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Human Growth
in Sickness and in Health

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Abstracts

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tests, Madeira boys and girls show a tendency to lower results in 12 minute run-walk, sit and reach and sit ups in comparison to Belgians, Brazilians, Hungarians and Swiss.

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A Hierarchical Analysis of Aerobic Health-Related Fitness. A Study in Children from the Azores Islands

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Background: In 2002 a large cross-sectional study was conducted in the Azores islands to provide information regarding growth, physical activity, health-related physical fitness, motor coordination and obesity in children aged 6 to 10 years old.
Aim: This study aims, only, at the modelling of correlates of performance in aerobic fitness.
Methods: Sample size comprises 3678 children (≈25% of the total population of school children of this age range) from 56 schools from 8 of the 9 islands. Aerobic health-related fitness was assessed with the Fitnessgram 1 mile run-walk test (time to complete the test). Information was also gathered for BMI, physical activity (with the Godin and Shephard questionnaire), availability of equipment and facilities as well as their quality. Reliability estimates were obtained in 4 sub-samples and the intraclass correlations varied from 0,800 to 0,970. Modelling correlates of performance was conducted within the framework of hierarchical linear models with age, gender, body mass index, physical activity as LEVEL 1 predictors, and equipment and school facilities as LEVEL 2 predictors. HLM 5.05 software was used. A series of nested models were fitted to the data, starting with an intercept-only model, and ending with intercept-and-slopes as outcomes model with all level 1 and level 2 predictors included.
Results: Main results showed that equipment and quality of school facilities are not significant ($p>0,05$) predictors of performance in aerobic fitness. The same seems to happens to BMI ($p>0,05$). A model with only level 1 predictors (i.e., at the student level) seems to explain a certain amount of variance in the 1 mile run-walk performance (aerobic fitness): a net effect of increasing age (-0,495), favouring boys (-1,269) and higher levels of physical activity (-0,003).
Conclusion: Since residual variance is still high and statistically significant ($p<0,001$), an effort is now to be undertaken to consider other potential predictors from other school characteristics, parental, and probably genetic variation to fully understand this heterogeneity of results.

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The Influence of an Exercise Programme on Body Composition, Motor and Cardiovascular Parameters in Pre-School Children. A Longitudinal Study

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During the last decade physical activity and physical fitness in children decreased and the problem of overweight in children is increasing in all industrialised countries including