**Introduction**

- Attention-deficit/hyperactivity disorder (ADHD) is characterized by high levels of impulsivity, an inhibition deficit (1) and difficulties with emotion-regulation (2).
- In children and adolescents, inhibitory control has been shown to be impaired by differences in performance feedback in a Go/No-go task (3).
- In a novel emotional stop-signal (EMOSS) task, high costs associated with errors were found to reduce neural responses to angry faces in healthy adults (4).
- The neurophysiological correlates of inhibition in the context of emotion have yet to be studied in children and adolescents with ADHD (5).
- ADHD, compared to Controls.
- The main effect for Valence was not significant; The main effect for Block and the two-way interaction were not significant.
- Although values were not significant due to the sample size of this pilot study, overall trends indicate that:
  - ADHD had faster reaction times in all blocks, suggesting that impulsivity is a core feature of ADHD;
  - ADHD reaction times were particularly faster in “frustrating” Block B;
  - For No-go stimuli, the ADHD group had decreased reactions to every valence, while the controls showed the opposite pattern;
  - When viewing neutral emojis, the ADHD group had more failed inhibitions to No-go stimuli;
  - When viewing happy emojis, both groups had decreased accuracy in the frustration block (however, Controls were able to recover in Block C, while ADHD reaction times continued to decrease).

**Clinical Results**

Independent samples t-tests confirmed that the groups were significantly different on both the Parent Conners Global Index scores and DSM-5 ADHD Hyperactive-Impulsive scores.

**Behavioural Results**

**EEG Results**

In both groups, for RT and accuracy, for both stimuli:

- ADHD had a slightly early and significantly increased P1.
- ADHD had a decreased N170.
- ADHD had an increased P3. In both groups, angry valence had the largest amplitude, and happy had the smallest.

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Feel free to contact me if you have any questions:

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**References**