Bilingual Recognition Memory in a High-Overlap System: Translation Costs and Orthographic Dominance

Tonia Williams (tonia.williams@psy.ox.ac.uk) [1], Sonali Nag[2], Kate Nation[1]
[1]Department of Experimental Psychology. [2]
University of Oxford, Department of Education, University of Oxford

Background: The Bilingual Interactive Activation Plus (BIA+) model predicts co-activation of both languages during word recognition, while encoding specificity predicts better retrieval when encoding and test contexts match [1,2]. We test these predictions in Jamaican Patois–English bilinguals, a population characterised by pervasive cross-language form overlap and English-dominant literacy experience [3,4].
Method: Patois–English bilingual adults 18-25 years (n = 44) and children 9-11 years (n = 59) completed a lexical decision encoding task followed by an old/new recognition test. Encoding language (Patois vs. English), translation status at test (same-language vs. translated), and cognate status (nonidentical cognate vs. noncognate) were manipulated within participants. Accuracy and RT were analysed using mixed-effects models.
Results: English-encoded items were recognised more accurately and faster than Patois-encoded items. Translation reduced recognition overall, but effects differed developmentally. Adults showed translation costs across both encoding languages, especially for English-encoded items. In contrast, children showed a translation benefit for Patois-encoded items in accuracy. RT showed consistent translation costs across age groups without the developmental crossover observed in accuracy. Cognate status produced no reliable effects on accuracy or RT.
Discussion: These findings suggest that bilingual recognition memory in a high-overlap system is shaped primarily by translation costs and orthographic dominance. English-encoded items showed a significant memory advantage across groups, consistent with greater literacy exposure and more stable orthographic representations in English. Translation effects further differed developmentally. Cross-language overlap facilitated retrieval for children in some conditions but impaired retrieval for adults, indicating that the consequences of overlap change as lexical representations become more differentiated. The absence of cognate facilitation suggests that cross-language similarity may cease to provide an advantage when overlap characterises the lexicon as a whole. Together, the findings suggest that bilingual recognition memory in creole-lexifier systems is shaped by overlap structure and literacy asymmetry.

References

[1] Dijkstra, T., & van Heuven, W. J. B. (2002). The architecture of the bilingual word recognition system: From identification to decision. *Bilingualism: Language and Cognition, 5*(3), 175–197. https://doi.org/10.1017/S1366728902003012

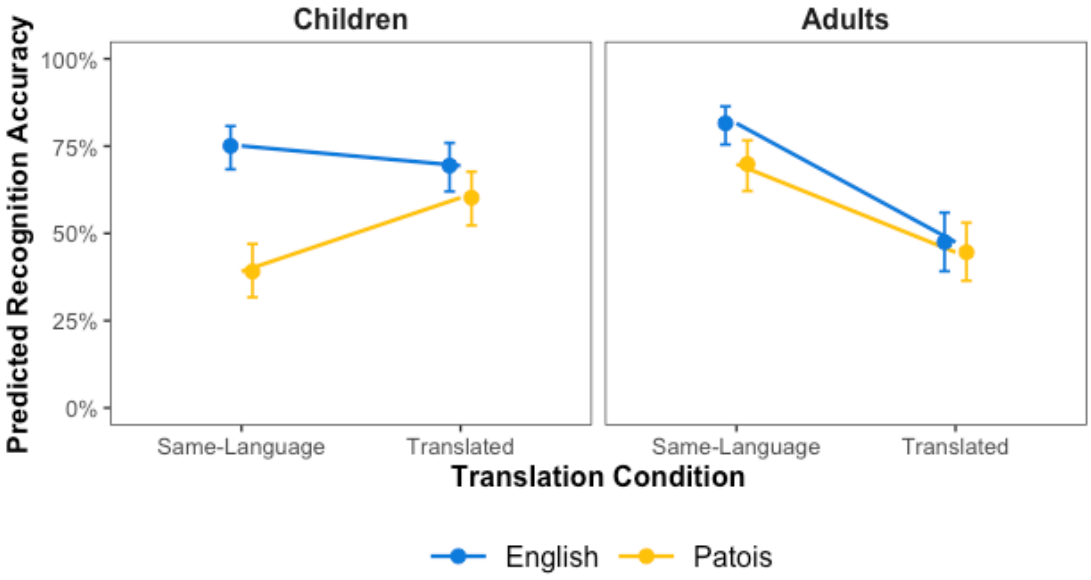
[2] Tulving, E., & Thomson, D. M. (1973). Encoding specificity and retrieval processes in episodic memory. *Psychological Review, 80*(5), 352–373. https://doi.org/10.1037/h0020071

[3] Devonish, H., & Harry, O. (2008). Jamaican Creole and Jamaican English: Phonology. In B. Kortmann & E. Schneider (Eds.), *The Americas and the Caribbean* (pp. 256–289). De Gruyter Mouton. https://doi.org/10.1515/9783110208405.1.256

[4] Irvine, A. (2008). Contrast and convergence in Standard Jamaican English: The phonological architecture of the standard in an ideologically bidialectal community. *World Englishes, 27*, 9–25. https://doi.org/10.1111/j.1467-971X.2008.00533.x

Figures and Tables

Figure 1: Recognition accuracy reveals English encoding advantages and developmental differences in translation costs in Patois-English bilinguals.



Optional Supplemental Information

Jamaican Patois (Patwa) is an English-lexified creole spoken alongside Jamaican Standard English in everyday communication. The two systems share substantial lexical and phonological overlap but differ systematically in phonology, morphosyntax, and pragmatic usage [3,4].

Speakers commonly code-mix across varieties. Unlike Jamaican Standard English, however, Jamaican Patois has no fully standardized orthography and is encountered relatively infrequently in formal literacy contexts, although it is widely used in informal written communication. Participants' written language exposure was therefore predominantly in English.

Stimulus spellings were selected from web-scraped materials, cultural and linguistic sources, then verified through a norming procedure assessing recognition and acceptability.

Table S1: Example Stimulus Categories

Stimulus Type	**Patois**	**English**
Nonidentical Cognate	likkle	little
Noncognate	nyam	eat
Identical Cognate	mango	mango