

## Appraisal

## Critically appraised paper: Supporting physical education teachers through a web-based education intervention increases physical activity during physical education classes in students from low socioeconomic communities

## Synopsis

Summary of: Lonsdale C, Lester A, Owen K, White R, Peralta L, Kirwan M, et al. An internet-supported school physical activity intervention in low socioeconomic status communities: results from the Activity and Motivation in Physical Education (AMPEd) cluster randomised controlled trial. *Br J Sports Med.* 2019;53:341–347.

**Question:** Does an internet-supported professional learning intervention for physical education teachers improve the proportion of time that students spend in moderate-to-vigorous physical activity in physical education classes, along with being generally more active and less sedentary? **Design:** Cluster randomised controlled trial with concealed allocation of schools and blinded outcome assessment. **Setting:** Fourteen co-educational schools within Australia, with 94 teachers and 1421 students as participants. **Participants:** Schools were included if they had students enrolled in Year 8 and 9, were government funded, located in Western Sydney, Australia, and in a postcode that was below the median decile rank on the Australian Bureau of Statistics' Index of Relative Socio-economic Disadvantage. Randomisation of 14 schools allocated 47 teachers and 693 students to an intervention group and 47 teachers and 728 students to a control group. **Interventions:** Both groups involved students attending physical education classes in Year 8. Teachers who received the intervention (Activity and Motivation in Physical Education) attended face-to-face workshops and were given access to web-based resources (including videos, a discussion forum and a smartphone application), which aimed to help teachers deliver lessons to maximise opportunities for moderate-to-vigorous physical activity and enhance student motivation. **Outcome measures:** The primary outcome was the proportion of time in physical education lessons that students spent in moderate-to-vigorous physical activity

measured at two assessment time points: immediately following the intervention (7 to 8 months after baseline) and following a maintenance period (14 to 15 months after baseline). Secondary outcome measures included time spent in sedentary behaviour and light, moderate and vigorous physical activity during physical education lessons and leisure periods. **Results:** A total of 1258 (89%) participants completed the assessments at the end of the intervention period. At this assessment, the intervention group spent a greater proportion of time during their physical education classes in moderate-to-vigorous physical activity (mean difference 5.66%, 95% CI 4.71 to 6.63). At the end of the maintenance period, this difference was 2.66% (95% CI 1.13 to 4.17). The intervention group also spent more time in light exercise and less time in sedentary behaviour at both assessments. The intervention group spent a lower proportion of their leisure time in moderate-to-vigorous physical activity immediately following the intervention (mean difference -1.09%, 95% CI -1.87 to -0.31) but this was not maintained. **Conclusion:** This intervention, which targeted teachers, improved the proportion of time that students spent being physically active in physical education classes.

**Provenance:** Invited. Not peer reviewed.

Alicia Spittle

Department of Physiotherapy, University of Melbourne, Australia

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## Commentary

Physical education is an important context for physical activity. Contrary to popular belief, physical education classes are not always active. The authors interpreted the change following their intervention to be a one-third increase in moderate-to-vigorous physical activity (equivalent to 4 minutes) over and above usual practice (11 minutes). To put these findings into perspective, New South Wales Department of Education and Training policy for Years 7 to 10 is 300 hours for personal development, health and physical education across the 4 years.<sup>1</sup> Thus, in a year, 75 hours across 40 teaching weeks equates to 1.9 hours/week in this education domain, with half of this time likely not practical. Therefore, as the mean physical education lesson time in this study was around 1 hour, intervention students experienced 15 minutes of moderate-to-vigorous physical activity/week (11 plus 4 minutes). Considering that 60 minutes of moderate-to-vigorous physical activity per day is recommended for health, this gain is unlikely to make a meaningful increase to adolescents' activity, unless physical education lessons were held daily. Furthermore, students in the intervention group also slightly reduced their leisure time activity when measured immediately after the intervention period, indicating that physical activity compensation may have occurred across the day. Although it is positive that the current intervention had greater effects for those who started at a lower baseline, this could be regression to the mean. The findings of the current study are in line with a systematic review, which noted that most school-based interventions increased total physical activity by < 5 minutes,<sup>2</sup> and

recent meta-analyses, which demonstrated that such interventions do not increase moderate-to-vigorous physical activity<sup>3,4</sup> even when adjusting for differences in sex and socioeconomic position.<sup>4</sup> The fact that the intervention has potential scalability is important,<sup>5</sup> but the long-term impact is questionable. Physical education contributes marginally to the moderate-to-vigorous physical activity required for health, but may reach groups most at risk of poor activity.

**Provenance:** Invited. Not peer reviewed.

Lisa Barnett

Institute for Physical Activity and Nutrition, School of Health and Social Development, Faculty of Health, Deakin University, Australia

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