

Changes in memory function in adults following SARS-CoV-2 infection: findings from the Covid and Cognition online study.

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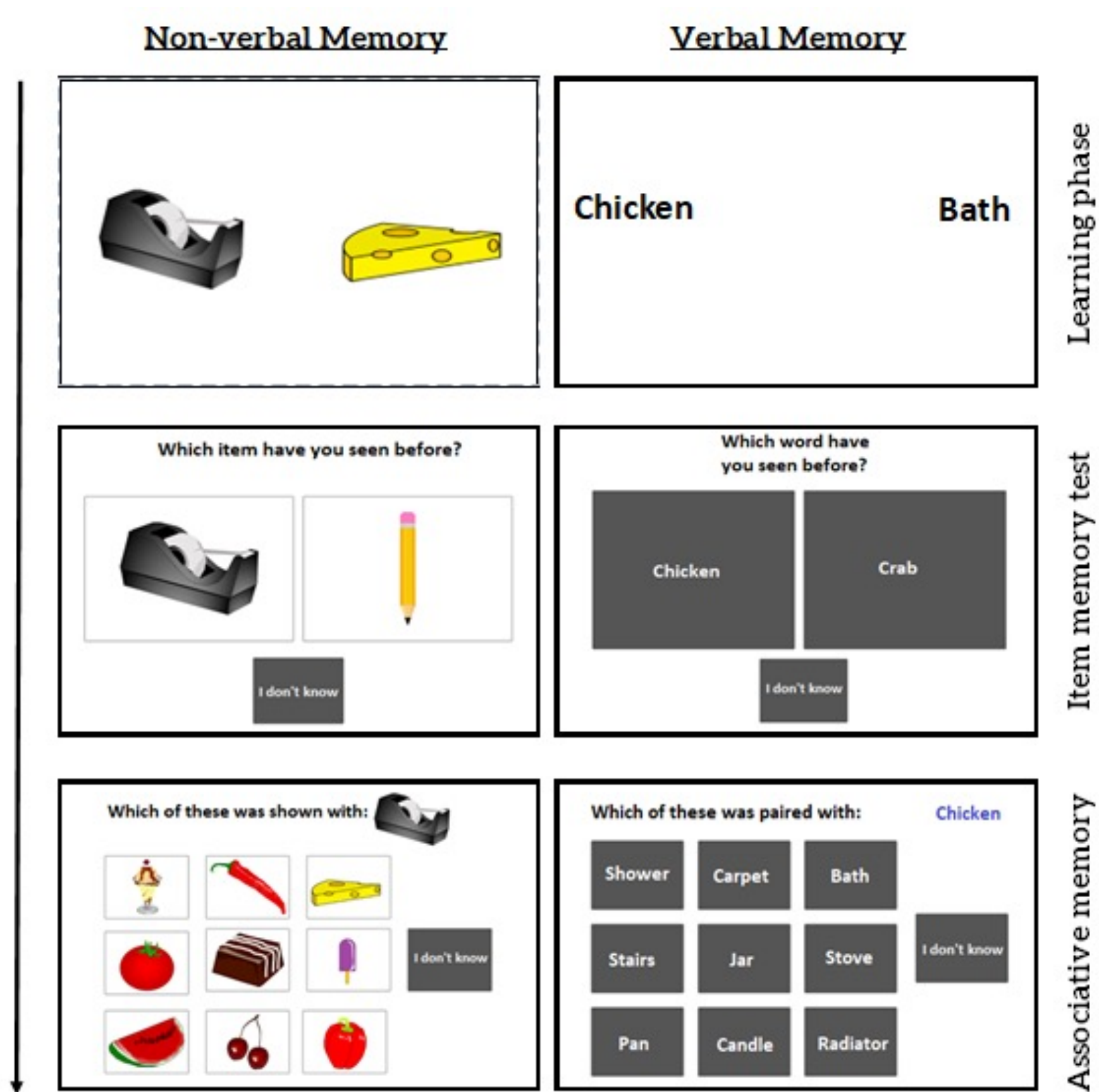
BACKGROUND

- 10-30% of non-hospitalized cases of SARS-CoV-2 infection are estimated to suffer from some Long Covid symptoms [1,2].
- Up to 50% of individuals with other Long Covid symptoms reported also having problems with memory, cognition or concentration [3,4-7].
- In most cases, multiple cognitive domains are affected, and symptoms last for less than 1 year [8].
- Effect on executive functions and episodic memory tests found across multiple studies [8,9].

GUO ET AL. (2022) [6]

METHODS

- Significant negative influence of Covid- 19 status on memory performance.
 - Used Item Memory Test for verbal stimuli only and Associative Memory Test for pictorial stimuli only.
 - Trend stronger for Verbal Item Memory test.
- 296 participants (18-77 years, mean = 42.26); 209 had Covid- 19, 87 did not.
 - Online study
 - 4 memory tasks



RESULTS

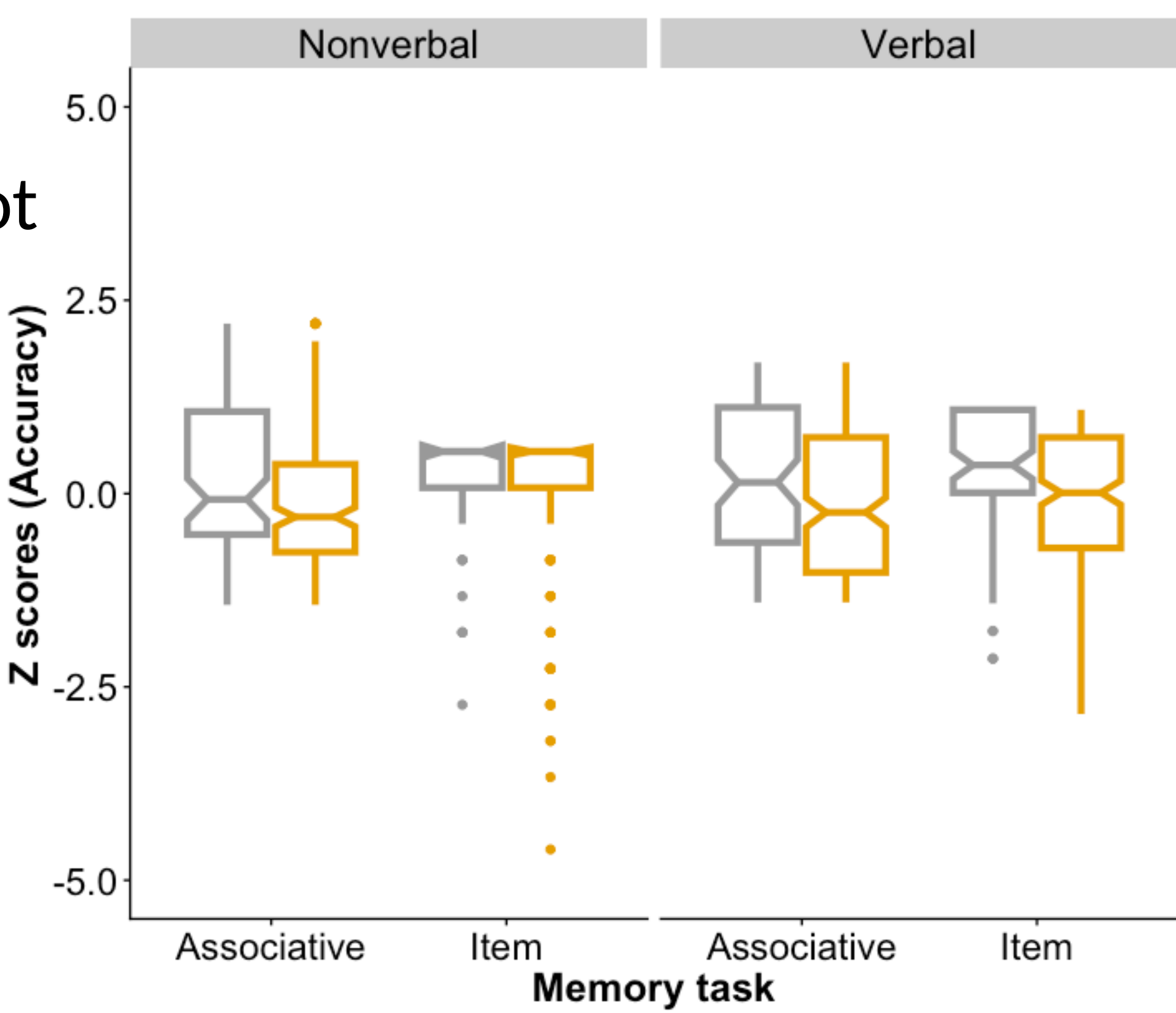
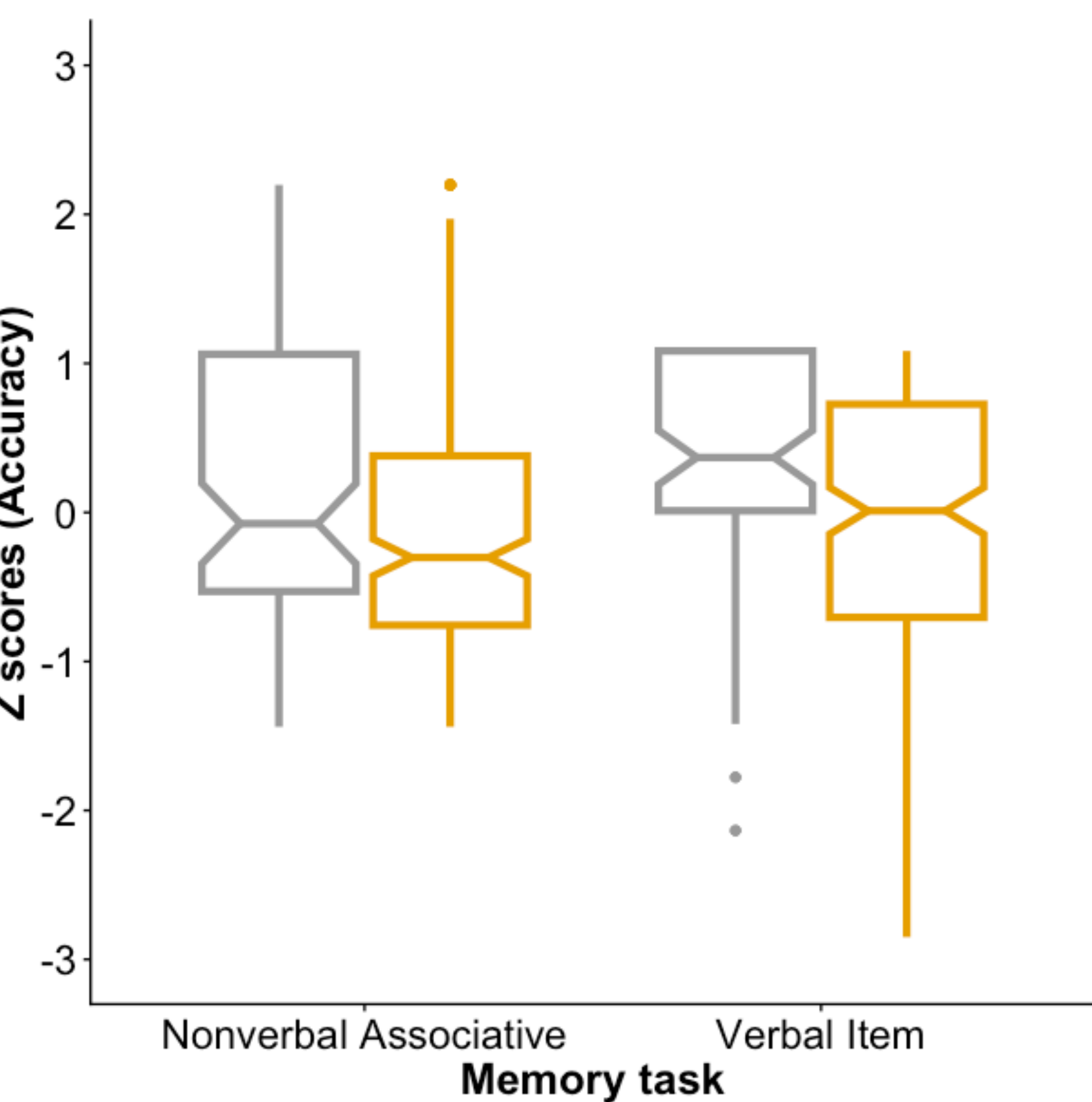
We have used frequentist ANCOVA for direct replication of [6] and Bayesian ANCOVA for all analyses including the replication. Sex, Age, Education and Country were included as covariates.

Aim 2: extension of the analysis of memory tasks:

- Found a main effect of Covid status when looking at accuracy in the 2 original tasks used in [6]: $BF_{10} = 15.06$ and when looking at accuracy across all 4 memory tasks: $BF_{10} = 17.96$.

Aim 1: Replication of the analysis of memory tasks in [6]

- Replicated effect for accuracy but not RTs.



Aim 3: analyzing the effect of vaccination status

- BF_{10} inconclusive in all cases.

CONCLUSIONS

- Replicated effect on memory accuracy (but not RTs) found in [6].
- Impairment specific to long-term memory, no interaction with memory or stimulus type.
- The analysis of effect of vaccination status on cognitive symptoms inconclusive in our sample.

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