Is inhibition in working memory domain-general? A study of age-related decline in cross-domain inhibitory abilities.

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INTRODUCTION

- Cognitive inhibition
- Declines in normal aging
- Declines in some pathologies due to aging
INTRODUCTION

General decrease in inhibitory capacities versus
Specific decrease in inhibitory capacities

This study examines the specificity of inhibitory control by investigating the age-related decline in inhibitory abilities across several domains (visual, phonological and semantic) in an immediate target-probe matching task.
METHOD > Participants

129 young adults ≈ 24 years old
130 older adults ≈ 69 years old  MoCA > 23
METHOD

Immediate target-probe matching task

“Which of the items at the lower part of the screen shows the best match with both of the items at the upper part of the screen?”

Semantic

Matching criteria: semantic association

Phonological

Matching criteria: phonemes & position

Visual

Matching criteria: form & color
RESULTS > Accuracy

Evidence in favor of a group effect

Evidence in favor of a modality effect

Modalities, BFINCCLUSION = 9,35^6
Group, BFINCCLUSION = ∞
Modalities*Group, BFINCCLUSION = 304,4
RESULTS > Response time (ms)

Evidence in favor of a group effect

Evidence in favor of a modality effect

Modalities, BFINCLUSION = 2,2^10
Group, BFINCLUSION = 2,9^9
Modalities*Group, BFINCLUSION = 3063
DISCUSSION & CONCLUSION

Interference

Particularly increased in the semantic and visual conditions

Domain general inhibition impairment at least for semantic and visual conditions in healthy aging

Differences in task sensitivity?
Thanks for watching

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