

mL/min/1.73m<sup>2</sup> (no participants with higher than stage 3)).

**Results:** Cross-sectionally, GFAP was associated with all outcomes ( $p$ -values<0.005) and NfL was associated with memory and AD-signature region cortical thickness ( $p$ -values<0.05). In *predictor x eGFR* interaction models, GFAP and NfL interacted with eGFR on AD-signature cortical thickness, ( $p$ -values<0.004) and Ab42 interacted with eGFR on tau, p-tau, and memory ( $p$ -values<0.03). Tau did not interact with eGFR. Stratified models across predictors showed that associations were stronger in individuals with better renal functioning and no significant associations were found in individuals with stage 3 CKD. Longitudinally, higher GFAP and NfL were associated with memory decline ( $p$ -values<0.001). In *predictor x eGFR x time* interaction models, GFAP and NfL interacted with eGFR on p-tau ( $p$ -values<0.04). Other models were nonsignificant. Stratified models showed that associations were significant only in individuals with no CKD/stage 1 CKD and were not significant in participants with stage 2 or 3 CKD.

**Conclusions:** In this community-based sample of older adults free of dementia, plasma biomarkers of AD/neurodegeneration were associated with AD-related clinical outcomes both cross-sectionally and longitudinally; however, these associations were modified by renal functioning with no associations in individuals with stage 3 CKD. These results highlight the value of blood-based biomarkers in individuals with healthy renal functioning and suggest caution in interpreting these biomarkers in individuals with mild to moderate CKD.

**Categories:** Dementia (Alzheimer's Disease)

**Keyword 1:** dementia - Alzheimer's disease

**Keyword 2:** transdisciplinary research

**Keyword 3:** medical disorders/illness

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## 15 Different Languages, Different Linguistic Markers: Predicting Which Bilinguals will Develop Alzheimer's Disease with Spontaneous Spoken Language

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**Objective:** Spontaneous speech undergoes subtle but significant changes years before the onset of Alzheimer's dementia (AD). In monolinguals, these changes, or linguistic markers of AD, include the use of syntactically simpler structures, reduced lexical diversity, reduced semantic detail/specificity, and increased disfluencies (Ostrand & Gunstad, 2020; Slegers et al., 2018; Venneri et al., 2018). No studies have examined if bilinguals exhibit similar changes in their language output prior to diagnosis of AD though this question has important clinical relevance and can also shed light on which cognitive abilities decline first with AD pathology. Of particular interest, changes in semantic representations might affect both languages (because semantics are shared between the two), but changes in executive control might be more prominent in the nondominant language (because of interference from the dominant language).

**Participants and Methods:** Seventeen older Spanish-English bilinguals completed an interview in which they described a picture in each language and answered a series of questions beginning with "warm-up" questions and progressing to questions that elicited higher level language (e.g., defending an opinion). All participants were considered cognitively healthy at the time of testing, but 8 participants later developed Alzheimer's Disease (i.e., converters) on average after 4.1 (SD=2.5) years, while 9 matched controls remained cognitively healthy on average for 5.7 (SD=3.6) years (for as long as they were followed). Converters and controls were matched for age, education, language proficiency, and cognitive status at the time of testing. Language samples were transcribed word for word and analyzed using the Systematic Analysis of Language (Miller & Iglesias, 2012).

**Results:** Converters and controls were compared on measures of syntactic complexity, lexical diversity, abandoned utterances, errors, and disfluencies. In the dominant language, the number of different words (using a moving window average; a measure of lexical diversity), showed promise for classifying who would eventually convert (Area Under the Curve = .77), though the difference between converters and

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  $ps^3 > .18$ ), but converters produced more repetitions (e.g., “the the boy” or “the 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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