Characterizing Behavior and Microsaccades in Adhd Using a Mixed Sensory - Executive Psychophysical Paradigm

Submission ID 3000153

Submission Type Poster

Topic Cognitive Science

Status Submitted

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SUBMISSION DETAILS

Presentation Type Either Poster or Oral Presentation

Presentation Abstract Summary While executive and attentional functions have been extensively studied in ADHD, sensory function has received relatively little scrutiny. We introduce a new psychophysical task, consisting of visual discrimination with feature and spatial switches, that allows us to quantify sensory and executive functions, as well as their correlations. ADHD participants had longer and more variable reaction times, higher proportions of irrelevant buttons presses (PIBP) and higher sensory noise. We found correlations between participants' executive control self-report scores (GEC) with PIBP and also with sensory noise estimates. In addition, we found a positive correlation between sensory noise and microsaccade rate, and one between GEC and microsaccade rate, in line with recent studies showing less effective microsaccade inhibition with higher symptom severity. Our results demonstrate strong sensory deficits in ADHD and correlations between sensory and executive function.

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Keywords

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psychophysics
visual attention
sensory
cognition
computational psychiatry
human visual perception
Executive Function
Eye movements