Facial emotion recognition deficits in children with and without attention deficit hyperactivity disorder: a behavioral and neurophysiological approach.


Abstract

The current study examined the facial emotion recognition ability with a simultaneous assessment of behavioral and neurophysiological data in children with and without attention deficit hyperactivity disorder (ADHD) aged 7-7 years using a facial emotion matching task and event-related potential measurements (event-related potential components N170 and N250 at T5 and T6) in an emotional continuous performance task. Group differences and interaction effects of children's performance (both behavioral and neurophysiological) were evaluated between children with ADHD and children without ADHD as well as between younger and older children. No deficit in facial emotion recognition was found for children with ADHD compared with children without ADHD even with neurophysiological parameters. However, in terms of developmental differences, the younger children differentiated in their behavioral and neurophysiological performance from the older children. No interaction was detected between the experimental groups and the age groups, indicating that developmental progression in terms of emotional processes did not differ between children with and without ADHD. This study indicates that the facial emotion recognition is above all an age-dependent function with later processing of facial emotion expressions in younger compared with older children and suggests that a facial emotion recognition deficit is secondary in children with ADHD and might occur only with specific emotions or ADHD subtypes, but not in the whole ADHD population.