THE EFFECT OF BODY MASS INDEX ON THE MOTOR EFFICIENCY IN THE PRESCHOOL AND PRIMARY SCHOOL STUDENTS

Hosseini Fatemeh, Ketelhut Kerstin, Holzweg Martin, Strang Hanno
(Humboldt University, Germany)

Introduction
The prevalence of overweight and obesity in children and adolescents has increased enormously in the recent years. Likewise these children and adolescents suffer from motor deficits and lacking of physical fitness. Studies prove that the motor efficiency of children and adolescents decreased in the last years. The question arises whether an increased Body Mass Index (BMI) affects the motor performance negatively.

Method
304 children (170 male, 134 female) at the age of 3.6 years (SD=4.8 months) were included in the first study. In the second study 128 primary school students (69 male, 59 female) at the age of 10.1 years (SD=5.9 months) participated. In both studies weight and height were measured and BMI was computed. In both studies several standardized motor tasks were to be exposed by the children. One task (KTK: Sideways Movement) was identical in both samples. In the study with the three-year old children 11.2% of the children were overweight and 2.2% were obese. Within the primary school children 7.8% were overweight and 10.2% were obese.

Results
Results show that for the three-year old children, the age (F(1, 93)=3.34; p<.01; 61544;2=.31) as well as the factors age* sex (interplay) (F(1, 74)=2.032; p<.05; 61544;2=.15) had a significant influence on the test performance. However there was no differences in the motor performance depending on BMI (F (3, 09) =0.37; p>.05). In the study of the primary school students results were reverse. While the age (F (1, 61) = 0.97; p>.05) and the factors age*sex (interplay) (F (1, 82) = 1.82; p>.05) had no significant influence on the test performance, there were significant differences in the motor performance depending on BMI (F (6, 9) =8.01; p<.01; 61544;2 =.09).

Discussion
The comparison of these two studies shows, that with increasing age the number of children and adolescents with high BMI rises and it is proved that motor deficits depend on high BMI. Therefore prevention programs containing nutritions- and movement programs seem to be already important in kindergarten.

Keywords: Prevention, BMI, Motor Programmes