## **Table 2**: Comparison between DSI across all modalities (DSI\_all), and the ATN summary metrics (hippocampal volumes, amyloid burden, and tau index) with respect to association with the composite cognitive scores (memory, executive functioning, and language). β represents the slope and p represents the p-value for linear regression, adjusted for age and sex. r represents the Pearson correlation coefficient.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Cognitive domain** | **ADNI-ADS** | | | **ADRC-ADS** | | |
| **β** | **p** | **r** | **β** | **p** | **r** |
| DSI\_all | Memory | - 0.65 | p < 0.001 | **- 0.62** | - 0.71 | p < 0.001 | **- 0.68** |
| Executive | - 0.46 | p < 0.001 | **- 0.54** | - 0.52 | p < 0.001 | **- 0.56** |
| Language | - 0.39 | p < 0.001 | **- 0.47** | - 0.36 | p < 0.001 | **- 0.41** |
| DSI\_mri | Memory | - 0.05 | p < 0.001 | - 0.34 | - 0.12 | p < 0.001 | - 0.42 |
| Executive | - 0.02 | p < 0.001 | - 0.25 | - 0.025 | p < 0.001 | - 0.24 |
| Language | - 0.03 | p < 0.001 | - 0.27 | - 0.045 | p < 0.001 | - 0.29 |
| DSI\_amyloid | Memory | - 0.54 | p < 0.001 | - 0.32 | - 0.48 | p < 0.001 | - 0.62 |
| Executive | -0.36 | p < 0.001 | - 0.25 | - 0.44 | p < 0.001 | - 0.41 |
| Language | - 0.33 | p < 0.001 | - 0.21 | - 0.39 | p < 0.001 | - 0.39 |
| DSI\_tau | Memory | - 1.1 | p < 0.001 | - 0.51 | - 0.85 | p < 0.001 | - 0.49 |
| Executive | - 0.79 | p < 0.001 | - 0.46 | - 0.85 | p < 0.001 | - 0.51 |
| Language | - 0.73 | p < 0.001 | - 0.37 | - 0.72 | p < 0.001 | - 0.39 |