Universität Basel

Publication

Attentional and neuromotor deficits in ADHD

In order to classify attention-deficit-hyperactivity disorder (ADHD) in 11-year-old children, the role of specific attentional and motor deficits was examined. Participants comprised 22 children with ADHD (19 male, 3 female; median age 11 years, range 8.8 to 13.5 years) and 20 control children (17 male, 3 female; median age 10.6 years, range 8.2 to 12.6 years). Neuromotor assessment indicated that while both groups needed more time to complete finger compared to hand movements, this increase was more pronounced in children with ADHD. Reaction-time testing with continuous-force recording identified both motor and attentional deficits in children with ADHD. Longer intervals between force onset and force peak, and higher rate of responses with multiple force peaks (particularly in the bilateral condition) revealed specific deficits in the speed and quality of their motor output. Increase in errors and variability of force onsets indicated attentional deficits. Prediction analysis indicated that force-onset variability contributed significantly to group classification which was 85.7% correct. Neither neuromotor assessment nor specific motor deficits contributed significantly to classification, indicating that pure motor-speed measures play a minor role in characterizing ADHD in this age range.