

Publication**Fitness, Stress, and Body Composition in Primary Schoolchildren****JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 3724697**Author(s)** Gerber, Markus; Endes, Katharina; Herrmann, Christian; Colledge, Flora; Brand, Serge; Donath, Lars; Faude, Oliver; Pühse, Uwe; Hanssen, Henner; Zahner, Lukas**Author(s) at UniBasel** [Pühse, Uwe](#) ; [Colledge, Flora](#) ; [Herrmann, Christian](#) ; [Zahner, Lukas](#) ; [Gerber, Markus](#) ; [Donath, Lars](#) ; [Endes, Katharina](#) ; [Hanssen, Henner](#) ; [Brand, Serge](#) ;**Year** 2017**Title** Fitness, Stress, and Body Composition in Primary Schoolchildren**Journal** Medicine and Science in Sports and Exercise**Volume** 49**Number** 3**Pages / Article-Number** 581-587**Mesh terms** Anthropometry; Body Composition; Child; Cross-Sectional Studies; Exercise, psychology; Female; Humans; Male; Pediatric Obesity, psychology; Physical Fitness, psychology; Stress, Psychological

Purpose: A better understanding of how social and environmental contexts affect childhood overweight/obesity is needed to develop more effective prevention strategies. Because the relationship between physical activity, stress, and obesity measures has received limited attention, this study examined for the first time in first-grade schoolchildren whether physical activity and fitness moderate the relationship between psychosocial stress and obesity-related measures. **Methods:** A total of 325 children (51% girls, M-age = 7.3 yr) took part in this cross-sectional study. Stress (critical life events, family, peer, and school-related stress) and vigorous physical activity were assessed via parental reports. Fitness was assessed with the 20-m shuttle run test. Body mass index, sum of skinfolds, and waist circumference were used as obesity-related outcomes. Hierarchical regression analyses were calculated to test whether fitness and physical activity act as stress buffers, using sex, age, and parental education as covariates. **Results:** Children experiencing elevated school-related stress had lower body mass index, body fat, and waist circumferences if they had high fitness and physical activity levels, as compared with their less active and fit peers. Few significant interaction effects occurred for the other stress measures, although the findings trended in a similar direction for peer stress. **Conclusion:** This study shows that high fitness is associated with less unfavorable body composition among children with elevated school stress. Our findings indicate that policies aimed at reducing overweight and obesity should include the promotion of physical activity both inside and outside the school context. Moreover, our findings highlight the importance of strengthening children's capacities to cope successfully with school-related pressures.

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