

Secular Trends in Anthropometrics and Physical Fitness of Young Portuguese School-Aged Children

Tendências Seculares dos Níveis Antropométricos e de Aptidão Física em Crianças Portuguesas



Aldo Matos COSTA^{1,2,3}, Mário Jorge COSTA^{2,4}, António Antunes REIS¹, Sandra FERREIRA⁵, Júlio MARTINS^{1,2}, Ana PEREIRA^{2,6,7}

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ABSTRACT

Introduction: The purpose of this study was to analyze secular trends in anthropometrics and physical fitness of Portuguese children.

Material and Methods: A group of 1819 students (881 boys and 938 girls) between 10 and 11 years old was assessed in their 5th and 6th scholar grade throughout a 20 years' time-frame. ANCOVA models were used to analyze variations in anthropometrics (height, weight and body mass index) and physical fitness (sit and reach, curl-up, horizontal jump and sprint time) across four quinquennials (1993 - 1998; 1998 - 2003; 2003 - 2008; 2008 - 2013).

Results: Secular trends showed the presence of heavier boys and girls with higher body mass index in the 5th and 6th grade throughout the last 20 years. There was also a presence of taller girls but just until the 3rd quinquennial. Both boys and girls were able to perform better on the core strength test and sprint time but become less flexible over the years. Mean jumping performance remained unchanged for both genders.

Discussion: The present study provides novel data on anthropometrics and physical fitness trends over the last two decades in young Portuguese children, consistent with the results reported in other developed countries.

Conclusion: Evidence for the start of a positive secular trend in body mass index and in some physical fitness components over the last two decades among the Portuguese youth.

Keywords: Anthropometry; Body Mass Index; Child; Growth and Development; Physical Fitness; Portugal