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Procedural processing in Tourette's syndrome

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Objective: Tourette's syndrome is a neurodevelopmental disorder characterized by tics, which are fast, repeated but not rhythmic involuntarily and suddenly appearing movements or vocalizations. These symptoms are associated with significant subjective and social burden. To date, neuropsychological studies have primarily focused on deficits and, albeit findings are mixed, those generally implicate cognitive flexibility, inhibition, and verbal fluency in the disorder. However, mapping potential strengths is also a key, as those may reflect relevant resilience factors. There is a reason to believe that faster procedural processing, which results from hyperkinetic over activity due to the dysfunctional frontal lobe and basal ganglia processing, is one such area of strength. The aim of this study was to explore the association between individual differences in procedural processing and verbal fluency in children with Tourette's syndrome and typically developing peers.

Methods: Participants were 42 children (6 girls) with Tourette's syndrome (Mage=148.43 (months), SD=16.41) and age- and gender-matched healthy controls (Mage=149.38, SD=16.98), tested on three types of verbal fluency tasks: action, semantic and phonemic. We hypothesized that the Tourette group would perform better in the action and phonemic fluency tasks.

Results & Discussion: Findings showed that in the phonemic fluency task, children with Tourette's syndrome listed more verbs ($t(1)=295.23$, $p<0.001$) and made fewer errors (listing an incorrect word: $t(1)=7.81$, $p=0.005$; repeating a word $t(1)=8.19$, $p=0.004$) than controls. These results confirm strength in phonemic fluency in patients with Tourette's syndrome. In the poster, implications for clinical/ neuropsychological conceptualization and prevention and treatment will be discussed.

Biography

Alexandra Radosi earned a BA degree in Psychology from Eötvös Loránd University (ELTE), Faculty of Education and Psychology, in 2016. She also obtained her MA at same university in 2018. The title of her master's thesis was procedural processing in Tourette's syndrome. Following graduation, she joined the Lendület Developmental and Translational Neuroscience Research Group as a Pre-Doctorate Research Assistant at the Institute of Cognitive Neuroscience and Psychology, at the Research Centre for Natural Sciences (RCNS) of the Hungarian Academy of Sciences. She is planning to begin her PhD studies, focusing on neuroimaging of individual differences in motivational and emotional functioning.

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