

Activities of daily living and their neural correlates across the Alzheimer’s disease continuum: evidence from a Latin American cohort

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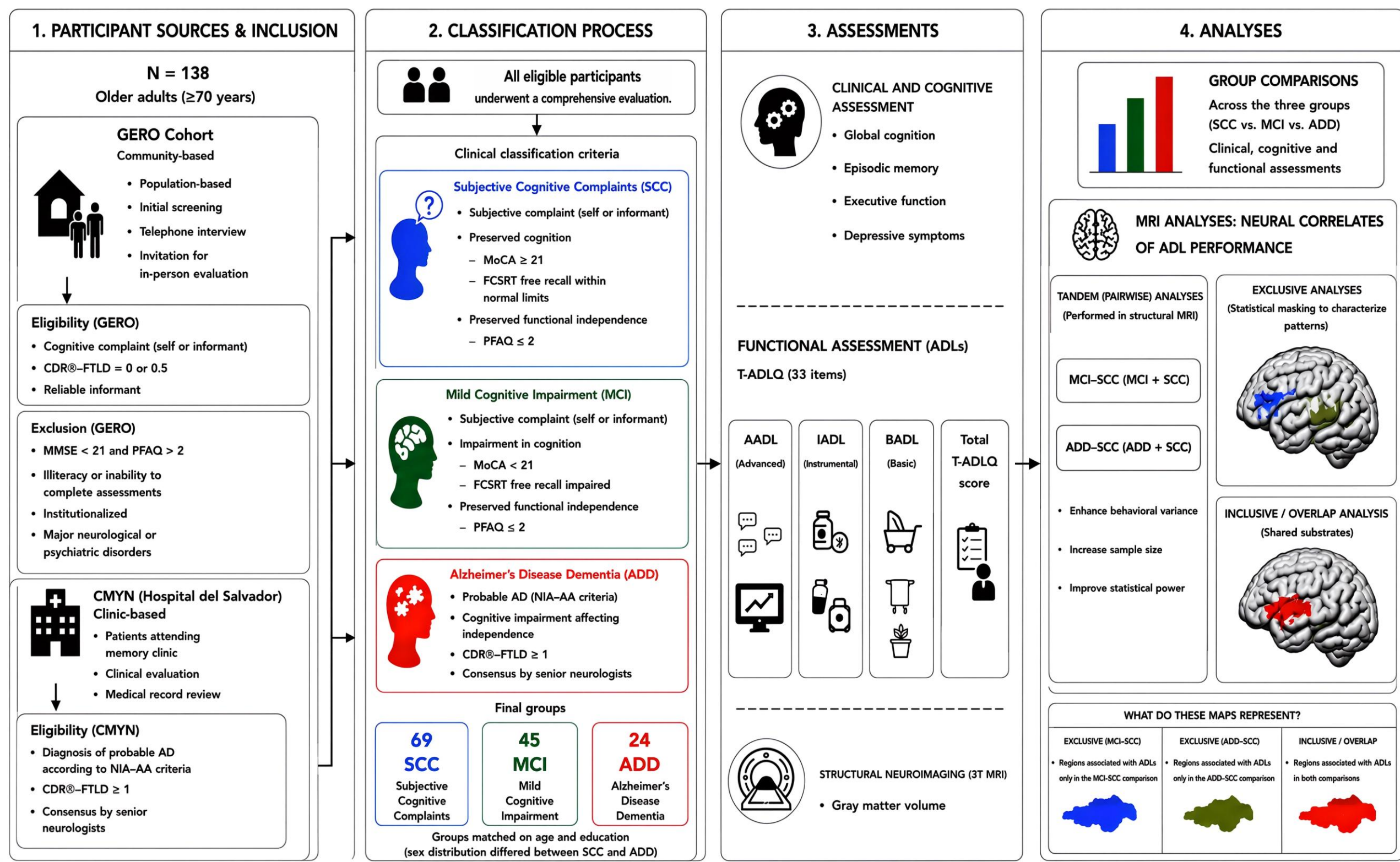
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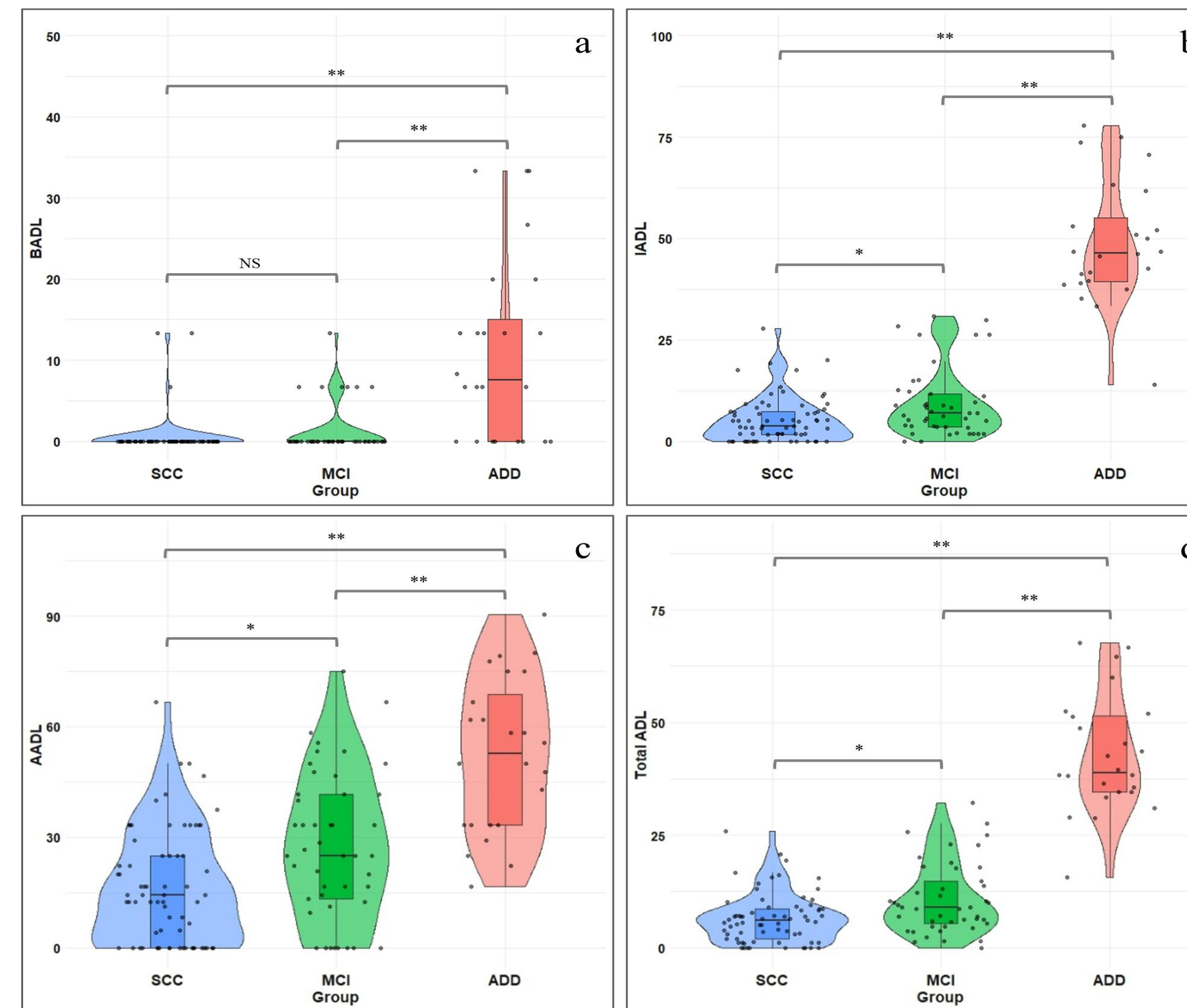
Alzheimer’s disease (AD) is characterized by progressive cognitive and functional decline across a continuum from subjective cognitive complaints (SCC) to mild cognitive impairment (MCI) and Alzheimer’s disease dementia (ADD). Activities of daily living (ADL), a key component of clinical assessment in AD, are commonly organized into a hierarchical set of domains of increasing complexity: basic (BADL), instrumental (IADL), and advanced (AADL). Comprehensive assessments encompassing all ADL domains across the disease continuum remain limited, and neuroanatomical findings related to ADL decline are heterogeneous across domains and disease stages, particularly in underrepresented Latin American populations.

AIM: To characterize ADL performance according to level of complexity across the AD continuum and explore its association with brain atrophy.



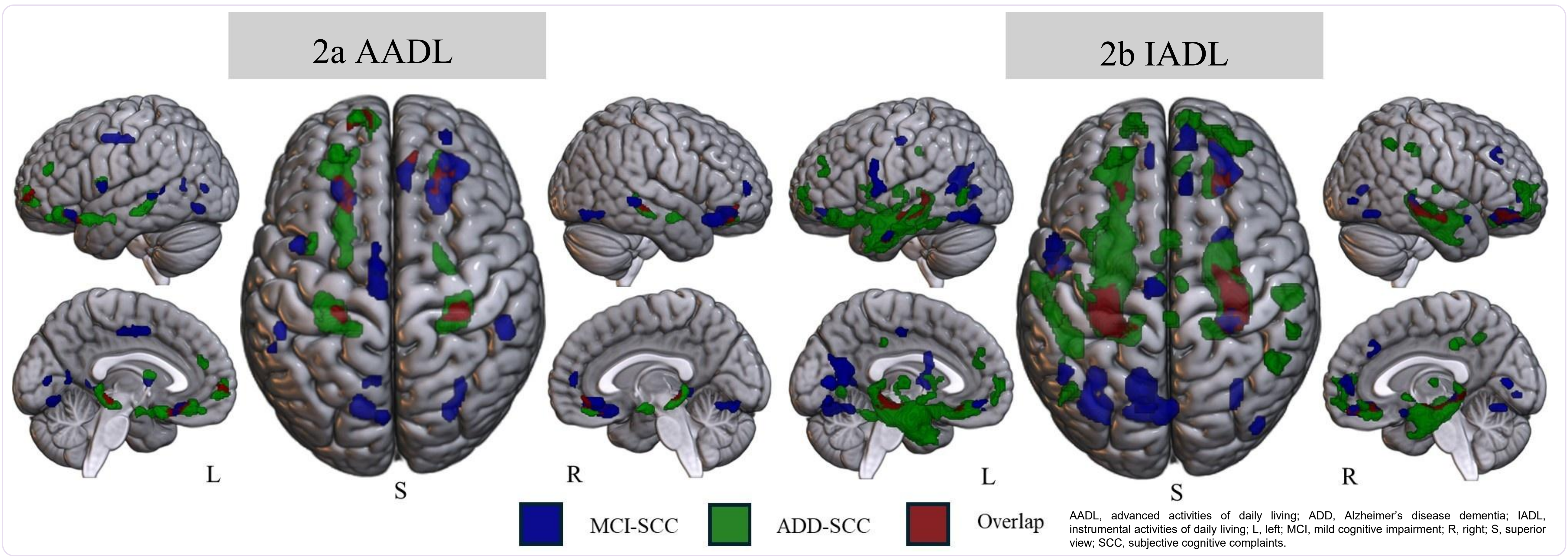
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Figure 1. Total and domain-specific T-ADLQ scores



(A) BADL, (B) IADL, (C) AADL, (D) total ADL. ** $p < 0.001$; * $p < 0.05$. $n = 138$ (69 = SCC; 45 = MCI; 24 = ADD). AADL, advanced activities of daily living; ADD, Alzheimer’s disease dementia; ADL, activities of daily living; BADL, basic activities of daily living; IADL, instrumental activities of daily living; MCI, mild cognitive impairment; NS, non-significant differences; SCC, subjective cognitive complaints.

Figure 2. Exclusive and overlapping patterns between tandem groups by ADL domain



05 CONCLUSION

- Stratifying ADL by complexity provides a sensitive and clinically meaningful framework to characterize functional changes across the Alzheimer’s disease continuum.
- Structural neuroimaging revealed stage-dependent and shared anatomical correlates of ADL decline, supporting the earlier involvement of complex activities.
- These findings support multidimensional ADL assessment as a promising approach for improving clinical characterization and research across the AD continuum, particularly in underrepresented Latin American populations. Future biomarker and longitudinal studies are warranted to refine patient stratification and validate disease trajectories.

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