

Screen time impairs the relationship between physical fitness and academic attainment in children

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Objective The purpose of this study was twofold: to analyze the association between physical fitness and academic attainment, and to determine the influence of screen time on the association between physical fitness and academic attainment. **Methods** A cross-sectional study including 395 schoolchildren from seven schools of the Maule Region, Chile (mean age 12.1 years; 50.4% boys) participated in the autumn of 2014 (March to June). Self-reported physical activity and screen time were evaluated. The study measured academic achievement (mean of the grades obtained in several core subjects), physical fitness (cardiorespiratory fitness and muscular strength), weight, height, parental education, and socioeconomic status. Linear regression analysis was used to analyze the relationships between physical fitness and academic attainment after adjusting for potential confounders by gender. Analysis of variance was used to analyze the differences in academic attainment according to fitness and screen time categories (< 2 hours/day and ≥ 2 hours/day). **Results** In both genders good cardiorespiratory fitness levels were associated with high language ($\beta = 0.272-0.153$) and mean academic attainment ($\beta = 0.192-0.156$) grades; however, after adjusting for screen time and other potential confounders, these associations disappear. Similarly, no relationship was observed after analyzing those children who spend more hours of screen time (≥ 2 hours/day). **Conclusions** Academic attainment is associated with higher cardiorespiratory fitness levels; however, it was weakly impaired by screen time. These findings seem to suggest that parents and policymakers should minimize the negative effects of screen time on children's lives to maximize the beneficial effect of healthy habits on academic attainment. ©

Academic performance

Cardiorespiratory fitness

Muscular strength

Sedentary lifestyle

academic achievement

activity of daily living assessment

Article

body height

body weight

cardiorespiratory fitness

child

comparative study

controlled study

cross-sectional study

educational status

female

human

language

major clinical study

male

mental capacity

muscle strength

pediatrics

physical activity

school child

scoring system

self report

sex difference

social status

achievement

adverse effects

body mass

Chile

education

fitness

microcomputer

motor activity

muscle strength

physiology

questionnaire

sedentary lifestyle

statistical model

television

time

utilization

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Achievement

Body Mass Index

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Sex Factors

Surveys and Questionnaires

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Time Factors

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