

SPELLING IN AN OPAQUE SECOND LANGUAGE: EVIDENCE FROM SPANISH-ENGLISH BILINGUALS

Olivia Molina-Nieto (1, 3), Eugenia Navarra-Barindelli (1), Clara Martin (1, 2) and Candice Frances (1)

(1) BCBL, Basque Center on Cognition, Brain and Language, Donostia, Spain; (2) Ikerbasque, Basque Foundation for Science, Bilbao, Spain; (3) Prifysgol Bangor, Wales



INTRODUCTION

Native speakers of English and biscriptal bilinguals are influenced by **phonotactic, graphotactic, and frequency rules**, as well as the spelling of **phonological neighbours**. When two languages share an alphabet, there may be some competition between the rules of each. This is even more complex if the **phoneme-to-grapheme correspondence** differs between languages, especially when one is **transparent** and the other is **opaque**. In this study, we tested whether **Spanish-English bilinguals** are affected by the same phonotactic, graphotactic, and frequency rules as natives and biscriptal bilinguals. We also tested whether phonological neighbourhood had an effect on pseudoword spelling, as well as the **influence of the transparent L1**.

QUESTIONS

Q1: Are bilinguals affected by the **graphotactic** and **phonotactic** constraints of their second language? What if both languages share the same spelling system?

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Q2: Are bilinguals affected by the spelling of **phonological neighbours** in their L2? In fact, do neighbours affect spelling in English **beyond priming**?

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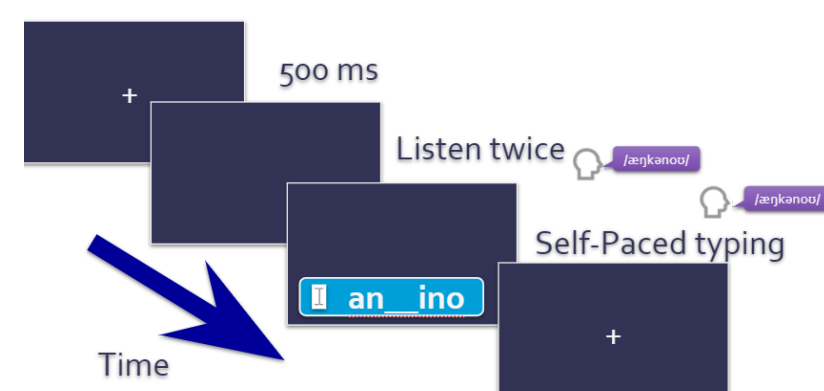
Q3: Do **phonological rules** and **neighbour spellings** interact? Which one prevails?

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What is the **role of the L1 (Spanish)** play in each of these cases?

PROCEDURE

- Spanish-English bilinguals (N = 24) - Min. score 40 in BEST and 60% in LexTALE
- Fill-in-the-blank spelling task: *how would you spell that word?*
- 520 pseudowords - 3 experiments - intermixed



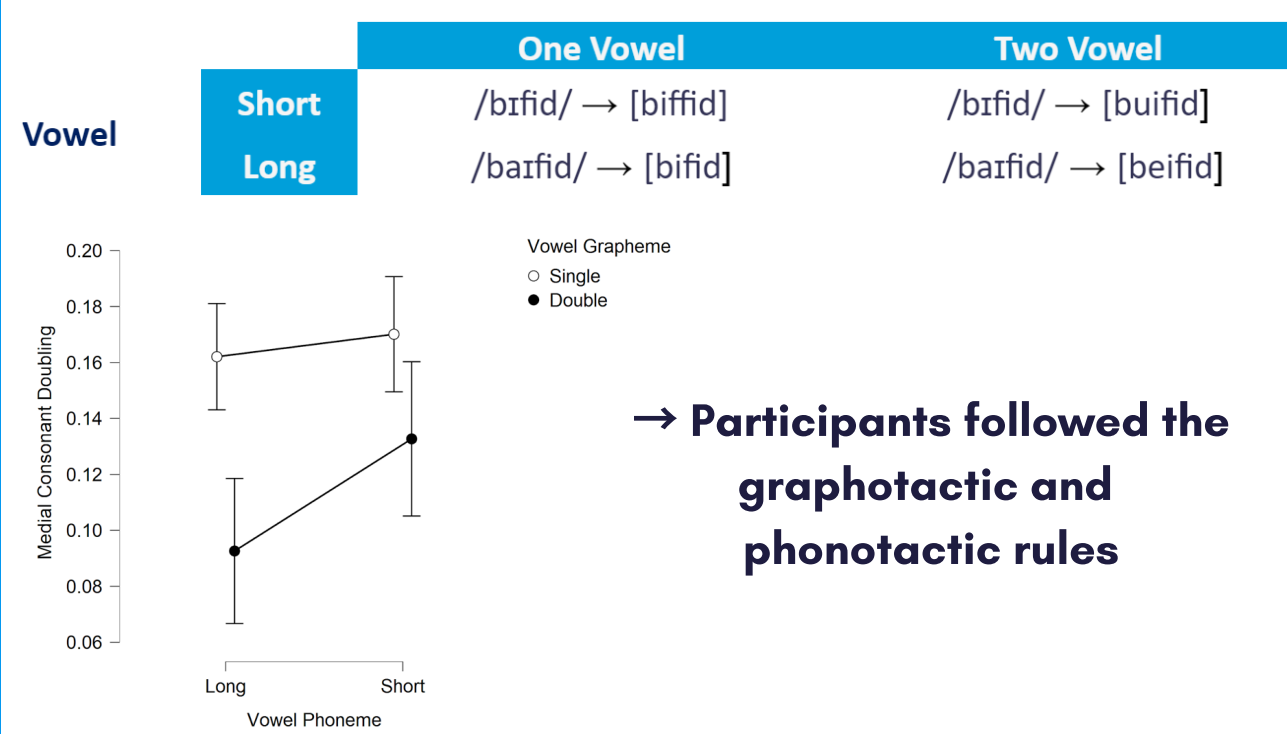
REFERENCES

Treiman, R., & Wolter, S. (2018). Phonological and graphotactic influences on spellers' decisions about consonant doubling. *Memory and Cognition*, 46(4), 614-624. <https://doi.org/10.3758/s13421-018-0793-9>

Yin, L., Joshi, R. M., Li, D., & Kim, S. K. (2020). Decisions about consonant doubling among non-native speakers of English: graphotactic and phonological influences. *Reading and Writing*, 33(7), 1839-1858. <https://doi.org/10.1007/s11145-020-10017-5>

Contact: lvm18xfd@bangor.ac.uk

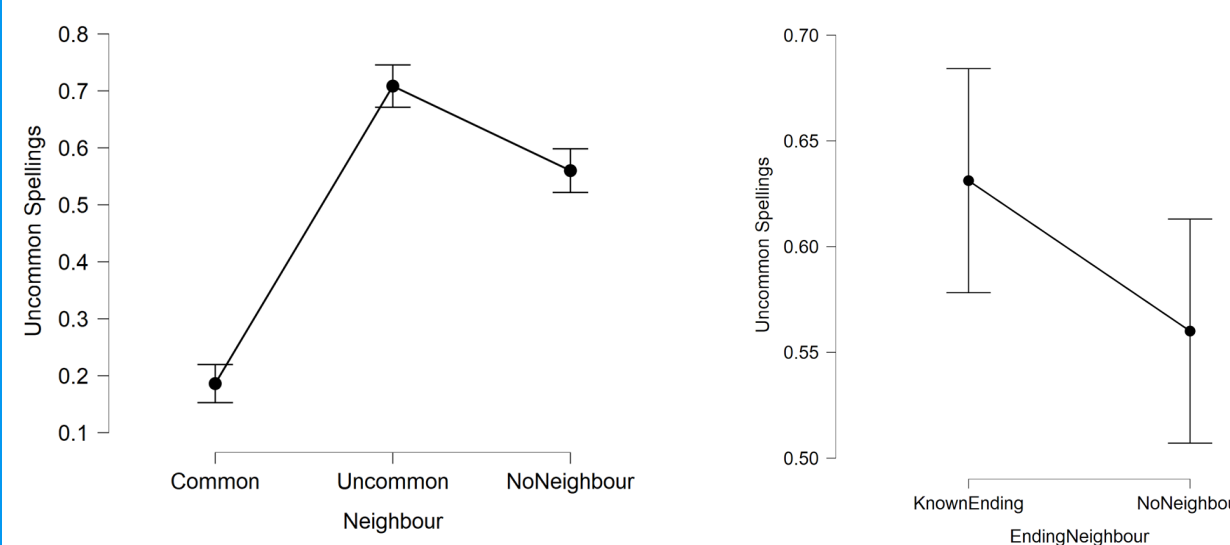
EXPERIMENT 1 Graphotactics & Phonotactics



EXPERIMENT 2 Phonological Neighbours

No neighbor	Common	Uncommon
/fɪzɪfɪt/	(from defeat) /dɪfɪk/	(from morphine) /mɔːrʃɪn/
No Neighbour & No Ending	No Neighbour & Established Ending	
/fɪzɪfɪt/	/dɪfɪk/ (from defeat)	

→ Spanish-English bilinguals were affected by phonological neighbours beyond priming



DISCUSSION

- Replicated previous results in new population
- Evidence of neighbourhood effect beyond priming in bilinguals
- Preliminary evidence of neighbourhood or frequency effects on smaller morphological units
- Inconclusive results on phonotactic rule for L1 influence doublets
 - “Illegal” consonants get inverted?
 - Need to control for other factors (e.g., endings that affect doubling)

CONCLUSION

Spanish-English bilinguals of a transparent L1 and an opaque L2 with the same script...

- follow the same graphotactic and phonotactic rules as native speakers and biscriptal bilinguals for spelling medial consonants
- they do so in spite of the misalignment between the phoneme-to-grapheme representations of the same characters
- show that their first language interacts with foreign norms: they are more likely to use doublets that exist in their L1
- show preliminary evidence that they are more affected by visual cues than by auditory cues: the effects of phonological neighbourhood are the most consistent and pervasive

EXPERIMENT 3 Phonotactics & Phonological Neighbour Spelling

→ Participants are affected by phonological neighbours spellings for medial consonant doubling

→ Participants were more likely to use doublets that exist in their L1

→ Legal consonants seem to follow phonotactic rules, but illegal consonants do not

→ All consonants were affected by neighbour doubling, but especially LL&RR when their neighbour contained a doublet

Phonotactic rule	Neighbor number of consonants	
	Single	Double
Short	minute /mɪnət/	dinner /dɪnəp/
Long	comic /kəmɪp/	common /kəməm/

