

Semantic-phonetic discrepancy in elderly people with and without subjective memory complaints: the effect of executive demand

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Introduction



Neurocognitive Disorders (NCD):

- Subjective Cognitive Decline (DCS);
- Mild Cognitive Decline (MCI);
- Alzheimer Disease (DA).

Subjective Cognitive Complaints (SCC)

⇒ Increased risk of future of Alzheimer's disease (AD)

Essential for the detection early stages of the AD

The subjects who present SCC recently developed, but not show objective decline in neuropsychological tests, are characterized as

Subjective Cognitive Decline (SCD)

- ⇒ Do not show objective decline in neuropsychological tests
- ⇒ Reduced performance in semantic verbal fluency

(Abwender et al., 2001; Jessen et al., 2014).

No Subjective Cognitive Complaints

- No visible difficulties in your daily cognitive performance;
- Do not present complaints about memory or other cognitive domains;
- Reveal a normative or even above-expected performance.

(Bezdieck et al., 2017; Jessen et al., 2014; Frommann et al., 2015).

Verbal fluency

assesses cognitive functioning

complex and multidimensional

detects cognitive deficits and dementia

Subdivided into **semantic and phonemic tasks**:

PVF — requires the production of words starting with a specific letter;

SVF — requires the production of words belonging to a specific semantic category

(Demetriou & Holtzer, 2016)

Aims and hypotheses



To compare groups of elderly people with and without SCC, in semantic-phonetic verbal fluency tasks, analyzing semantic-phonetic discrepancies and performance in different executive processing conditions. In addition to evaluating the discriminative capacity of these measures in classifying participants

HO: There are no significant differences in verbal fluency performance between the groups of elderly people with SCC (SCC+) and without SCC (SCC-), especially in tasks that require higher executive processing.

HI: There are significant differences in verbal fluency performance between groups of elderly people with SCC and without SCC especially in tasks that require higher executive processing.

Expected results

- ✓ We anticipate to: 1) highlight differences between groups of elderly people with Subjective Cognitive Complaints (SCC+) and without Subjective Cognitive Complaints (SCC-) in fluency tasks semantic-phonetic verbal; 2) Check discriminative value of these measures to classify participants.
- ✓ Elderly people with SCC+ will exhibit an intermediate phonetic semantic discrepancy compared to the SCC- group.

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Method

80 elderly people

Agés between 70 and 90 YO

Portuguese population of the region North

Participants

2 groups of individuals: DCS; SCC that will serve as a control group.

40 participants per group

Instruments

Adapted to European Portuguese population

Sociodemographic Questionnaire.

Everyday Memory Questionnaire (EMQ) (Ribeiro et.al, 2023):

⇒ Cronbach coefficient of 0.91 showing high reliability.

Montreal Cognitive Assessment Test (MOCA) (Freitas et. al, 2013):

⇒ Cronbach's alpha coefficient of 0.94, showing high reliability in measuring different cognitive aspects and excellent internal consistency.

State-Trait Anxiety Inventory – Y2 (STAI-Y2) (Silva, 2007):

⇒ Cronbach's alpha coefficient of 0.87, indicating good consistency internal.

Geriatric Depression Scale (GDS) (Barreto et. al, 2014):

⇒ Cronbach's alpha coefficient of 0.83, indicating a good internal consistency

Auditory Verbal Learning Test (AVLT) (Almeida et. al, 2015):

⇒ Cronbach's alpha coefficient 0.83, indicating good internal consistency.

Test of Memory Strategies (TEM) (Fernandes et. al, 2018):

⇒ Cronbach's alpha coefficient of 0.74, showing acceptable internal consistency.

Color and Word Stroop Test (CWST) (Fernandes, 2013):

⇒ Cronbach of 0.66 showing consistency moderate internal.

Instrumental Activities of Daily Living Functional Scale (IADL) (Graf, 2013):

⇒ Cronbach's alpha of 0.88, showing high internal consistency.

Procedure

Data collection will be individual and carried out in a single moment, divided into two blocks separated by a break, with a total duration of 60 minutes.

Factor design

- 1) Application of psychological assessment instruments
- 2) Experimental verbal fluency task under two demanding conditions

- 1 requirement — phonetic and semantic fluency tasks
- 2 requirement — tasks of verbal fluency that involve greater executive demands

90 run time seconds

Data analyses

- statistical analysis:
- mixed variance analysis;
- logistic regression.