

## Analytic Framework Description: Physical Activity: Classroom-based Physical Activity Break Interventions

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The analytic framework depicts postulated causal pathways through which classroom-based physical activity break interventions are expected to increase physical activity and improve classroom behaviors and educational outcomes in primary school students. Active break interventions are implemented in the classroom and engage students in short bouts of physical activity spaced between classroom lessons. Interventions increase the amount of classroom time spent in physical activity. Physical activity breaks can add to a student's school day and total day physical activity and increase the number of students who reach recommended levels of daily moderate to vigorous intensity physical activity and subsequent physical fitness. It is also postulated short bouts of physical activity contribute to improvements in student cognition and student classroom behaviors including increased attention to subsequent lessons. Improvements in student cognition and attention to lessons could lead to both improved educational outcomes such as test scores, and long-term educational attainment. Increases in physical fitness and educational attainment are expected to contribute to long term improvements in health and reductions in morbidity and mortality.

Potential harms of classroom-based physical activity breaks include reduced time for classroom lessons, and potential risks for injuries due to physical activity in classroom settings. No additional benefits of these interventions were postulated.

Potential effect modifiers include level of engagement and support (e.g., school, teachers) and Intervention characteristics (e.g., duration, intensity, training).