Are Subjective Memory Complaints (Un)Related to Working Memory Performance? A study with Portuguese young and older adults

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Introduction

- There is an **increase** in **dementia** worldwide and, **no curative treatment** is available to date. Hence, the focus **is set on detecting the disease in its preclinical phase** (Dubois et al., 2016; Faiz et al., 2021; Sajjad et al., 2015)
- **Subjective memory complaints** are suggested by the literature as an **early indicator of cognitive decline** and the **onset of dementia** (Van Wanrooij et al., 2019)
- Normative deficits in memory capacity are usually associated with subjective memory complaints, however, the **relationship** between the **declines of objective memory** and the **subjective memory complaints** is **not clear** (Genziani et al., 2013).
- Our **aim** is to investigate the **relationship** between **subjective memory complains** and **working memory performance** of **young and older adults.**

Method

Participants

- A Sample of 58 Portuguese participants were divided in **two groups** regarding their **age**.
- The group of **young adults** was composed of **30** participants (19 males and 11 females) with ages ranging from 18 to 35 (M = 24,33; SD = 4,42).
- The group of **older adults** was composed of **28** participants (14 females and 14 males), with ages ranging from 65 to 86 years (M = 73,96; SD = 5,834).
- **Older-adults** with cognitive impairment **were excluded**.

Instruments

- Sociodemographic Questionnaire
- Montereal Cognitive Assessment (MoCA; Portuguese Version by Freitas, et al., 2013)
- Wechsler Intelligence Scale for Adults – 3rd edition (WAIS-III; Portuguese Version by Ferreira & Freitas, 2006) -**Arithmetic, digits memory and sequences of letters and numbers**
- Questionnaire of Memory Lapses (QML; Pinto, 1990)

Results

Tasks	Group	N	M	SD	t	df	p
Arithmetic	Older-adults	30	9.50	2.43	-4.27	48	< .001
	Younger-adults	28	13.23	4.07			
Digits (inverse order)	Older-adults	30	4.89	1.75	-4.54	56	< .001
	Younger-adults	28	7.63	2.71			
Sequences of letter and numbers	Older-adults	30	5.04	2.89	-5.28	50	< .001
	Younger-adults	28	10.23	4.49			
MoCA(total)	Older-adults	30	22.82	3.73	-7.55	32	< .001
	Younger-adults	28	28.37	1.13			
Working Memory	Older- adults	30	4.89	1.17	-3.2	38	< .01
	Younger-adults	28	5.67	.55			
QML	Older-adults	30	102.68	20.20	2.27	56	< .05
	Younger-adults	28	90.30	21.24			

- The **older-adults** reported **more memory lapses** and a **worst working memory performance** in **comparison** with the **young adults**' group ($p < .05$)
- A **negative correlation** was found **between** general **cognitive performance** and the frequency of **subjective memory complaints** in the **older adults** ($p < .05$)
- **No significant correlations** were obtained **between the subjective and objective cognitive assessments** in the young adults' group ($p > .05$)

Conclusion

- Considering the results of our study, we conclude **that memory lapses may be related to working memory loosening and deficits** as suggested by the literature (Genziani et al., 2013).
- Furthermore, our results sustain this conclusion with evidence that **fewer memory lapses** are present when there is a **better working memory performance** (Van Wanrooij et al., 2019).
- These findings lead us to conclude that, **memory lapses can constitute an important indicator of memory loosening**, associated with aging or the onset of dementia.
- Moreover, the results of our study are similar with previous findings in the literature, suggesting a **relationship** between **memory lapses** and **worst working memory performance**.
- Previous research suggests a decrease in the working memory performance and an increase in memory lapses as a result of aging. The results of our study describe this tendency as well a relationship between the two variables. However, **as future directions**, we recommend to study the **predictive nature of memory complaints for working memory performance or vice-versa.**

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