

The 2nd International Neuroinflammation Congress and 2nd Student Festival of Neuroscience



Shefa Neuroscience Research Center, Tehran, Iran, 17-19 April, 2018

The Neuroscience Journal of Shefaye Khatam

Volume 6, No. 2, Suppl 1

Poster Presentation

Visual Working Memory Performance Based on Saccades in Children with and without Specific Learning Disorder: An Eye-Tracking Study

Shamim Razaghi Kashani^{1*}, Mahnaz Akhavan Tafti¹, Mohammad Javad Asghari Ebrahimabad²

¹Department of Educational Psychology, Alzahra University, Tehran, Iran

²Department of Psychology, Ferdowsi University of Mashhad, Mashhad, Iran

Published: 17 April, 2018

Abstract

Some of the previous studies show that children with SLD have deficits in visual processing and working memory. Hence, the aim of this research was to investigate problems of visual working memory based on behavioral neuroscience method, using an eye tracker device. The method of present study was ex-post facto study. The participants included couple of twelve children with SLD (mean age=10.92) and without SLD (mean age=12.50). For measuring visual working memory, CORSI task was used and eye-tracking was used for recording saccade duration, saccade frequency, saccade amplitude, and saccade latency and saccade velocity. The findings highlighted that there is a significant difference in block span, total score and memory span between children with/without SLD ($P < 0.05$). There was a clear difference in saccade amplitude and saccade duration between two groups and these indexes were poor in SLDs. Based on these findings, further studies of neural mechanisms of visual working memory in SLDs are needed for better clarification of such deficits.

Keywords: Visual Working Memory, Saccade, Specific Learning Disorder, Eye-Tracking.

***Corresponding Author:** Shamim Razaghi Kashani

E-mail: sh.razaghi@student.alzahra.ac.ir