

## **Abstract**

**Title:** The Relationship Between Changes in Motor Skills and Cognitive Functions in Preschool Children Over One Year

**Objective:** The objective of this thesis is to investigate the relationship between changes in motor skills and cognitive functions in preschool children over a one-year period.

**Methods:** The research was conducted as a longitudinal study, following 61 children aged 4–6 years over one year. Various tests were used to assess gross motor skills, physical fitness, and cognitive functions, including the Test of Gross Motor Development (TGMD-2) and the Intelligence and Development Scales for Preschool Children (IDS-P). Data were analyzed using comparative, correlational, and multiple regression analyses.

**Results:** The results showed that while there was a slight improvement in both motor and cognitive test scores, no statistically significant relationships were found between changes in these areas. Boys demonstrated greater improvement in some cognitive and motor tests, while girls improved in others, indicating individual variability rather than a clear trend. The hypotheses regarding a strong positive correlation between changes in motor skills and cognition were not supported.

**Conclusion:** In conclusion, the relationship between changes in motor skills and cognitive functions in preschool children is not straightforward. Although there was a slight improvement in all monitored areas, no statistically significant associations were found. These findings suggest that individual variability and complex environmental factors play a crucial role in children's development and should be considered in future research and interventions.

**Keywords:** TGMD-2, IDS-P, longitudinal study, physical fitness, gross motor skills