

REFERENCES

1. Lazzer S, Meyer M, Derumeaux H, Boirie Y, Vermorel M. Longitudinal changes in body composition and basal metabolic rate in institutionalized or domiciled obese adolescents. *Arch Pediatr* 2005;12:1349-57.
2. Boreham C, Robson PJ, Gallagher AM, Cran GW, Savage JM, Murray LJ. Tracking of physical activity, fitness, body composition and diet from adolescence to young adulthood: The Young Heart Project, Northern Ireland. *Int J Behav Nutr Phys Activ* 2004;1:14.
3. Guo SS, Wu W, Chumlea WC, Roche AF. Predicting overweight and obesity in adulthood from body mass index values in childhood and adolescence. *Am J Clin Nutr* 2002;76:653-8.
4. Nelson TF, Stovitz SD, Thomas M, LaVoi NM, Bauer KW, Neumark-Sztainer D. Do youth sports prevent pediatric obesity? A systematic review and commentary. *Curr Sports Med Rep* 2011;10:360-70.
5. WHO. Physical status: The use and interpretation of anthropometry. Report of a WHO Expert Consultation. WHO Technical Report Series Number 854. Geneva: World Health Organization; 1995.
6. Ode JJ, Pivarnik JM, Reeves MJ, Knous JL. Body mass index as a predictor of percent fat in college athletes and nonathletes. *Med Sci Sports Exerc* 2007;39:403-9.
7. Srdic B, Obradovic B, Dimitric G, Stokic E, Babovic S. Relationship between body mass index and body fat in children: Age and gender differences. *Obes Res Clin Pract* 2012;6:167-73.
8. Morimoto A, Nishimura R, Sano H, Matsudaira T, Miyashita Y, Shirasawa T, *et al.* Gender differences in the relationship between percent body fat and body mass index in Japanese children. *Diabetes Res Clin Pract* 2007;78:123-5.
9. Artero EG, Espana-Romero V, Ortega FB, Jimenez-Pavon D, Ruiz JR, Vicente-Rodriguez G, *et al.* Health-related fitness in adolescents: Underweight, and not only overweight, as an influencing factor. The AVENA study. *Scand J Med Sci Sports* 2010;20:418-27.
10. Mak KK, Ho SY, Lo WS, Thomas GN, McManus AM, Day JR, *et al.* Health-related physical fitness and weight status in Hong Kong adolescents. *BMC Public Health* 2010;10:88.
11. Chen LJ, Fox KR, Haase A, Wang JM. Obesity, fitness and health in Taiwanese children and adolescents. *Eur J Clin Nutr* 2006;60:1367-75.
12. Dupuis JM, Vivant JF, Daudet G, Bouvet A, Clément M, Dazord A, *et al.* Personal sports training in the management of obese boys aged 12 to 16 years *Arch Pediatr* 2000;7:1185-93.
13. Duvigneaud N, Matton L, Wijndaele K, Deriemaeker P, Lefevre J, Philippaerts R, *et al.* Relationship of obesity with physical activity, aerobic fitness and muscle strength in Flemish adults. *J Sports Med Phys Fit* 2008;48:201-10.
14. Malina RM, Bouchard C, Bar-Or O. Growth, maturation and physical activity. Champaign: Human Kinetics; 2004.
15. Parizkova J. Lean body mass and depot fat during autogenesis in humans. In: Parizkova J, Rogozkin V, editors. *Nutrition, Physical Fitness and Health: International Series on Sport Sciences*. Baltimore: University Park Press; 1978.
16. Wells KF, Dillon EK. The sit and reach. A test of back and leg flexibility. *Res Q Exerc Sport* 1952;23:115-8.
17. Adam C, Klissouras V, Ravazzolo M, Renson R, Tuxworth W. The Eurofit Test of European Physical Fitness Tests. Strasbourg: Council of Europe; 1988.
18. Aragon-Vargas LF. Evaluation of four vertical jump tests: Methodology, reliability, validity, and accuracy. *Meas Phys Educ Exerc Sci* 2000;4:215-28.
19. Vandewalle H, Peres G, Heller J, Monod H. All out anaerobic capacity tests on cycle ergometers, a comparative study on men and women. *Eur J Appl Physiol Occup Physiol* 1985;54:222-9.
20. Bar-Or O, Skinner JS. Wingate anaerobic test. Champaign: Human Kinetics; 1996.
21. Cole TJ, Bellizzi MC, Flegal KM, Dietz WH. Establishing a standard definition for child overweight and obesity worldwide: International survey. *B M J* 2000;320:1240-3.
22. Souames M, Brun P, Losfeld P. Overweight and dietary habits among adolescent: schoolchildren study in the department of Hauts-de-Seine. *Arch Pediatr* 2005;12:1540-3.
23. Krassas GE, Tzotzas T, Tsamatis C, Konstantinidis T. Prevalence and trends in overweight and obesity among children and adolescents in Thessaloniki, Greece. *J Pediatr Endocrinol Metab* 2001;14:1319-26.
24. Alricsson M, Landstad BJ, Romild U, Gundersen KT. Physical activity, health, BMI and body complaints in high school students. *Minerva Pediatr* 2008;60:19-25.
25. Krassas GE, Kelestimur F, Micic D, Tzotzas T, Konstantinidis T, Bougoulia M, *et al.* Self-reported prevalence of obesity among 20,329 adults from large territories of Greece, Serbia and Turkey. *Hormones (Athens)* 2003;2:49-54.
26. Nikolaidis PT, Ziv G, Arnon M, Lidor R. Physical Characteristics and Physiological Attributes of Female Volleyball Players-The Need for Individual Data. *J Strength Cond Res* 2012;26:2547-57.
27. Malousaris GG, Bergeles NK, Barzouka KG, Bayios IA, Nassis GP, Koskolou MD. Somatotype, size and body composition of competitive female volleyball players. *J Sci Med Sports* 2008;11:337-44.
28. Lloyd LK, Bishop PA, Walker JL, Sharp KR, Richardson MT. The Influence of Body Size and Composition on FITNESSGRAM (r) Test Performance and the Adjustment of FITNESSGRAM (r) Test Scores for Skinfold Thickness in Youth. *Meas Phys Educ Exerc Sci* 2003;7:205-26.

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