14:00 - 15:00

Mini-Orals

MO-PM21 HF Physical Activity in Children 2

LONGITUDINAL STUDY ON THE EFFECTS OF SPORTS CLUB PARTICIPATION IN YOUNG CHILDREN ON BMI, COGNITIVE AND MOTOR PERFORMANCE

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Introduction Physical activity in children has been reported to have health benefits, such as prevention of obesity, and advantages in cognitive and motor performance (Jiménez-Pavón et al., 2010; Keele & Fox, 2009; Sacchetti et al., 2013). Most of this information, however, is based on cross-sectional studies. The aim of this study was therefore to conduct a longitudinal investigation of the persistent effects of sports club participation in young children. Methods 112 children performed three motor tasks (standing long jump, bidirectional jumping, balancing backwards on a 6 cm wide beam) and a cognitive task (man-drawing-test) before school entry (age= 69.3 months, SD =

4.1, 55 female) and at the end of grade 2 (age= 98.1 months, SD = 3.7). Additionally, their body mass index (BMI) was determined. The raw data of the motor tasks and the man-drawing test were transformed into gender and age specific normalized data. In a parental questionnaire sports club activities of the preschool children were recorded. For statistical analysis (t-tests) the children were split into two groups based on their participation in sport club activities (non-participants vs those participating once or more per week). Results 55.4 % of the preschool children were already training in sports clubs at least once per week. These children performed significantly better than the non-participants in the standing long jump (T = -2.540; df = 110, p = .012), while their balancing nearly reached significance (T = -1.974; df = 110; p = .051). Their other outcomes were slightly better than for the non-participants, but these differences did not reach significance. The testing at grade 2 showed that the active group had a significantly lower BMI (T = 2.313; df = 110, p = .023) and performed better than the non-participants in standing long jump (T = -2.288; df = 110, p = .024) and balancing (T = -4.388; df = 110, p < .001). Bidirectional jumping nearly reached significance (T = -1.975, df = 110; p = .051), while no difference between the groups was found in the man-drawing-test (T = -.340; df = 110; p = .735). Discussion Our findings suggest that participation in sports club activities from preschool age results in greater improvements in motor performance and a lower BMI throughout the first two years of school compared to non-participants. Despite physical education (PE) being compulsory in the German school system, it appears that the addition of sports club participation outside school has a positive effect on motor performance. It could be suggested that PE content and/or duration needs to improve to benefit children who are not involved in sports club activities outside of school. Another option may be to start PE in preschool. References Jiménez-Pavón D, Kelly J, Reilly JJ (2010). Int J Pediatr Obes, 5(1), 3–18. Keeley TJH, Fox KR (2009). Int Rev Sport Exerc Psychol, 2(2), 198–214. Sacchetti R, Ceciliani A, Garulli A, Masotti A, Poletti G, Beltrami P, Leoni E (2012). J Sports Sci, 30(7), 633–640. Contact claudia.augste@sport.uni-augsburg.de