Introduction

Developing fundamental movement skills (FMS) is an important part of a preschool child’s development. These skills support also the motor competence to sustain lifelong participation in physical activities and sports. The aim of this PhD study is to gain insight into the current fundamental movement skill performance level of four- to six-year-old preschool children and into the relationship between the developmental level of these skills, child specific and family related factors.

Measurement of fundamental movement skills

Several movement skill tests can be used to measure FMS performance. To select an appropriate test for our target group of preschool children, 7 different tests were compared. The Motoriktest für Vier- bis Sechsjährige Kinder (MOT4-6) was selected for this study as it complied most with the requirements of the target group. Additional
research concerning validity and reliability of the selected test was performed. High inter-rater reliability was shown when a trained rater was compared to an experienced rater. A study comparing the MOT 4-6 and the Movement ABC test results, showed high classification agreement of children. Interrelated agreement between the gross movement skill components of both tests was moderate and weak between the fine movement skill components.

Subsequently we examined FMS performance of 1208 four- to six-year-old preschool children. The children’s scores were compared to the normative data from the test’s manual. The results showed that 35% of the preschool children is classified as under average to weak. 59 % of the children showed average performances and only 6% has above average FMS performance. These results support findings from similar studies and underline that there is a number of preschool children that may have a potential of skilfulness that is currently not stimulated to continue its development.

**The relationship between FMS, child specific and family related factors**

The relationship between the preschool children’s FMS performance level and child specific as well as family related factors was examined in the second part of this study. This study matched children’s FMS performance data to reported data from a parental questionnaire. In the final sample, data from 846 preschool children were analysed with a multiple moderated regression analysis.

The results from the study show that preschool children with a higher body mass index have lower FMS performances. Participation in formal activities, outdoor play and participation in sports weeks are related to higher FMS performance in preschool children. Among family related factors, children’s higher FMS performance is related to higher educational level of parents, higher frequency of receiving new play equipment, higher use of active transport, higher parental importance rating on movement skill development and higher population density of the living area. Lower FMS performance was found for children whose parents gave high importance rating on sufficient sleep
and had high frequency of inquiring the PE teacher on the child’s motor development. These results underline the importance of goal-oriented interventions. Paying special attention to preschool children with parents who have a lower educational level and children with a higher BMI is recommended.