

## **Abstract**

**Title:** Relationship between hand grip strength and cognitive function in older adults over 65 years of age

**Goals:** The main goal of this diploma thesis was to find out possible links between hand grip strength and cognitive functions in older adults over 65 years of age

**Method:** As part of the master's thesis, a secondary analysis of data from the international cross-sectional study conducted within the Survey of Health Ageing and Retirement in Europe (SHARE) project was performed. The participants of the study were divided into seven categories based on their educational attainment, separately for both men and women. Generalized linear models were calculated for each of the mentioned categories as part of the data analysis.

**Results:** The survey included a total of 38,519 participants with an average age of  $74.00 \pm 6.7$  years from 18 countries worldwide. More than half of the participants were women. In the data analysis, it was found that the most represented educational group among the participants was the third group with higher secondary education, as defined by the ISCED 2011 classification. The tables indicate that values of all percentiles increase linearly with higher levels of education. This result suggests that higher education is associated with better performance in the examined test. Additionally, it was observed that test performance gradually declines with increasing age of the participants.

**Key words:** hand grip strength, dynamometry, cognitive function, attention, memory, aging, periodization of old age, SHARE