

## CAN A TRAINING WITH VIDEO GAME OF SOCIAL COGNITION ENHANCE NEUROCOGNITIVE PROCESSES OF EMOTIONAL PERCEPTION IN AUTISM SPECTRUM? INSIGHTS OF EVENT-RELATED POTENTIALS

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**Introduction:** Deficits in social cognition are major descriptors of the autism spectrum disorder (ASD). Measurable effects of training methods and psychological treatments have been reported in some psychiatric disorders, but few studies were conducted in the domain of neurodevelopmental disorders.

**Objectives:** The aims of the study were:

- 1) to investigate the use of event-related potentials (ERPs) as valuable markers of neurocognitive basis of emotional face processing in children with and without ASD;
- 2) to explore whether components of the ERPs can be used as potential markers of enhanced emotional processing in children with ASD who benefited from interactive computer training focused on emotion comprehension.

**Methods:** ERPs were recorded during an implicit emotion recognition task in 19 children with ASD and 11 paired controls, along with other clinical and cognitive measures. Another recording session was conducted after a two-week training with a multisensory video game performed by 12 children from the ASD group.

**Results:** Preliminary results showed that before the training, children with ASD exhibited abnormal P100 and N170 ERP components which reflect abnormal face perception strategies. After training, some of the children exhibited normalized ERP components and enhanced ERP components' modulation by emotions.

**Conclusions:** The results are promising although the training was short and not intensive.