whether school-based PA interventions warrant resource allocation.

Schools represent an accessible and cost-effective setting from which to stimulate engagement in PA because an underlying link already exists within that curriculum domain, and there is the potential to directly reach all cohorts of children and youth. School-based PA interventions fall into 5 broad categories: physical education (PE) curriculum, classroom activity breaks, active commuting to school, modified playgrounds, and comprehensive approaches that combine these approaches.

Previous reviews of PA and school-based interventions for children and youth highlight the following key points in order to increase the effectiveness of future efforts to promote PA behavior in the school context.

1. PE curriculum-based and comprehensive approaches

Interventions that aim to increase PA through additions or modifications through PE curriculum have the most flexibility in delivery and implementation. In turn, comprehensive interventions have a greater likelihood of being sustained if individuals in the school take ownership of the program after the research-directed intervention phase has ended. Modified PE curriculum is an effective strategy to enhance physically active behavior, as it reaches all children and youth, regardless of the school’s size, resources, or population characteristics.

Teachers and students could be asked to give suggestions to list useful practices and implement the interventions in practical terms. This could help intervention schools to improve their curriculum-based activities by using the local resources as effectively as possible. In addition to the modifications through PE curriculum, schools could allow students to have access to sport facilities during recess breaks, because otherwise they may be unoccupied for most of the breaks or recess time, when more effective use is well-warranted. Schools could also provide several personalized and group activities during school days, such as games and equipment supply. Students could be involved in organization, distribution, and storage. For example, a sport equipment “library” could be possible to implement in many school without additional costs. This may have an educational perspective as well because students would need to be responsible about the usage of common sport facilities and equipment.

2. Reducing sedentary behavior

Children and youth meeting the guidelines of at least 60 min of MVPA daily can still be sedentary for many hours per day, which may explain, at least in part, why many interventions have had limited success in increasing total PA. In addition, if children and youth accumulate increased in-school activities during the intervention, they may reduce their active play or participation in unorganized activities in leisure time. School-based interventions should comprise both in-school and out-of-school activities. For instance, after-school PA homework could be a relatively simple method to be included in most interventions (e.g., collect points for walking or biking certain distances, or standing a certain proportion of time while watching TV or using multimedia devices). These strategies are inexpensive to implement and may provoke habitual changes.

3. Light-intensity PAs

The importance and levels of light-intensity PAs are widely unknown, which is concerning, as greater total PA is associated with better health outcomes and less obesity. Light activities, such as walking to school with friends, playing active games, getting the mail, choosing the stairs over escalators and lifts, or performing casual housework may reduce the thresholds to engage the greater PA levels. Therefore, interventions are required to assess the levels and importance of light-intensity activities.
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PA and understand their relationship with holistic health outcomes. This could also motivate less physically active children and youth to accumulate the higher total PA. All types of PA including a progression in frequency, duration, or intensity should be seen as valuable.

4. Follow-up of psychosocial outcomes

Schools have great potential to influence children’s motivation toward PA because motivation in school PE has been shown to have a significant effect on motivation toward PA in a leisure time context. School-based interventions should incorporate the collection of follow-up psychosocial outcome data, as a strategy to ascertain the long-term impacts of these interventions. Psychosocial changes, for example, in motivation toward PA, perceptions of physical competence, peer-support, enjoyment, or working as a group should be carefully followed across school-based interventions. These changes are more difficult to examine than changes in MVPA behavior, but are clearly additional benefits of these programs. Children and youth who have more positive experiences in school and gain higher motivation or perceptions of physical competence may be more likely to increase PE enjoyment and thus increase PA both in school and out of school.

5. Families and parents as role models and educators

Schools have certain limitations in terms of providing adequate PAs for all children and youth. Parents are often involved in interventions to engage them in PA, but it is not clear which methods for involving parents are effective. However, parents are an important promoter of attitudes and motivation toward PA in leisure time. Interventions should involve parent consultation and engagement. For instance, parents could be advised to encourage their children to be physically active in terms of transportation to in-school and out-of-school activities by suggesting other options to driving them by car (e.g., walking, jogging, or biking with children to leisure activities). Families should be encouraged to go out and spend more time playing together after school and especially on weekends.

6. Conclusion

Researchers, teachers, principals, and financial supporters often want to achieve positive results quickly when implementing school-based interventions. However, an intervention can be successful without visible changes in current MVPA behavior. For instance, reduced sedentary behavior, increased light-intensity activity, positive psychological changes (e.g., motivation, enjoyment), or increased leisure time that families spend together are potential additional benefits of these interventions that are generally not studied or missed.

Research partners (i.e., educators, teachers, and health experts) should cooperate more effectively when implementing school-based interventions. Teacher training on the broader health and cognitive benefits of regular PA and providing additional resources may help schools to enhance students’ total PA and reduce sedentary time. Teachers are experienced in organizing activities in the school context and health experts can bring their expertise, for instance, with regard to measurement tools. Effective communication between research partners can produce effective future school-based interventions, which are needed to prevent declining PA levels of children and youth all over the world.

Taken together, the “effectiveness” of school-based interventions should be seen more widely than only increased MVPA levels. Because the quantity of school PE including recess activities cannot be substantially increased in current school education systems, school-based interventions can provide positive learning experiences, and thus increase exercise motivation, and in doing so improve children’s and youth’s total PA levels and health. The most significant point to keep in mind is that all efforts to promote PA in children and youth are of great value.

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Competing interests

The author declares no competing interests.

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