

Detecting semantic variant primary progressive aphasia in Latinos via digital word property markers

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Introduction

Verbal fluency tasks capture semantic memory impairments in general ¹, and particularly in people with semantic variant primary progressive aphasia (svPPA) ². However, standard word count scoring is effortful, coarse, and often inconsistent, limiting reliability, applicability, and cross-study comparability. Evidence from English-speaking cohorts suggests that these limitations are overcome with digital word property analysis ³. **Yet, this approach has not been tested in Spanish-speaking Latinos with svPPA, an underserved, high-risk population with dire need of scalable testing tools. Here, we tackle this gap.**

Methods

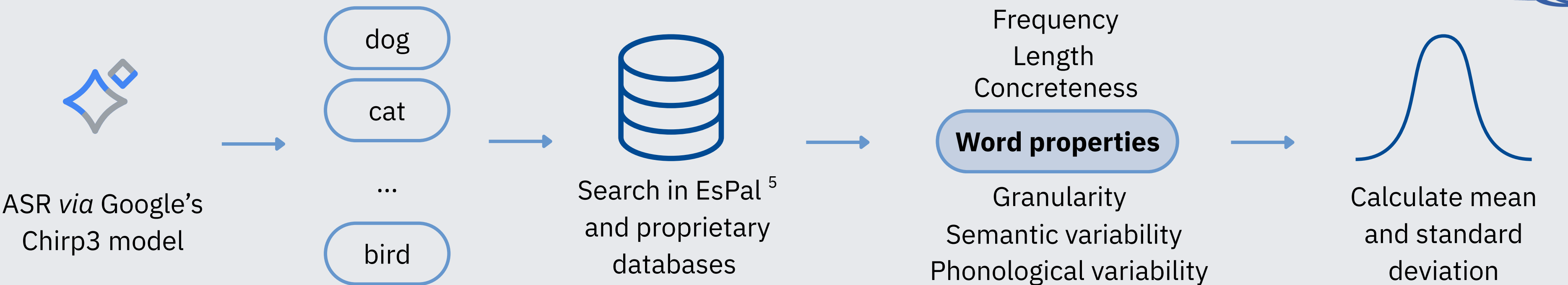
A. Participants

- 45 Latinos w/ svPPA
- 50 matched controls

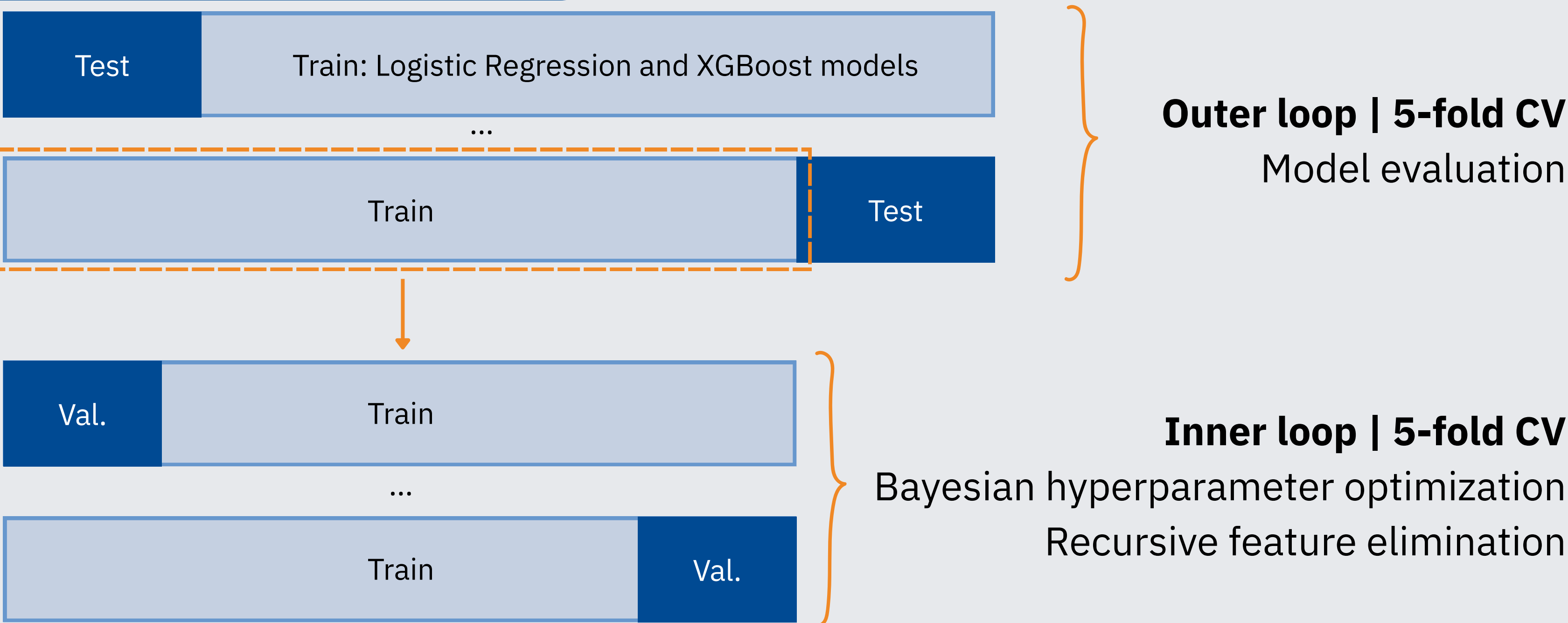
B. Verbal fluency task



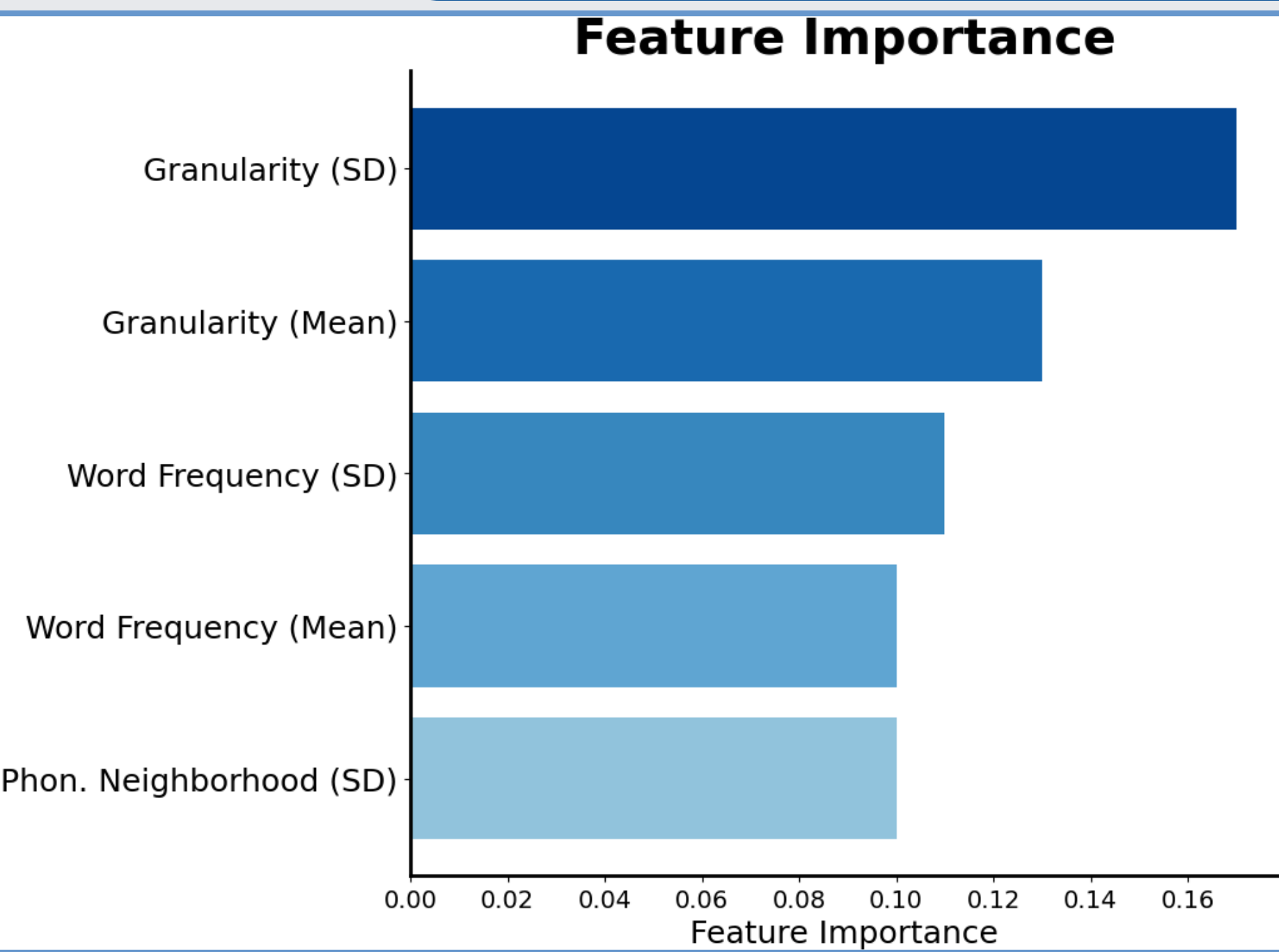
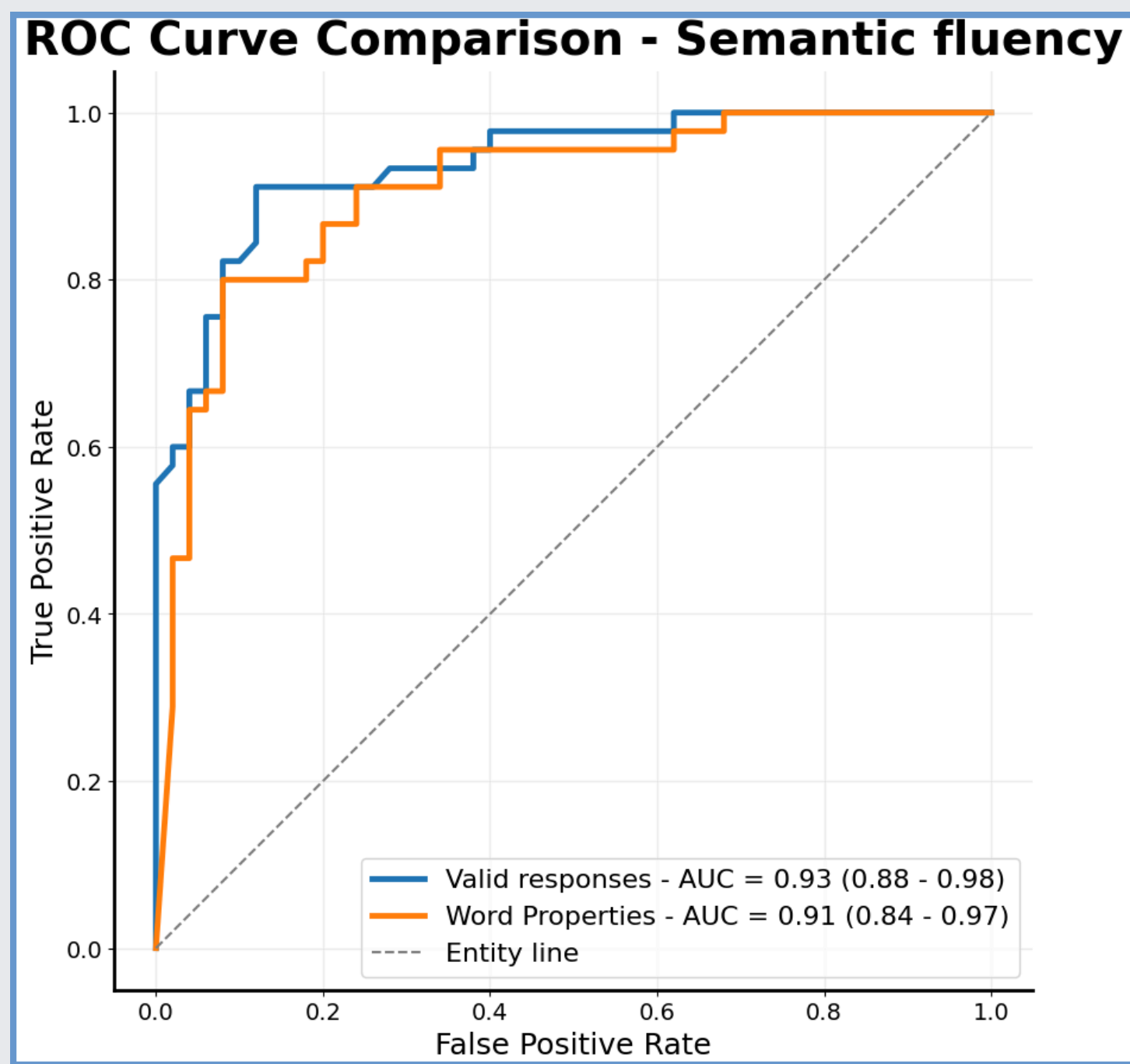
C. Automated word property extraction via Toolkit to Examine Lifelike Language (TELL) ⁴



Data analysis



Results



Conclusions

- Automated word property analysis of semantic fluency tasks supports svPPA detection in Spanish-speaking Latinos, arguably capturing degraded semantic memory search skills.
- Relative to standard scoring, this analysis enables deeper phenotyping without compromising performance, contributing to objective, efficient, and scalable clinical assessments.
- Tools like TELL can help assess hard-to-reach patients. Further work on underserved languages and populations is warranted to enhance global equity in healthcare.

References

- De Marco, M. *et al. Neuropsychology Review* 35, 644-687 (2025).
- Van den Berg, E. *et al. Applied Neuropsychology: Adult* 31, 669-677 (2024).
- Vonk, J. M. J. *et al. Alzheimer's & Dementia* 22, e71124 (2026).
- García, A. M. *et al. Dementia & Geriatric Cognitive Disorders* 54, 95-208 (2025).
- Duchon, A. *et al. Behavior Research Methods* 45, 1246-1258 (2013).

Let's connect!

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My info

Our lab

Funding

Fogarty International Center, NIH/NIA: R01 AG057234, R01 AG075775, R01 AG21051, R01 AG083799, 2P01AG019724, CARDS-NIH; Alzheimer's Association: SG-20-725707; Rainwater Charitable Foundation/Bluefield Project; GBHI; ANID/FONDECYT Regular: 1250091, 1210176, 1220995, 1250317; ANID/PIA/ANILLOS: ACT210096; JPI JPND-Care: DISCERN 2025; ANID/FONDEF: ID20110152; ANID/FONDAP: 15150012; Wellcome Trust: 335293/Z/25/Z; Wellcome Leap CARE: CARE-2025-0883490149; Horizon Europe/MSCA: ClICBrain 101236426, DOI 10.3030/101236426; ANPCyT: 01-PICTE-2022-05-00103; and grant PID2024-1606640B-I00, funded by MICIU/AEI/10.13039/501100011033 and by the ESF+.