

# EFFECTIVENESS OF PHYSICAL ACTIVITY INTERVENTIONS TO PREVENT OBESITY

## A SYSTEMATIC REVIEW AND META-ANALYSIS

**Physical activity has been associated with improved physical and mental health** in both adults and children. It has also been linked to improved cognitive and **academic performance**.

At the same time, **insufficient physical activity is a top risk factor for global mortality**. The lack of physical activity, alongside unhealthy diet, is a main contributor to weight gain and related diseases.

**Schools provide a good setting for physical activity interventions**. Most children in Europe spend a significant amount of time at school and such interventions can be easily implemented and controlled in school settings.

This review compared the effectiveness of three types of interventions targeting 6 to 12-year-old children: (1) to **reduce sedentary behaviour**, (2) to **increase physical activity**, and (3) to **enhance fitness**.

### Key overall findings

- Physical activity interventions are **effective for preventing childhood obesity**, showing the potential to achieve significant changes in Body Mass Index (BMI) and body fat.
- Interventions to **improve physical fitness resulted in slightly larger effects** than interventions aimed at increasing physical activity. Especially for body fat reduction, fitness-oriented programmes performed better.

- Interventions combining physical activity or fitness components with strategies to reduce sedentary behaviour, **provided no additional benefits in controlling weight gain than physical activity or fitness interventions alone**.
- All described effects tended to be **larger in girls than in boys**, which could indicate the importance of targeted interventions towards individual needs.
- Interventions **targeting children of lower socio-economic status groups tended to be less effective** on BMI changes compared to interventions targeting the general population. This suggests that social inequalities need to be considered and that disadvantaged groups may require special attention.

### Further research needs

While this study provides a comprehensive overview of the effectiveness of different types of interventions, **there is significant need for further research**.

Studies with direct comparisons are needed to gain more insight into **differences in effects between children from various socio-economic groups** to ensure interventions are designed to reduce health inequalities.

Also, more details are needed about the **actual content of interventions** to benchmark best practices and to optimise the cost-effectiveness of interventions.





Science and Technology in  
childhood Obesity Policy

# Effectiveness of physical activity interventions to prevent obesity



Physical activity interventions are effective for preventing childhood obesity, with fitness interventions performing best.



COMBINING PHYSICAL ACTIVITY OR  
FITNESS INTERVENTIONS WITH  
INTERVENTIONS TARGETING SEDENTARY  
BEHAVIOUR DOES NOT ADD VALUE.

## Future research should focus on:

Optimal amount of  
physical activity



Sedentary  
behaviour



Differences in socio-  
economic status



Wearable and  
mobile technologies

