A Pilot Study on the Sensory Processing Difficulty Pattern Association between the Hot and Cold Executive Function Deficits in Attention Deficit Hyperactivity Deficit Child

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Abstract : Attention deficit hyperactivity deficit (ADHD) child display diverse sensory processing difficulty behaviors. There is less evidence to figure out how the association between executive function and sensory deficit. To determine whether sensory deficit influence the executive functions, we examined sensory processing by SPM and try to indicate hot/cold executive function (EF) by BRIEF2, respectively. We found that the hot executive function deficit might associate with auditory processing in a variety of settings, and vestibular input to maintain balance and upright posture; the cold EF deficit might opposite to the hot EF deficit, the vestibular sensory modulation difficulty association with emotion shifting and emotional regulation. These results suggest that sensory processing might be another consideration factor to influence the higher cognitive control or emotional regulation of EF. Overall, this study indicates the distinction between hot and cold EF impairments with different sensory modulation problem. Moreover, for clinician, it needs more cautious consideration to conduct intervention with ADHD.

Keywords: hot executive function, cold executive function, sensory processing, ADHD

Conference Title: ICCPN 2018: International Conference on Cognitive Psychology and Neuropsychology

Conference Location: London, United Kingdom

Conference Dates: April 24-25, 2018