

Influence of relative age effect on fitness levels of Chilean school children aged 14-15 years

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Relative Age Effects (RAE) is known as the greater experience and maturity between the older and the younger children and is reflected in better performance in sport and academics. The aim of this study was to assess the existence and size of RAE on a large and nationally representative Chilean population of children aged 14-15 years using a standardised fitness test battery. Cardiorespiratory fitness and musculo-skeletal fitness were measured, including 20m-shuttle-run test, standing broad jump, sit-and-reach, crunches and push-ups tests. Data from 12 817 children (47% girls, age=14.37±0.43; 53% boys, age=14.41±0.46) were analysed. Analysis of covariance, ANCOVA, was conducted for both genders and years separately. Results revealed differences in all tests ($p < 0.05$) for 14-year-old boys and girls, except for the 20m-shuttle-run in girls, although the size of the effect was low. In 15-year-olds, the effect of RAE reached a plateau. These results confirm the existence of RAE among Chilean schoolchildren and support the idea of taking into account the birth date in the evaluation of fitness in order to improve the accuracy of the assessment. © 2018, University of Stellenbosch. All rights reserved.

Birth date

Cardio-respiratory fitness

Musculo-skeletal fitness

Rae

adolescent

analysis of covariance

article

cardiorespiratory fitness

child

Chilean

controlled study

female

gender

girl

human

major clinical study

male