controls was significant only in a 1-tailed test (t(15)=-1.96, p=.034). In the nondominant language, converters showed a higher percent of Maze words compared to controls (2-tailed t (15) = 2.27, p = 0.039). Mazes combine repetitions, filled pauses, and revisions. Further exploration of Maze subcomponents revealed that filled pauses and revisions produced no differences between groups in either language (all ps³.18), but converters produced more repetitions (e.g., “the the boy” or “the cou-counter”) than controls, (2-tailed t-tests in both languages were significant; ps <.03). However, variability in repetitions was high, making it less sensitive in the ROC analysis.
Conclusions: Changes in bilinguals’ spoken language output occur years before diagnosis, in agreement with literature on monolinguals. However, in bilinguals, the two languages may be differentially affected by cognitive changes. The dominant language may be more sensitive for discriminating groups possibly reflecting semantic decline and decreased ability to quickly access a variety of words. But changes in the nondominant language reveal a broader nature of cognitive deficits in prodromal AD, including decreased circumlocution abilities to avoid disfluencies when faced with word-finding difficulties.

Categories: Dementia (Alzheimer's Disease)
Keyword 1: bilingualism/multilingualism
Keyword 2: dementia - Alzheimer's disease
Keyword 3: language
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16 Increased Financial Altruism is Associated with Alzheimer’s Disease Neurocognitive Profile in Older Adults

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Objective: Older age is associated with an increase in altruistic behaviors such as charitable giving. However, few studies have investigated the cognitive correlates of financial altruism in older adults. This study investigated the cognitive correlates of financial altruism measured using an altruistic choice paradigm in a community-based sample of older adults.

Participants and Methods: In the present study, a sample of older adults (N = 67; M age = 69.21, SD = 11.23; M education years = 15.97, SD = 2.51; 58.2% female; 71.6% Non-Hispanic White) completed a comprehensive neuropsychological assessment and an altruistic choice paradigm in which they made decisions about allocating money between themselves and an anonymous person.
Results: In multiple linear regression analyses that controlled for age, education, and sex, financial altruism was negatively associated with performance on cognitive measures typically sensitive to early Alzheimer’s Disease. These included CVLT-II Short Delay Free Recall (Beta=-0.26, p=0.03); CVLT-II Long Delay Cued Recall (Beta=-0.32, p=0.04), Craft Story 21 Delayed Recall (Beta=-0.32, p=0.01), and Animal Fluency (Beta=-0.27, p=0.02). Findings held when responses were grouped according to how much was given (Gave Equally, Gave More, Gave Less) for word list memory and story memory measures.
Conclusions: Findings of this study point to a negative relationship between financial altruism and cognitive functioning in older adults on measures known to be sensitive to Alzheimer’s Disease (AD). Findings also point to a potential link between financial exploitation risk and AD in older age.

Categories: Dementia (Alzheimer's Disease)
Keyword 1: cognitive functioning
Keyword 2: neurocognition
Keyword 3: activities of daily living
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17 Education Moderates the Association Between Hippocampal CBF and Memory in Women but Not Men

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https://doi.org/10.1017/S1355617723003363 Published online by Cambridge University Press

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Objective: Higher educational attainment is associated with reduced risk for Alzheimer's disease (AD) dementia, and its protective effect may act through alterations in cerebral blood flow (CBF) that allow for better coping with accumulating neuropathology. Additionally, there are sex differences in both the risk of developing AD as well as the potential protective effects of education. We therefore sought to investigate whether education moderates the association of hippocampal CBF and memory in cognitively unimpaired older adults, and to examine if these interactions were moderated by sex.
Participants and Methods: Cognitively unimpaired older adults from the Alzheimer's Disease Neuroimaging Initiative (ADNI; 51 men, 50 women) underwent neuropsychological evaluation and arterial spin labeling MRI, which was used to quantify bilateral hippocampal CBF. Sex was defined as sex at birth. Multiple linear regressions assessed (1) the independent associations among education, CBF, and memory performance separately in men and women and (2) the three-way interactions among CBF, sex, and education, followed by sex-stratified analyses. Three outcome measures were examined: Logical Memory Story A immediate and delayed recall, and Rey Auditory Verbal Learning Test (RAVLT) intrusions. All models adjusted for age and APOE epsilon-4 allele frequency, and all models with CBF additionally adjusted for cerebral metabolism (baseline FDG-PET composite) and pulse pressure.
Results: CBF was not associated with education or memory in either women or men. There was a positive association between education and delayed memory in women (β=0.14, t=2.64, p=0.008) as well as trending, positive associations between education and immediate memory in women (β=0.09, t=1.79, p=0.074) and education and delayed memory in men (β=0.09, t=1.94, p=0.054). Three-way interactions among sex, CBF, and education were significant on immediate recall (β=2.55, t=2.53, p=0.013), delayed recall (β=2.56, t=2.44, p=0.017), and RAVLT intrusions (β=-2.28, t=-2.27, p=0.026). In women, there were interactions between education and hippocampal CBF on both immediate (β=2.49, t=2.90, p=0.006) and delayed recall (β=2.30, t=2.78, p=0.009), such that as education increased, the strength of the association between CBF and immediate memory increased. There was also an interaction between education and hippocampal CBF on RAVLT intrusions in women (β=-2.42, t=-3.05, p=0.004), such that as education increased, the strength of the association between CBF and number of intrusions decreased; there was a main effect where in women with lower education, as CBF increased, the number of intrusions increased (β=0.76, t=2.59, p=0.032); in women with higher education, there was no association between CBF and intrusions. In men, none of these two-way interactions were significant.
Conclusions: These results suggest that, in cognitively unimpaired older women, the relationship between hippocampal CBF and memory is moderated by education level, even when adjusting for several other factors. Specifically, higher education may serve as a protective factor in the hippocampal CBF-memory relationship, and this relationship was sex-dependent, occurring in women only. Further research is needed to examine these relationships longitudinally across the clinical continuum of AD. Additionally, this work needs to be conducted in more diverse samples to allow for analyses investigating the impact of education on the intersection of race/ethnicity and sex/gender.

Categories: Dementia (Alzheimer's Disease)
Keyword 1: cerebral blood flow
Keyword 2: cognitive reserve
Keyword 3: dementia - Alzheimer's disease
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18 Illustrating Alzheimer's: The Role of Visuospatial Abilities in Figure Copying

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Objective: Due to the pathology of Alzheimer's disease (AD), it is not uncommon for patients to struggle with cognitive tasks involving figure copying. However, figure copying requires involvement from multiple other domains, including visuospatial and frontal-executive

https://doi.org/10.1017/S1355617723003363 Published online by Cambridge University Press