Mi casa es tu posá: Exploring the bilingual mental lexicon in speakers of Spanish and Palenquero

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Background

- Strong evidence for language nonselective bilingual lexical access regardless of context, similarity, and modality (Van Hell & Tanner, 2012)
- Psycholinguistic research is typically conducted in laboratory settings with WEIRD populations, limiting generalizability (Muthukrishna et al., 2020)
- Palenquero: Afro-Hispanic creole language spoken in San Basilio de Palenque, Colombia, in tandem with its lexifier language, Spanish (Lipski, 2019)

Are Spanish and Palenquero co-active in bilingual word recognition?

Methods

Bilingual Spanish-Palenquero participants

Category	Mean	SD	Minimum	Maximum
Age				
Age at testing	32.21	8.86	19.00	53.00
Spanish AoA	0.42	1.69	0.00	10.00
Palenquero AoA	3.08	3.90	0.00	10.00
Interlocutors				
Both Spanish and Palenquero	0.64	0.34	0.00	1.00
Spanish only	0.29	0.29	0.00	1.00
Palenquero only	0.07	0.13	0.00	0.55

Category	*N*
Gender	
Man	13
Woman	25
Level of education	
Secondary	13
Some undergraduate	4
Undergraduate	20
Graduate	1

Auditory mixed-language lexical decision tasks in Spanish and Palenquero

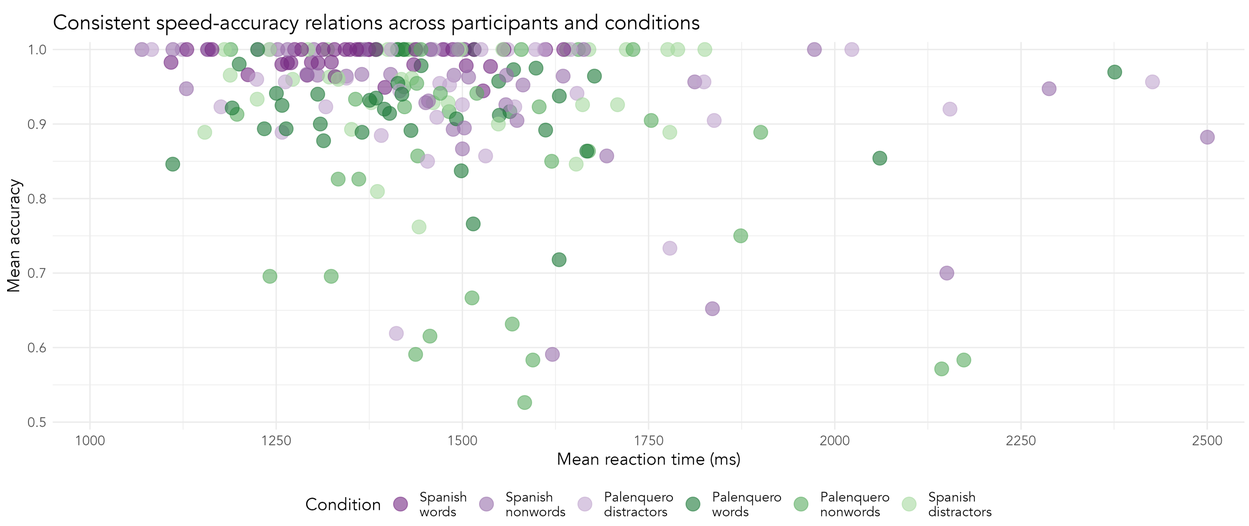
Language type	Word type	Correct response	Trials per task	Spanish task examples	Palenquero task examples
Target	Real word	Yes	60	arroz (*rice*)	aló (*rice*)
Target	Nonword	No	30	hofa (hoja/*leaf*)	kogó (fogó/*stove*)
Distractor	Real word	No	30	piangulí (*pig*)	cerdo (*pig*)

Analysis approach

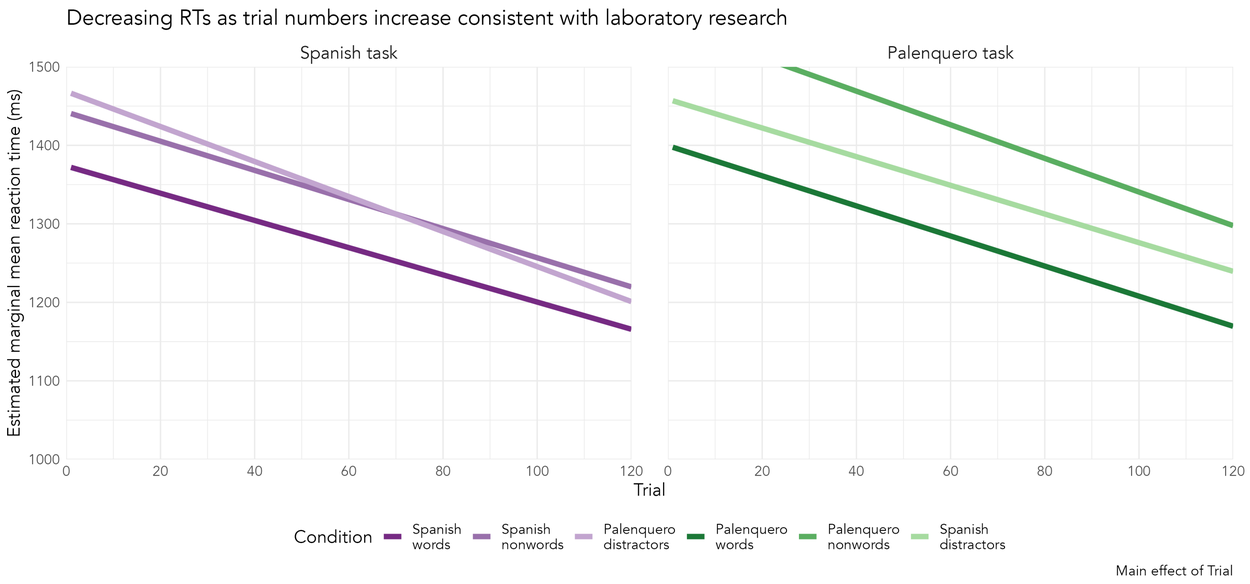
Variables						Models	
Independent					Dependent	Effects	
Condition							
Contrast1	Contrast2	Task	Task Order	Trial	Measure	Fixed	Random
Real = 2/3, Nonword = -1/3, Distractor = -1/3	Real = 0, Nonword = 1/2, Distractor = -1/2	Spanish = 1/2, Palenquero = -1/2	Spanish = 1/2, Palenquero = -1/2	Mean-centered (Trial - Mean(Trial))	Accuracy = Binary (0,1)	Contrast1*Task + Contrast2*Task	(1|Item) + (1|Participant)
					RT = Inverse (RT*1/-1000)	Contrast1*Task + Contrast2*Task + Order + Trial	(1|Item) + (Contrast1:Task + Contrast2 + Task|Participant)

Results

Overall auditory lexical decision performance

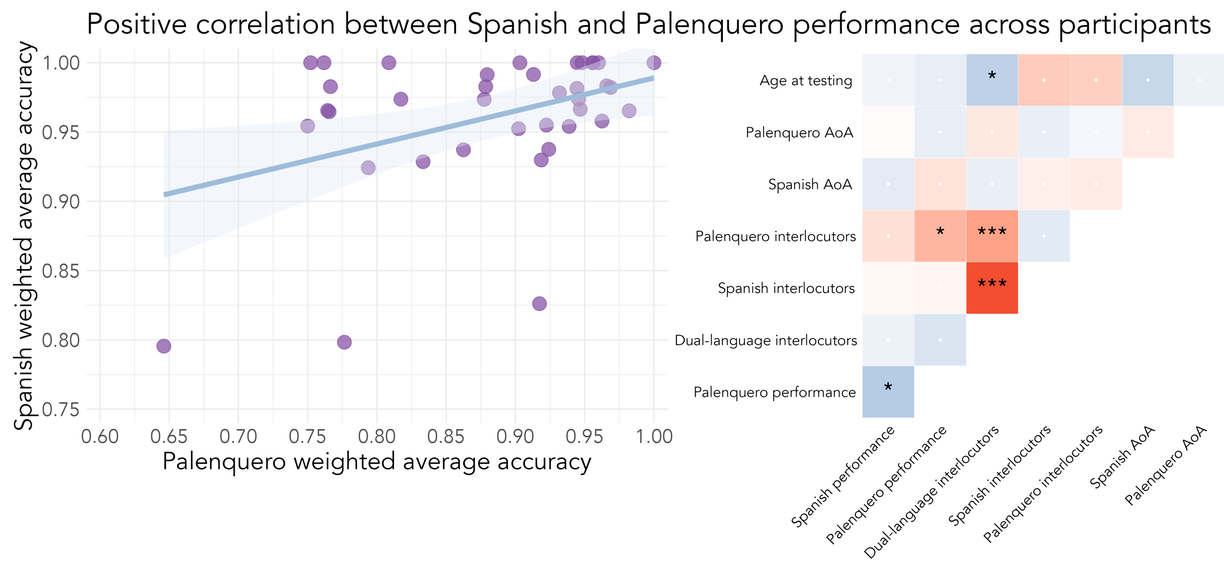


Change in performance over time



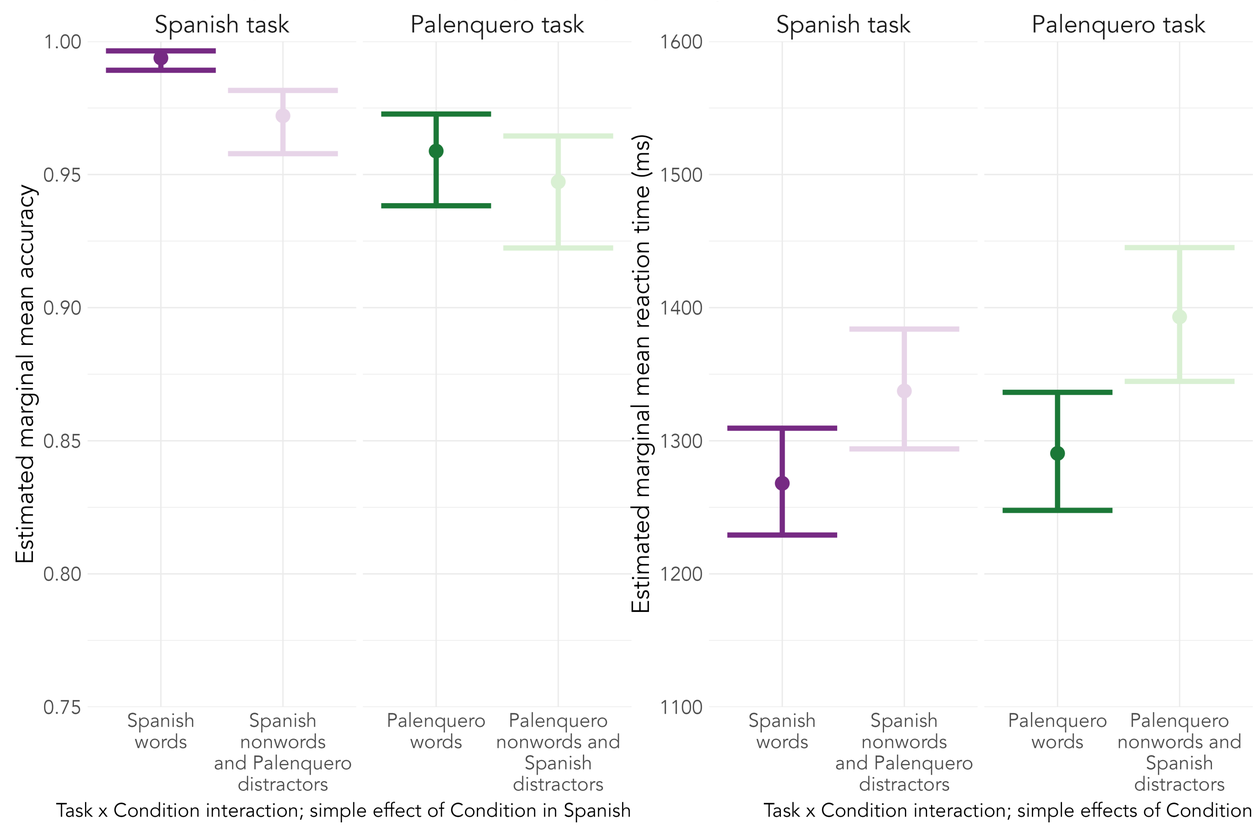
Main effect of Trial

Comparison of average performance in each language



Lexicality effect

Faster RTs for "yes" versus "no" responses consistent with laboratory research:
Effects on accuracy restricted to stronger language (Spanish)

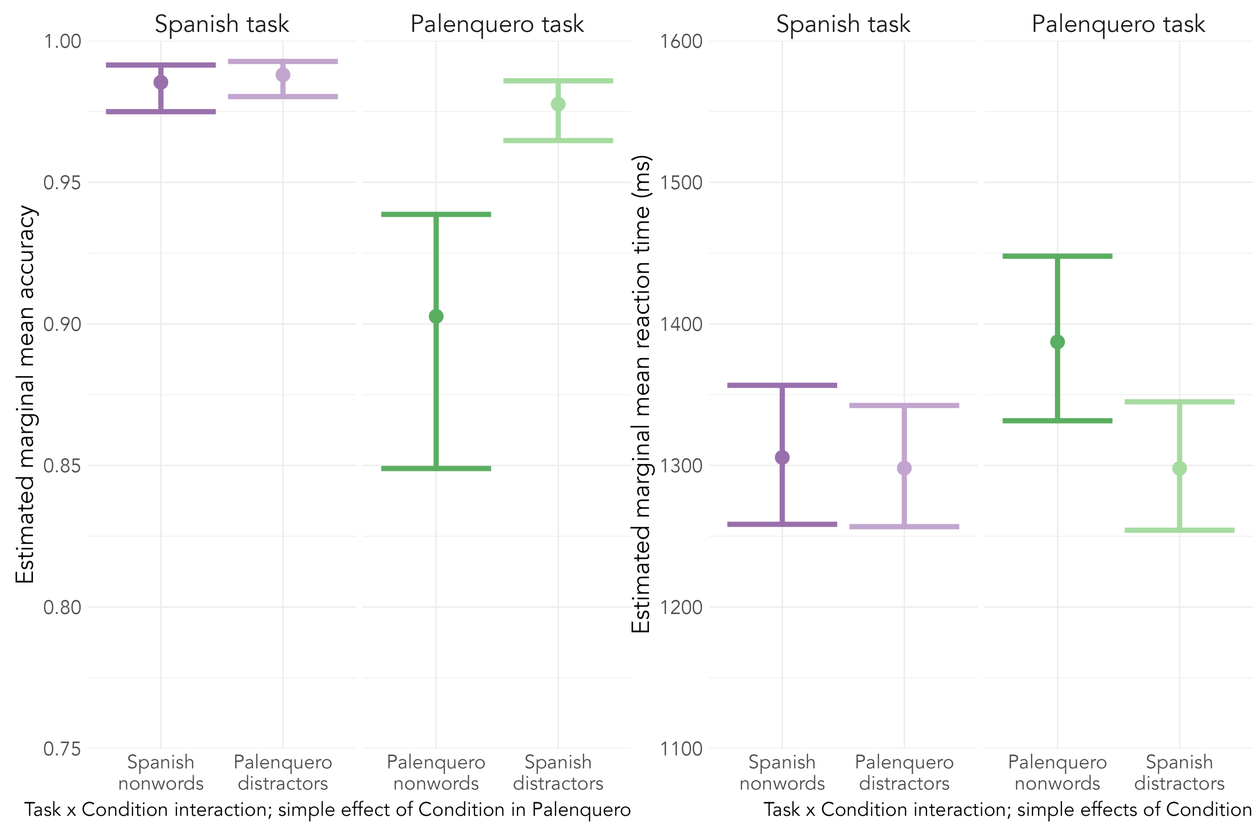


Task x Condition interaction; simple effect of Condition in Spanish

Task x Condition interaction; simple effects of Condition

Cross-language activation

Faster RTs for distractors versus nonwords suggests language co-activation:
Effects on accuracy restricted to weaker language (Palenquero)



Task x Condition interaction; simple effect of Condition in Palenquero

Task x Condition interaction; simple effects of Condition

Conclusions

- Evidence for co-activation of Spanish and Palenquero during bilingual word recognition: Faster RTs for distractors than nonwords
- Effect of relative proficiency: Spanish as non-target language induced stronger co-activation effects with Palenquero as target language than vice-versa (*see* BIA+ model, Dijkstra & Van Heuven, 2002)
- Translating labwork into fieldwork is crucial for testing psycholinguistic theory: Earlier findings of cross-language activation extend to contact languages in community settings

References and acknowledgements

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