

Relationship between physical fitness and academic achievement in Chilean schoolchildren of 8th grade [Condición física de escolares chilenos de 8° año básico y su relación con el rendimiento académico]

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Introduction: Good physical fitness (PF) is related, among many benefits, to functional and structural brain changes that favor learning. **Objective:** To analyze the association between PF and academic performance (AP) in Chilean schoolchildren according to sex, and to determine if the kind of school dependency influences this association. **Subjects and Method:** Cross-sectional study analyzing population data of 8th-grade students evaluated by the SIMCE-2011 test. The sample included only 13 and 14 years old students, of both sexes, with all PF and AP tests taken. The results of PF and AP tests were categorized as poor, regular, and good. A binary logistic regression was performed explaining a good AP from the PF categories according to sex, and kind of school dependency, adjusting for age, nutritional status, parents' educational level, and school socioeconomic level. **Results:** Out of 19,929 records, 12,338 schoolchildren were considered, where 47.9% were female. 33.4% of girls and 49.5% of boys presented good PF, and 16.9% and 21.5% presented good AP respectively. Schoolchildren with good PF had more chances of achieving good AP than those with poor PF (girls 84% and boys 78%, both $p < 0.001$). Considering the kind of school dependency, good PF in girls attending public schools increased the chances of achieving good AP by 334% ($p < 0.001$) and in boys attending subsidized private schools by 91% ($p = 0.01$). **Conclusion:** Both girls and boys with good PF have more chances of achieving a good AP. By including the kind of school dependency, the association persists in girls attending public schools and boys attending subsidized private schools. © 2020, Sociedad Chilena de Pediatría. All rights reserved.

Academic performance

Adolescents

Knowledge

Physical fitness

Students

academic achievement

article

child

clinical article

controlled study

cross-sectional study

female

fitness

human

human experiment

male

nutritional status