

Paper Session 15: Memory topics

3:30 - 4:55pm Friday, 3rd February, 2023

Town & Country Ballroom D

Moderated by: Fiona Kumfor

1 Associations of Locus of Control and Memory Self-Awareness in Older Adults with and without MCI

Mary E Garcia^{1,2}, Jeanine M Parisi³, Sarah Cook⁴, Ian McDonough⁵, Alexandra J Weigand⁶, Alexandra L Clark⁷, Michael Marsiske⁸, Kelsey R Thomas^{9,1}

¹University of California, San Diego, La Jolla, CA, USA. ²California State University, San Bernardino, San Bernardino, CA, USA. ³Johns Hopkins University, Baltimore, MD, USA. ⁴Duke University, Durham, NC, USA. ⁵University of Alabama, Tuscaloosa, AL, USA. ⁶San Diego State University/University of California, San Diego Joint Doctoral Program in Clinical Psychology, San Diego, CA, USA. ⁷University of Texas at Austin, Austin, TX, USA. ⁸University of Florida, Gainesville, FL, USA. ⁹VA San Diego Healthcare System, San Diego, CA, USA

Objective: While loss of insight into one's cognitive impairment (anosognosia) is a feature in Alzheimer's disease dementia, less is known about memory self-awareness in cognitively unimpaired (CU) older adults or mild cognitive impairment (MCI) or factors that may impact self-awareness. Locus of control, specifically external locus of control, has been linked to worse cognitive/health outcomes, though little work has examined locus of control as it relates to self-awareness of memory functioning or across cognitive impairment status. Therefore, we examined associations between locus of control and memory self-awareness and whether MCI status impacted these associations.

Participants and Methods: Participants from the Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) study

(mean age=73.51; 76% women; 26% Black/African American) were classified as CU (n=2177) or MCI (amnesic n=313; non-amnesic n=170) using Neuropsychological Criteria. A memory composite score measured objective memory performance and the Memory Functioning Questionnaire measured subjective memory. Memory self-awareness was defined as objective memory minus subjective memory, with positive values indicating overreporting of memory difficulties relative to actual performance (hypernosognosia) and negative values indicating underreporting (hyponosognosia). Internal (i.e., personal skills/attributes dictate life events) and external (i.e., environment/others dictate life events) locus of control scores came from the Personality in Intellectual Aging Contexts Inventory. General linear models, adjusting for age, education, sex/gender, depressive symptoms, general health, and vocabulary examined the effects of internal and external locus of control on memory self-awareness and whether MCI status moderated these associations.

Results: Amnesic and non-amnesic MCI participants reported lower internal and higher external locus of control than CU participants. There was a main effect of MCI status on memory self-awareness such that amnesic MCI participants showed the greatest degree of hyponosognosia/underreporting, followed by non-amnesic MCI, and CU participants slightly overreported their memory difficulties. While, on average, participants were fairly accurate at reporting their degree of memory difficulty, internal locus of control was negatively associated with self-awareness such that higher internal locus of control was associated with greater underreporting ($\beta = -.127$, 95% CI [-.164, -.089], $p < .001$). MCI status did not moderate this association. External locus of control was positively associated with self-awareness such that higher external locus of control was associated with greater hypernosognosia/overreporting ($\beta = .259$, 95% CI [.218, .300], $p < .001$). Relative to CU, amnesic, but not non-amnesic, MCI showed a stronger association between external locus of control and memory self-awareness. Specifically, higher external locus of control was associated with less underreporting of cognitive difficulties in amnesic MCI ($\beta = .107$, 95% CI [.006, .208], $p = .038$).

Conclusions: In CU participants, higher external locus of control was associated with

greater hypernosognosia/overreporting. In amnesic MCI, the lower external locus of control associations with greater underreporting of objective cognitive difficulties suggests that perhaps reduced insight in some people with MCI may result in not realizing the need for external supports, and therefore not asking for help from others. Alternatively, in amnesic participants with greater external locus of control, perhaps the environmental cues/feedback translate to greater accuracy in their memory self-perceptions. Longitudinal analyses are needed to determine how memory self-awareness is related to future cognitive declines.

Categories: MCI (Mild Cognitive Impairment)

Keyword 1: metamemory

Keyword 2: memory complaints

Keyword 3: mild cognitive impairment

Correspondence: Mary Ellen Garcia, University of California, San Diego & California State University of San Bernardino, mary.garcia@csusb.edu

2 Untangling Subjective and Objective Memory in Aging: The Effects of Strategy Use and Gender Differences on Associative Memory Performance

Caitlin M. Terao^{*1}, Sara Pishdadian^{*1,2}, Morris Moscovitch³, R. Shayna Rosenbaum^{1,2}

¹Department of Psychology and Centre for Vision Research, York University, Toronto, Ontario, Canada. ²Rotman Research Institute, Toronto, Ontario, Canada. ³Department of Psychology, University of Toronto, Toronto, Ontario, Canada

Objective: In normative aging, there is a decline in associative memory that appears to relate to self-reported everyday use of general memory strategies (Guerrero et al., 2021). Self-reported general strategy use is also strongly associated with self-reported memory abilities (Frankenmolen et al., 2017), which, in turn, are weakly associated with objective memory performance (Crumley et al., 2014). Associative memory abilities and strategy use appear to differ by gender, with women outperforming men and using more memory strategies (Hertzog et al., 2019). In this study, we examine how actual

performance and self-reported use of specific strategies on an associative memory task relate to each other and to general, everyday strategy use, and whether these differ by gender.

Participants and Methods: An international sample of older adults ($N = 566$, 53% female, aged 60–80) were administered a demographic questionnaire and online tasks, including 1. the Multifactorial Memory Questionnaire (MMQ) which measures self-reported memory ability, satisfaction, and everyday strategy use (Troyer & Rich, 2018); and 2. the Face-Name Task which measures associative memory (Troyer et al., 2011). Participants were also asked about specific strategies that were used to complete the Face-Name Task.

Results: On the Face-Name Task, participants who reported using more strategies performed better ($F(3, 562) = 6.51, p < 0.001, \eta^2 = 0.03$), with those who reported using three or four strategies performing best ($p < .05$). There was a significant difference in performance based on the type of strategy used ($F(2, 563) = 11.36, p < 0.001, \eta^2 = 0.04$), with individuals who relied on a “past experiences/knowledge” strategy performing best ($p < .01$). Women ($M = 0.79, SD = 0.19$) outperformed men ($M = 0.71, SD = 0.20$), $t(545) = -4.64, p < 0.001, d = -0.39$. No gender differences were found in the number ($\chi^2(3, N = 564) = 2.06, p = 0.561$) or type ($\chi^2(2, N = 564) = 5.49, p = 0.064$) of strategies used on the Face-Name Task. Only participants who reported using no strategies on the Face-Name Task had lower scores on the MMQ everyday strategy use subscale ($p < .05$). A multiple-regression model was used to investigate the relative contributions of the number of strategies used on the Face-Name Task, MMQ everyday strategy subscale score, gender, age, education, and psychological distress to Face-Name Task performance. The only significant predictors in the model were gender ($B = 0.08, t(555) = 4.55, p < 0.001$) and use of two or more strategies ($B = 0.07, t(555) = 2.82, p = 0.005$).

Conclusions: Reports of greater self-initiated strategy use, and use of a semantic strategy in particular, related to better performance on an associative memory test in older adults. Self-initiated, task-specific strategy use also related to everyday strategy use. The findings extend past work on gender differences to show that women outperform men on an associative memory task but that this is unlikely to be due to self-reported differences in strategy use. The results suggest that self-reported strategy use