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The role of social cognition in collaborative learning in healthy older adults

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Introduction
Learning and memory abilities decline in healthy ageing. Learning collaboratively with a familiar partner may improve older adults’ learning performance. We examined older adults’ learning with familiar and unfamiliar partners, and with perceived Human and Computer partners. The study aim was to determine whether better social abilities underlie more efficient learning with different learning partners.

Method
Study 1
Participants: 24 older (mean = 68.88 years, SD = 7.19) adults.
Participants completed the task in pairs, once with a familiar partner and once with a stranger.
Each pair had a Director and Matcher. The Director’s set of tangrams were arranged in a specific order, which was communicated to the Matcher. Pairs work together to create and learn referential labels, and interaction becomes more efficient.

Study 2
Participants: 24 older (mean = 70.46 years, SD = 7.34) adults.
Participants completed a similar task with a Wizard of Oz computer program assuming the role of Director.
“Human” condition: participants told communicating with a Research Assistant in the next room, and the program used natural speech recordings. Deception was successful.
“Computer” condition: participants heard the same instructions in a synthetic speech voice.

Social cognition was assessed using Reading the Mind in the Eyes (RMI) test, Human Faces test, Visual Perspective Taking (VPT) test, and Theory of Mind Stories test.

Conclusions
Familiarity does not differentially affect learning – older adults learn with comparable efficiency with familiar partners and strangers.
Learning with a computer system is more efficient and effective if participants are told that the computer system is a human being.
Social cognition predicts efficiency of interaction in early trials with unfamiliar partners, and perceived human partners.
Social cognition predicts interaction with perceived human partners, but does not predict recall accuracy.

References