

**Title:**

Effects of work activity on cognitive aging: The case of interpreters

**Abstract:**

**Introduction:** With the aging of the population and the rising of retirement age, it is important to consider the cognitive abilities of older workers. This subject is related to the issue of job retention and the ability to remain efficient while preserving a one' health. Models of normal aging show a cognitive decline with advancing age. Among these, executive functions begin to decline after the second or third decade of life. Some studies assume the existence of a mechanism for the preservation of cognitive functions. This preservation is the result of regular and consistent use of this cognitive function (Marquié, 1997; Salthouse, 1990). To verify this hypothesis, we have developed a study on the evolution of executive functions with age among conference interpreters.

**Participants:** 120 subjects divided in two groups: 60 professional interpreters (23 men and 37 women) aged 25-65 years (divided into four age groups of 15 interpreters: 25-34, 35-44, 45-54, 55-65 years). 60 monolingual (29 men and 31 women) matched for age and socio-cultural level.

**Tasks:** Software E-Prime 2.0. Two tasks of reaction times (Motor – Oral). Three tasks from the model of executive functions (Miyake et al., 2000): Letter Memory (Updating); Plus-Minus (Flexibility); Antisaccade (Inhibition). A Computer-based Brown Peterson (Multitasking).

**Results:** A significant difference between the groups appears after age 35 for multitasking ( $p=.016$ ), updating ( $p=.001$ ), flexibility ( $p=.007$ ) and reaction time ( $p=.029$ ). These results imply a greater decrease of performance on the tests for the control group. A significant difference appears after age 45 for inhibition regarding the reaction time and after 55 years for the precision of response. (These results are more developed on the poster).

**Discussion:** Before age 35, there is no significant difference between the groups because there is a peak of performance on tests assessing executive functions between 25 and 35 years. Our results suggest that the characteristics of the activity of interpretation could slow the normal cognitive decline. This can be interpreted by the effects of the work activity or through bilingualism. We test a group of translators to verify this last hypothesis.