

Brain Health Prediction in Older Adults via Digital Speech Biomarkers

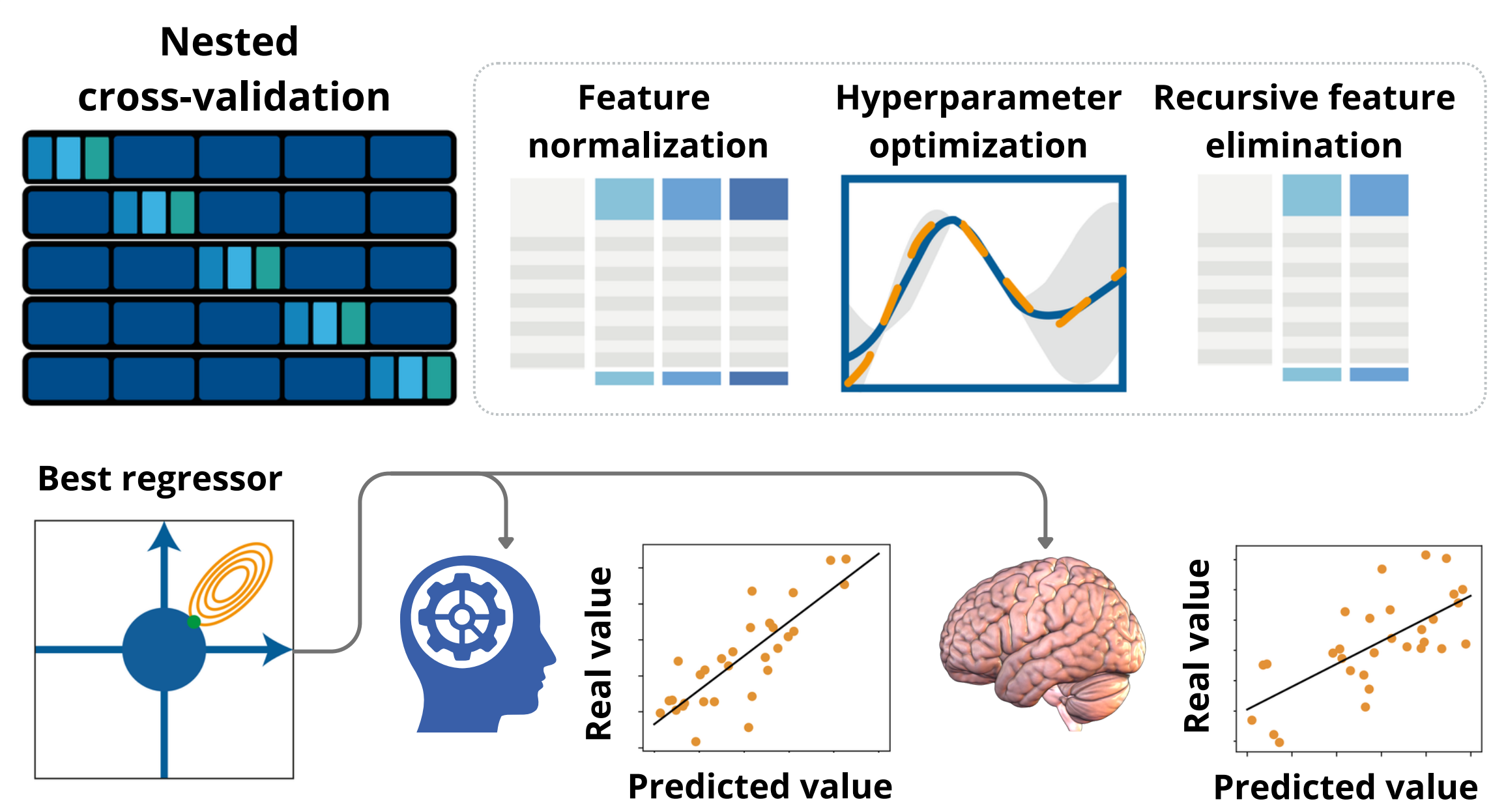
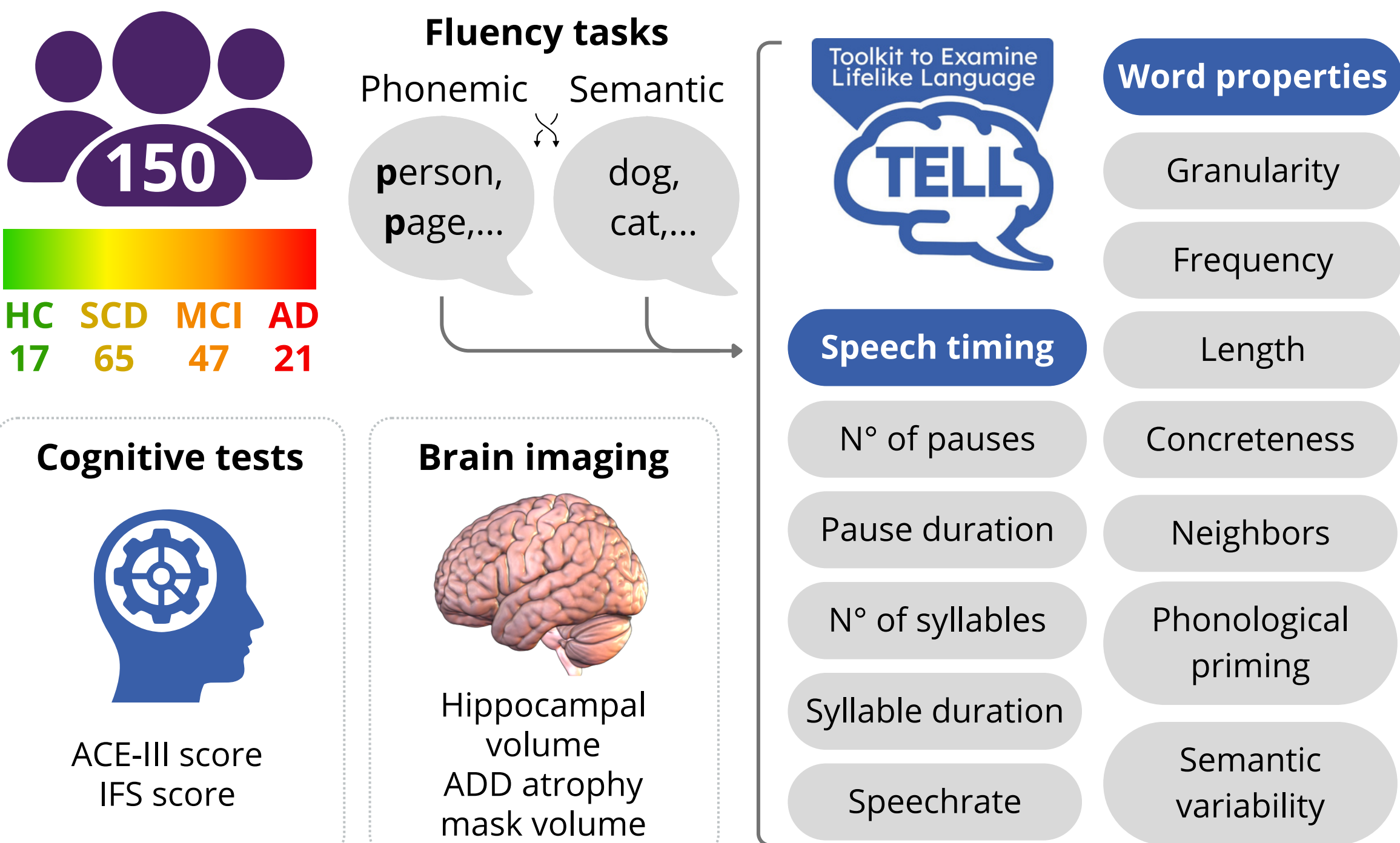
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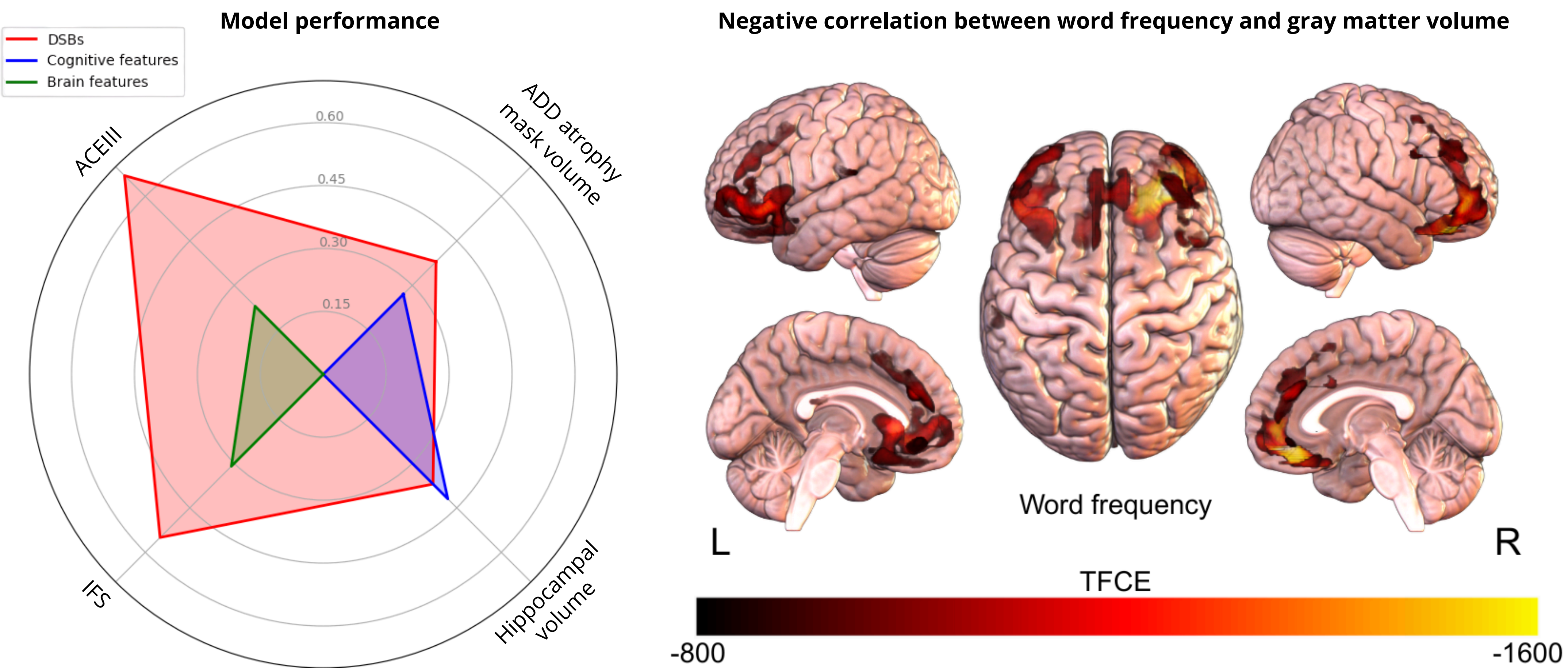
1. Background

Increased life expectancy worldwide has been accompanied by a rising prevalence of age-related neurocognitive conditions. These occur along a continuum, encompassing subjective cognitive decline (SCD), mild cognitive impairment (MCI), and Alzheimer's disease dementia (ADD), and are commonly evaluated using cognitive and neuroimaging measures.¹ These approaches are costly and require specialized personnel or resources that are scarce in many regions. Digital speech biomarkers (DSBs)² offer an affordable, scalable alternative.^{3,4} To date, however, no study has leveraged DSBs to predict neuropsychological and brain measures across this continuum. Here we tackle this gap focusing on Spanish-speaking Latinos.

2. Methods



3. Results



4. Conclusion

These results suggest that DSBs can serve as scalable markers of cognitive and brain health in older Spanish-speaking Latino adults. They appear to capture clinically meaningful variation in both cognitive performance and neurodegeneration-sensitive brain outcomes. Future studies should validate DSBs in longitudinal cohorts and test their implementation in primary care settings.

5. References

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