Rethinking school-based approaches to promote physical activity among children: using the evidence base more effectively

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Keywords

Physical activity, School-based approaches, Physical education

The paper by Beauchamp, Rhodes, and Nigg [1] sets out a bold goal and one which is worth investing in given our knowledge of the health benefits of physical activity in children. It proposes three actions to address the low levels of physical activity among children and the purported lack of success of school-based interventions in promoting meaningful levels of physical activity. It is aspirational, suggesting changes in legislation to extend the school day, to employ specialist physical education (PE) teachers in primary or elementary schools, and to mandate a minimum amount of PE that should occur in schools each week.

I agree with the authors that researchers, practitioners, and policymakers need to work together to more effectively promote physical activity among students in elementary schools. I also agree that each component of the proposed “tripartite framework” is worth pursuing and provide some suggestions for consideration to further strengthen the authors’ main points.

First, *there is good evidence* that school-based interventions are effective. Whole-of-school programs are one of the “7 best investments for physical activity” promoted in the complementary document to support the Toronto Charter for Physical Activity: A Global Call for Action [2]. To be included, each investment needed to be supported by evidence and be applicable globally. The systematic review used by the authors to argue that school-based interventions have shown limited effectiveness [3] did not focus solely on the school day. Just over half the studies (17/30) were school-based and, despite this, the review did show that there was a statistically significant intervention effect for school-based interventions for moderate- to vigorous-intensity physical activity (MVPA) (standardized mean difference [95% CI] 0.17 [0.07–0.27]). In my opinion, this difference does provide an important health benefit given MVPA is the intensity of activity recommended in physical activity guidelines for school-aged children and that current rates of meeting physical activity guidelines in children is

low internationally [4]. In addition, the Metcalf review did not include studies that only reported intervention effects for a component of the day, such as school hours. As such, the effect of school-based interven-

Implications

Research: Researchers should seek to provide better quality evidence on the effect of interventions to promote physical activity during PE and the impact of such interventions on other important educational outcomes.

Policy: It is recommended that schools adopt the National Professional Recommendations for PE from SHAPE America which has been shown to result to higher levels of physical activity during PE than state-based policies.

Practice: We need to know the optimal “dose” of professional development that is needed each year to up-skill current specialist and classroom teachers so they can provide the best learning environments for their students during PE classes. This piece includes no original findings/data previously published, reported, or submitted elsewhere.

tions was measured across the entire day, which can be misleading when determining their effectiveness given many of the school-based interventions only targeted the school day and had little to no control over activity levels outside this time. The Metcalf review does cite one study which did report an intervention effect specifically for the school day that was more than four times greater than that reported across the entire day (0.92 vs 0.21) [3]. Before taking up the authors’ suggestion to “substantively rethink how we promote school-based physical activity among children,” one should be confident that what is currently being done is not working and needs fixing. This would include examining other systematic reviews on the topic. The good news is that these exist.

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There have been at least three other systematic reviews of physical activity interventions in children in the past 10 years [5–8]. Each of these has reported, for school-based interventions, positive effects on physical activity, especially during the school day [5] and during PE lessons [8].

Second, it is clear that mandating *physical education*, as compared with not mandating, results to significantly higher amounts of time spent in physical education. From this, the authors conclude that legislation surrounding minimum *physical activity* levels in schools appears to be effective. This raises the question: are physical education and physical activity the same thing? Based on experience working with policymakers, one of the first questions they are likely to ask when presented with the data used by the authors is “does this mean these children are more physically active?” It would be beneficial to know if an increase in physical education time translates into an increase in the amount of physical activity participated in during PE, the school day, and perhaps even across the week. There is evidence to support that it does [9] and that this does not jeopardize academic achievement [10, 11]. Including such evidence would further strengthen the case for greater mandating of PE. Important to this conversation is whether national professional recommendations for PE (such as those from SHAPE America) or state-based policies should be mandated. Kahan and McKenzie have recently shown that children would be far more physically active—around 20% more for boys and 28% for girls—if PE classes met the professional recommendations for PE minutes a day, compared with if they met state-based PE guidelines [12].

It is logical that extending the school day with a focus on physical activity promotion should increase physical activity levels. This is an attractive option in the after-school period, which has often been referred to as a “critical window” for physical activity promotion as it is when children have greater discretion over how they use their time. It would be helpful to also provide some evidence to support how this would work. For example, there would be a cost in having to staff this: who would cover this cost? Some calculations on the cost-benefit ratios would also strengthen this argument. Readers are referred to a recent paper by Beets et al. [13] which provides a helpful discussion of these issues.

Finally, it would be beneficial to cite evidence to support the argument that PE specialists do a better job at promoting physical activity and other health-related outcomes than trained classroom teachers. While intuitively this may seem the case, supporting evidence would be helpful to include given that there would be a resource cost associated with implementing such a policy and policymakers would want such evidence. Again, there are studies that support this [9, 11, 14, 15]. Providing training is an important way of up-skilling current teachers but more evidence is needed around the minimum dose of professional development required to have an impact on child activity levels. Is it 1 day/year as suggested by

the authors? The minimum dose is unknown but this is fiscally appealing because it is a requirement for most teachers to undertake regular and continuing professional development. As such, this could be built into existing professional development frameworks for very little cost to providers.

This paper is applicable internationally as PE is a key learning area for primary/elementary schools in many countries. Providing greater evidence to support the three suggestions put forward as part of this framework would allow stakeholders in any country to approach policymakers with greater confidence and optimism. In some countries, these suggestions would have the potential for an even greater effect. For example, many states in Australia do not systematically employ specialist PE teachers in government primary schools. There is currently an oversupply of secondary school PE teachers while at the same time, many elementary classroom teachers do not feel confident or competent teaching PE. This provides a “perfect storm” for change to occur if evidence can be provided that (1) better quality PE lessons will result in better educational outcomes for children; (2) it will provide employment opportunities for graduate teachers, many of whom want to teach in primary/elementary schools; (3) it will allow classroom teachers to focus in greater detail on fewer learning areas; and (4) the costs will not be significantly greater. We have seen social movements in education and health have success in bringing about changes in primary schools. It is time we advocated more for the changes suggested in this paper but let us ensure we stand on the firm base of evidence we have and make others aware of this when we do so.

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Conflict of interest: The author declares that he has no conflict of interest.

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