

Age and performance: the relation between brain structure and cognition

Part II

No registrations found.

Ethical review	Not applicable
Status	Pending
Health condition type	-
Study type	Observational non invasive

Summary

ID

NL-OMON20614

Source

Nationaal Trial Register

Brief title

TBA

Health condition

The participants to this study are healthy adults.

Sponsors and support

Primary sponsor: University of Groningen

Source(s) of monetary or material Support: University of Groningen

Intervention

Outcome measures

Primary outcome

Cognitive measures: Number of words remembered (15 word test), variable representing the Simon effect for inhibition (Simon task), completion time (TMT).

Imaging measures as derived from MRI scans: Whole brain grey matter volume, cortical

thickness in the superior frontal gyrus, FA of the prefrontal cortex

Secondary outcome

Main study parameters of cognitive performance consist of the default outcome measures of each cognitive task. Regarding the MRI scans we derive volumetric data of grey matter, white matter and cerebral spinal fluid, (mean) cortical thickness, percentage of white matter hyperintensities in relation to brain volume, and DTI scalar values (FA, MD, AD and RD). Standardized change scores of these measures will be calculated. Further more information on reduction of working hours and possible retirement will be taken into consideration.

Study description

Background summary

This study aims at gaining a broad picture of age-related changes in brain structure and cognitive functioning in a group of older adults by using a longitudinal within-subjects design. The majority of previous studies examining the effects of age on brain and cognition have used cross-sectional designs, that is, comparing groups of young- and older adults in order to examine the effects of age. The proposed study provides an effort to overcome the problems associated to cross-sectional research by examining the dynamics of age-related changes from a longitudinal perspective. Furthermore, structural and functional changes over time will be associated to major life events, such as reduction in working time and retirement.

Study objective

We expect changes in each of the three tasks, with less words remembered (15 word test), a larger Simon effect (Simon task) and slower performance (TMT) in the repeated assessment compared to the first assessment. We also expect changes in each of the three main structural measures: Whole brain grey matter volume (smaller over time), cortical thickness in the superior frontal gyrus (thinner over time), and FA of the prefrontal cortex (lower over time).

Study design

One time point, scheduled approximately 2 years after participating in the study 'Age and performance: the relation between brain structure and cognition'

Intervention

not applicable

Contacts

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Eligibility criteria

Inclusion criteria

- Having participated in the study 'Age and performance: the relation between brain structure and cognition'.
- Right-handed
- Normal (or corrected to normal) vision

Exclusion criteria

Not matching any of the inclusion criteria, as well as matching any criterion in the MRI exclusion list, including, but not limited to, claustrophobia, infarctions, epilepsy or family history of epilepsy, presence of metal inside the body, presence of electric/electronic devices inside the body (pacemakers, etc.), and presence of intracardial lines. We will exclude users of non-removable dentures, psychoactive medication, including antidepressants, anxiolytic, and anti-epileptic drugs, as well as cannabis, XTC or other recreational drugs.

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other

Allocation: Non controlled trial

Control: N/A , unknown

Recruitment

NL

Recruitment status: Pending

Start date (anticipated): 01-05-2019

Enrollment: 37

Type: Anticipated

IPD sharing statement

Plan to share IPD: No

Plan description

N/A

Ethics review

Not applicable

Application type: Not applicable

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
NTR-new	NL7637
Other	METc Groningen : METc 2019.160

Study results

Summary results

N/A