



## The effects of motor skills on depth perception error and balance performance of autistic children

### Oral Presentation

1Parinaz Ghanati\*; 2Mahmoud Sheikh

1Ph.D. Student of Motor Behavior, Faculty of Sports science, University of Tehran, Tehran, Iran  
(parinazghanati90@gmail.com)

2Full Professor Motor Behavior, Faculty of Sports science, University of Tehran, Tehran, Iran

### Abstract

**Introduction:** Due to the increasing prevalence of autism disorders, motor problems, and the importance of motor coordination in performing daily activities of children with autism, lack of studies on motor skills disorders in these people, and lack of study of the effectiveness of motor exercises on reducing stereotyped movements in children with autism. Therefore, the aim of this study was to The Effects of motor skills on Depth Perception Error and Balance performance of autistic children.

**Methods:** In this quasi-experimental study, 20 children with autism disorder were selected by convenience sampling method from Khomein Mandegar Autism Rehabilitation Center. Then, the subjects were randomly divided into two groups: control (n=10, mean age: 11 ±3.15 year, mean height: 120±38.98 cm and mean weight: 39±17.48 kg) and experimental (n=10, mean age: 10±9.2 year, mean height: 119±7.34 cm, mean weight: 37±84.8 kg). The experimental group received 15 sessions, 40 minutes each session, three sessions per week of fine motor skills training, and the control group performed their daily activities during this period. Before and after motor skills, balance performance, and depth error perception were measured. Data were analyzed by the Leven test, Kolmogorov-Smirnov test, and multivariate variance at the significance level of P<0.01.

**Results:** The results showed a significant difference between the experimental and control groups in reducing Depth Perception Error; this reduction was more in the experimental group than the control group (P<0.001). Also, a significant difference between the experimental and control groups in Increase Balance performance; this Increase was more in the experimental group than the control group (P=0.033).

**Conclusion:** Based on the results, it can be concluded that a period of fine motor skills training can lead to better therapeutic results, reduce Depth Perception Error, and Increase Balance performance.

### Keywords

Balance performance; motor skills; Depth Perception Error; autistic; Children

### Reference:

1. Torabi, F., & Razavi, M. (2022). The effect of fine motor skills on stereotyped movements in children with autism spectrum disorders. *Journal of Motor Learning and Movement*, 12(4), 515-531.
2. Moradi H, Sohrabi M, Taheri H, khodashenas E, Movahedi A. The Effects of a Course of Motor Activities Along with Music on the Balance, Running Speed and Agility in Children with Autism. *J Shahrekord Univ Med Sci*. 2018; 20 (3) :29-42.