

Publication**Age- and sex-dependent disparity in physical fitness between obese and normal weight children and adolescents****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 2116659**Author(s)** Woll, A.; Worth, A.; Mündermann, A.; Hölling, H.; Jekauc, D.; Bös, K.**Author(s) at UniBasel** [Mündermann, Annegret](#) ;**Year** 2013**Title** Age- and sex-dependent disparity in physical fitness between obese and normal weight children and adolescents**Journal** Journal of Sports Medicine and Physical Fitness**Volume** 53**Number** 1**Pages / Article-Number** 48-55**Mesh terms** Adolescent; Age Factors; Child; Child, Preschool; Cross-Sectional Studies; Female; Humans; Male; Muscle Strength, physiology; Obesity, physiopathology; Physical Endurance, physiology; Physical Fitness, physiology; Sex Factors

Aim of the present study was to determine whether the association between obesity and physical fitness in children and adolescents is age- and sex-specific.; A total of 4519 children and adolescents aged 4-17 years grouped by age (4-5, 6-10, 11-13 and 14-17 years), sex and BMI (normal-weight: BMI \leq 90th percentile; overweight: BMI>90th percentile; adipose: BMI>97th percentile) participated in this large-scale representative cross-sectional study. Endurance, strength, flexibility and fine and gross motor coordination was measured using the following physical fitness tests: PWC170, push-ups test, standing long-jumps, side-to-side jumps, one-minute single leg stance on the dominant leg, balancing backwards on three beams of different width, lowest point reached by the fingertips while standing on a box with legs extended, reaction to colour changes of traffic light, tracing lines without touching the rim and sorting 25 pens.; Overweight and obese boys and girls had lower physical fitness values describing endurance, strength and gross motor coordination than normal-weight boys and girls, respectively (P<0.001 for all; boys: -12% and -19%, respectively; girls: -9% and -19%, respectively). Differences in physical fitness between weight groups were greater in older groups (P<0.001). Fine motor skills and flexibility values did not differ between weight groups.; The disparity in physical fitness, in particular in endurance, strength and gross motor coordination, between obese and normalweight is greater in adolescents than in children. Physical fitness programs are warranted for all overweight and obese children and adolescents but especially for overweight and obese adolescents.

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