ID: MSCA-19-VanOverwalle06

Discipline: Social and Behavioural Sciences

Title: Clinical testing of cerebellum on autism (ASD) patients (Note: languages NL & FR for some patients)

Abstract: ASD is a neurodevelopmental condition characterized by impairments in social cognitive capacities (Baron-Cohen, Wheelwright, Skinner, Martin, & Clubley, 2001). There is increasing evidence that behavioral alterations of ASD individuals, including their social skills, are a consequence of a complex of modifications of neuronal networks in which the cerebellum participates. In support of this, abnormalities in cerebellar grey matter volume (D’Mello & Stoodley, 2015) as well as in functional connectivity between the cerebellum and cortical regions of the social brain have been observed in individuals with ASD (Khan et al., 2015; Olivito et al., 2016). But how much of ASD’s social dysfunctions are caused by impairments in action sequencing? This is still unknown. This research investigates the role of action sequencing among persons with ASD, using the sequential mentalizing which recruit the cerebellum developed at our lab. We investigate adults affected by ASD at a clinical level (n = ±20; inclusion criteria: ADOS scores ≥7 and IQ above 70) and subclinical level (n = ±20). Our lab has experience with these distinct levels of autism from an fMRI study with these clinical and subclinical populations (Kestemont, Vandekerckhove, Bulnes, Matthys, & Van Overwalle, 2015). We use the same methodological strategy as for the mentalizing tasks, but apply it here on (sub)clinical ASD samples. In addition, participant’s performance will be correlated with behavioral indices of ASD and (if available) with neural (MRI) measures of cerebellar grey matter volume (cf., D’Mello & Stoodley, 2015).

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