What drives quality physical education? A review and meta-analysis of learning effects of physical education-based interventions.

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Objective: To determine the effects of learning interventions aimed at optimising the quality of physical education (PE) on psychomotor, cognitive, affective and social learning outcomes in children and adolescents.

Design: A review and meta-analysis.

Data sources: Studies were identified from several electronic databases between January 1,1995 to December 31, 2020.

Eligibility criteria for selecting studies: Experimental, quasi-experimental, and controlled studies that assessed the effect of a PE-based intervention against a learning outcome from one of the four identified learning domains in youth (aged 5–18 years) were included.

Results: Seventy (70) studies with over 100 calculated effect sizes and comprising 30,794 youth were included in the meta-analysis. The mean effect across all the learning outcomes was a small to medium effect size. Effect sizes however varied significantly based on learning outcomes, intervention strategy, and level of schooling targeted by the intervention. Secondary school-based interventions had a larger over average mean effect across all the four learning domains . The greatest learning effects in primary schools were witnessed in the affective learning interventions whilst for secondary schools the largest effects were in social learning interventions. Less than 10% of PE interventions targeting a learning outcome have a negative effect.

Conclusion: Given the scarcity of resources available to PE, it is prudent for teachers and researchers to be aware of the various pedagogical approaches that have the greater effects on each of the four learning outcomes. The analysis demonstrates that PE is not a ‘one size fits all’ solution to improving learning.