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Collaborative learning in healthy ageing with familiar and unfamiliar partners.

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Introduction

• Learning and memory abilities decline in healthy ageing 1. Learning collaboratively with a familiar partner may improve older adults’ learning performance. 2

• We tested familiar and unfamiliar pairs to see if familiarity affects performance, or if collaboration alone improves older adults’ performance.

• Investigated whether better social abilities underlie better learning outcomes.

Results

• Analysis using linear mixed effect models showed learning effects in younger and older adults.

• Older initially took longer to complete than younger. There was a main effect of age (β = -0.82, SE = 0.11, t = -7.25), trial (β = 0.63, SE = 0.03, t = 19.34), and a trial by age interaction, with trial having a greater effect on older than younger participants particularly in later trials (β = 0.14, SE = 0.04, t = 2.99 (Figure 3))

Method

• Younger (18-30) and Older (60+) participants (n=48) completed the task with a familiar partner and a stranger.

• Each pair had a Director and Matcher, sitting opposite each other separated by a short barrier, each with 12 abstract tangram shapes.

• The Directors’ card order was communicated to the Matcher. Pairs create and learn referential labels for shapes, making interaction more efficient over time.

• Performance measured over 9 trials (3x3 bins).

• Also completed Memory, Executive and Social Cognition measures.

Figure 1: A selection of tangram shapes described by the Directors to the Matchers.

Conclusions

• Older adults achieve the same level of performance as younger adults, but only over multiple trials.

• Collaborating with a familiar partner does not improve performance compared with an unfamiliar partner.

• Performance on Social Cognition measures predicts collaborative learning efficiency in early trials.

References


Further information

We are now using a computerised version of this paradigm to compare younger and older adults’ performance and interaction style with natural and synthetic speech systems. Email – catherine.crompton@ed.ac.uk