

# OBSTRUCTIVE SLEEP APNEA AGGRAVATES AGE ASSOCIATED DECLINE IN PSYCHOMOTOR PERFORMANCE



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## Background

- Ageing is associated with a decrease in cognitive and psychomotor abilities, probably due to simultaneous structural and functional changes in specific brain regions, precisely in the frontal lobes.
- Decline in physiological and psychological performances are features of obstructive sleep apnea (OSA), whose prevalence and severity increase with advanced age.

## Material & Methods

- Assessment of dynamic properties of the central nervous system was performed with the Complex Reactionmeter Drenovac (CRD) series tests.
- In a sample of 3420 general population subjects and 103 patients with moderate and severe OSA, the correlation of age and reaction times in the CRD series tests of discrimination of the light signal position, complex psychomotor coordination, and convergent thinking was investigated.

## Results

- Severe OSA impairs the speed of perception, convergent, and operative thinking, indicated by prolonged reaction times in the perception of visual stimulus, solving simple arithmetic operations, and in tasks requiring psychomotor coordination of the upper and lower limbs in the tests of the CRD series (Figure 1).
- Furthermore, severe OSA decreases stability toward the end of the test, indicating that OSA patients get considerably slower toward the end of tasks compared to control participants of the same age in the speed of perception, speed of convergent thinking, and the speed of psychomotor limbs coordination.

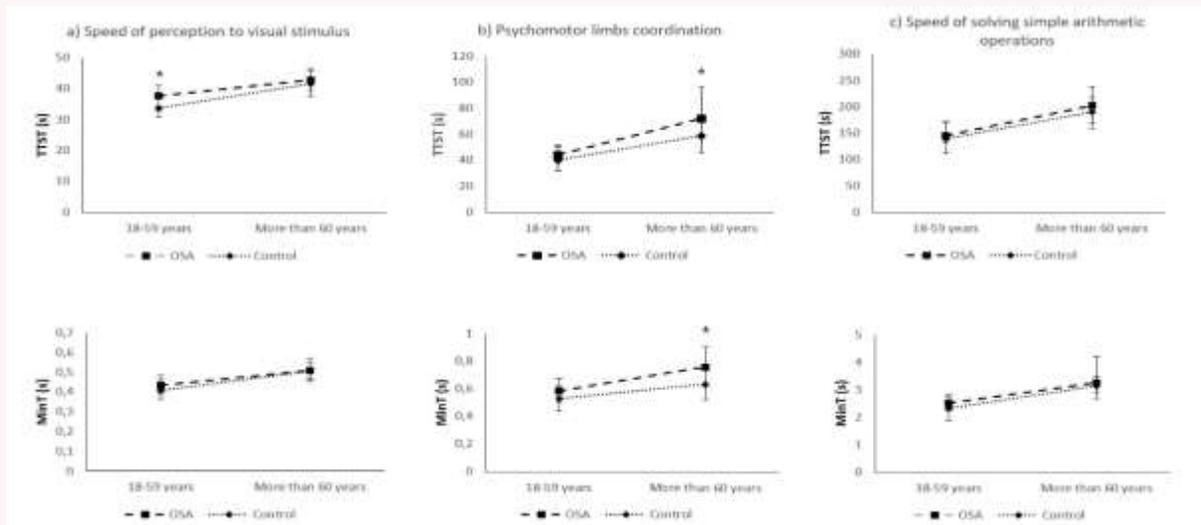


Figure 1. Reaction times of OSA patients and control subjects on three CRD series tests

## Conclusion

- In conclusion, both ageing and OSA are associated with the decline in cognitive and psychomotor performance.
- Impairments in complex psychomotor coordination of the limbs are more pronounced in apneic patients supporting the conclusion that OSA aggravates age-related decline in psychomotor performance.