

THE ABILITY OF DIFFERENT MEASURES OF ADIPOSITY TO DISCRIMINATE BETWEEN LOW/HIGH MOTOR COORDINATION

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Introduction Several anthropometric measures, indices and other techniques have been used in the literature on associations between adiposity and MC. Therefore, the aim of this study was to determine the ability of different measures of adiposity to discriminate between low/high motor coordination (MC). **Methods** A cross-sectional school-based study was conducted on 596 Portuguese children's, aged 9-12 years during the 2009/2010 academic year. Weight, height and waist circumference (WC) were objectively measured by standardized protocols. Body fat percentage (BF%) was estimated by bioelectric impedance. Body mass index (weight/height²) and waist-to-height ratio (WHtR) were computed. MC was assessed with the Körperkoordination Test für Kinder (Kiphard & Schilling, 1974). Cardiorespiratory fitness was predicted by a maximal multistage 20m shuttle-run test of the Fitnessgram Test Battery (Welk & Meredith, 2008). A questionnaire was used for assess mother's educational level. Receiver operating characteristic (ROC) and logistic regression were performed. Results ROC curve analysis showed that all measures of adiposity performed well on average in identifying low MC, as indicated by the area under the curve greater than 0.6. The ROC performance of BF% showed a slightly better discriminatory accuracy than BMI, WC and WHtR in predicting low MC in girls. In boys, the ROC performance of WC showed a slightly better discriminatory accuracy than BMI, BF% and WHtR in predicting low MC. After adjustments, logistic regression analyses showed that BMI, WC, %BF and WHtR were positively and significantly associated with MC in both sexes, with exception of WHtR in girls. **Discussion** Measurement issues may potentially play a role in obscuring the relationship between adiposity and MC. BF% and WC showed a slightly better discriminatory accuracy in predicting low MC, for girls and for boys, respectively. **References** Kiphard, E. J., & Schilling, F. (1974). Körperkoordination Test für Kinder, KTK. Beltz Test GmbH. Weinheim. Welk, G. J., & Meredith, M. D. (Eds.). (2008). Fitnessgram / Activitygram Reference Guide (3 ed.). Dallas, TX: The Cooper Institute.

INFLUENCING FACTORS OF SEDENTARY BEHAVIOUR IN EUROPEAN PRESCHOOL SETTINGS. AN EXPLORATION THROUGH FOCUS GROUPS WITH TEACHERS

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Introduction Preschool children are sedentary for 50 to 80% of the time, in the classroom as well as during recess. Qualitative studies examining influencing factors of preschoolers' sedentary behaviour at preschool are lacking. This study was executed to explore teachers' opinions on potentially influencing factors of preschoolers' sedentary behaviour in preschool settings. **Methods** Eighty-seven teachers of 4-6 year old preschoolers from six European countries participated in a total of 18 focus groups between October 2010 and January 2011. Key findings were reported by each country separately, and were independently analyzed by two researchers using qualitative content analysis. Results According to the teachers, preschoolers do not sit a lot at preschool. Teachers perceive the lack of play space and the small classroom size as potentially influencing factors of preschoolers' sedentary behaviour. Play equipment and teachers' prompts are mentioned to be potentially stimulate children to be less sedentary on the playground. Computer use is reported to be more common in preschool compared to TV watching. Reported reasons for computer use in preschool are educational purposes and computers being part of daily life. **Discussion** Interventions should first focus on increasing teachers' awareness on how sedentary preschoolers are during the preschool day. Teachers should also be informed on strategies to decrease this behaviour in the classroom and at the playground. **References** Hinkley T, Solmon J, Okely AD, Trost SG (2010). Correlates of sedentary behaviours in preschool children: a review. *Int J Beh Nutr Phys Ac.*, 7: 66-76 Reilly JJ (2008). Low levels of objectively measured physical activity in preschoolers in child care. *Med Sci Sport Exer* 42(3): 502-507

FOLLOW-UP STUDY OF OBJECTIVELY MEASURED PHYSICAL ACTIVITY LEVELS IN 3- TO 4-YEAR-OLD FINNISH CHILDREN

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FOLLOW-UP STUDY OF OBJECTIVELY MEASURED PHYSICAL ACTIVITY LEVELS IN 3- TO 4-YEAR-OLD FINNISH CHILDREN Mehtälä, A.I, Soini, A.I, Sääkslahti, A.2, Tammelin, T.3, Kulmala, J.3 Villberg, J.I, Poskiparta, M.I. 1: Research Centre for Health Promotion, 2: Department of Sport Sciences, University of Jyväskylä, Finland, 3: LIKES Research Center for Sport and Health Sciences, Jyväskylä, Finland **INTRODUCTION** In previous studies, most of which were cross-sectional, age has been found to associate with physical activity (PA). The aim of the present study was to evaluate whether the PA of 3-year-old children changed over the course of a one-year follow-up. **METHODS** Physical activity levels of children born in 2007 were assessed during two measurement periods: from August to October in 2010 and in 2011. The accelerometer (ActiGraph GT3X) data was collected on 5 consecutive days (3 weekdays and 2 weekend days). Valid, 8h/d, PA data for at least 3 days (2 weekdays and 1 weekend day) were obtained from 46 children (23 boys) in both years. During the first measurement the children were 39 (4) months old and during the second 50 (4) months old. Parents were instructed to keep the accelerometers on their children's hip during all waking hours except during water-based activities. The cut-points established by van Cauwenberghe (2010) and 5-second epoch duration were used in this study. The Mann-Whitney U-test and Independent t-test were applied to identify differences between genders, weekdays and age. **RESULTS** Overall daily PA was calculated as mean counts per minute (cpm) for genders, weekdays, weekend days and both measurement sections separately. The overall PA was significantly higher among 4-year-old children (735±148 cpm) than among 3-year-olds (618±121cpm) (P<.001), but when viewing activity levels separately significant differences were observed only in vigorous activity spent during the week (P=.010). At the age of 4, but not 3, boys spent significantly more time than girls for all other activity levels (light, moderate and vigorous) except for the vigorous activity level on weekdays. Girls spent significantly less time in MVPA-level activity on weekend days than weekdays. **DISCUSSION** Children were physically more active at the age of 4 than 3 on average, and boys were more active than girls at the age of 4. Girls' lower activity levels on weekends are inconsistent with previous studies. Only few previous studies have reported an increase with age in children under school age (Jackson et al. 2003). The reason for this inconsistency between the results remains unclear, but it may be due to interindividual variation. Gender segregation seems to begin early in childhood. **REFERENCES** Jackson D, Reilly J, Kelly L, Montgomery C, Grant S & Paton J (2003) *Obes Res*, 11(3):420-5. Van Cauwenberghe E, Labarque V, Trost S, De Bourdeaudhuij I & Cardon G (2010) *Int J of Pediatr Obes*, Early Online, 1-8