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Researchers validate a new test for assessing children's and teenagers' fitness to prevent morbidity

May 27th, 2010

This research was developed by Dr. Enrique Garcia Artero, from the Department of Physiology of the University of Granada, and coordinated by Professor Manuel J. Castillo Garzón. To carry out this project, the researcher used data from the national and European projects AVENA (Food and Assessment of Nutritional Status of Spanish Adolescents) and HELENA (Healthy Lifestyle in Europe by Nutrition in Adolescence) and ALPHA (Assessing Levels of Physical Activity and Fitness; Public Health Executive Agency). For the purpose of this study, 3,000 Spanish teenagers, 3,500 European teenagers and an additional sample of 126 teenagers from Granada were studied.

Reliable Tests

The tests validated by Garcia Artero included a 40-meter race, hand grip strength, the long jump with feet together, body mass index, waist circumference and skin folds, which can be easily implemented by the PE teacher. According to the researcher, "these tests are perfectly valid and reliable for assessing the aerobic capacity, muscular strength and body composition in children and adolescents." Both aerobic capacity and muscle strength are identified as separate cardiovascular risk factors in adolescents.

In addition, the researcher states that "teenagers' physical fitness is not only affected by overweight and obesity, but also by a low weight." Their study further suggests that a long breastfeeding period may be associated with greater muscular fitness in the lower body during adolescence.

Although the issue of overweight and obesity among children has been studied and published on

extensively, scientists from the [University of Granada](#) found that the rate of teenagers with excessively low weight is higher than expected (3.9% among boys and 4.8% among girls). In fact, among girls, this percentage was higher than that of obesity (3.0%).

Enrique Garcia Artero states that this finding has social importance "since it provides relevant information on the teenagers' physical condition, and its relation to their health. Unlike adults, it is easy to instil a healthy lifestyle in children and teenagers. Firstly, because their personality, interests and habits are not still formed, so they are not as resistant to change as adults. And secondly, because we have the best environment to model their habits: the educational system (school and high school)".

More information:

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