







# The effect mirror training on the balance of children with high functioning Autism

### Oral Presentation

## 1Neda Rezvankhah Golsefidi \*; 2Maryam Panahibakhsh; 3Abedin Salehi Golsefidi

- <sup>1</sup>Department of Health and Sport Medicine, Faculty of Physical Education and Sport Sciences, University of Tehran, Tehran, Iran (n.golsefid@gmail.com)
- <sup>2</sup>Department of Corrective exercise and sport injury, Faculty of Physical Education and Sport Sciences, University of Kharazmi, Tehran, Iran
- <sup>3</sup>Department of Exercise Physiology, Faculty of Physical Education and Sport Sciences, University of Tehran, Tehran, Iran

Introduction: Autistic children have problems such as defects in social interactions and communication skills, sensory processing, and disturbances in motor and balance performance. Balance is one of the basic abilities of daily life. The purpose of this study was to investigate the effect of mirror exercise on the static and dynamic balance of children with high-function autism.

Methods: The population of this semi-experimental study was children aged 8 to 10 years with high-function autism living in Rasht. Twenty children participated in the present study who were randomly divided into control and experimental groups. The experimental group participated in the training program, training in front of a mirror, for eight weeks and 3 sessions per week. Before and after the training program, the Flamingo test was used to measure static and the heel-toe walk test was used to measure dynamic balance. Data were analyzed by t-test with SPSS software at the significance level of 0.05.

Results: The results of the independent t-test showed that the experimental group had a significant increase in static and dynamic balance compared to the control group (p<0/05). Intra-group variations showed a significant difference between the static and the dynamic balance in the pre and post-test of the experimental group (p<0/05), but there was no significant difference in the control group (p>0/05).

Conclusion: According to the results, mirror exercises can be considered to improve balance function in children with autism. Therefore, the use of mirror exercises is recommended as a suitable intervention method for children with autism.

### **Keywords**

Mirror training; static balance; dynamic balance; Children with Autism

# Reference:

- 1. Ansari, S., et al., The Efects of Aquatic Versus Kata Techniques Training on Static and Dynamic Balance in Children with Autism Spectrum Disorder. Journal of Autism and Developmental Disorders, 2020. 18.
- 2. VanderWoude, C., Examining the Effects of a Mirror on Imitation in Children with Autism. 2013. Honors Theses, 2311.
- 3. Shamiria, M., et al., Effect of Perceptual-Motor activities on the Mirror Neurons Training, Behavioral Disorders and Social development in Children with High Functioning Autism. International journal of motor control and leearning, 2019. 1(2): p. 19-32.
- 4. Fitzpatrick, M., Mirroring, Social Learning and Dance Movement Therapy with Childhood Autism Spectrum Disorder: A Literature Review. 2018. Expressive Therapies Capstone Theses. 20