

## Plasticity in the vowel productions of Galician-Spanish bilinguals: An examination of the effects of dual language switch

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The speech patterns of our native language are never entirely static and constantly undergo change (e.g., Harrington, 2006). This is particularly pertinent in bilinguals where change may arise from the interaction of different sound systems. However, it is still unclear what role early language exposure plays in speech development, and how resistant early speech patterns are to subsequent change. Moreover, we do not yet know under what conditions native speech patterns having undergone change can be recovered via subsequent extensive language use.

The present study aimed to address these issues by examining the mid vowel productions of two groups of adult Galician-Spanish bilinguals from Vigo, Galicia: (1) *Spanish-Dominant (SD) bilinguals* (n=10), and (2) *Dual Switch (DS) bilinguals* (n=9). The SD bilinguals grew up in entirely Spanish-speaking homes, acquired Galician via mainstream education, and rarely use Galician in everyday interactions. In contrast, the DS bilinguals had extensive early experience with Galician in the home, but subsequently switched almost entirely to Spanish when entering mainstream education. In late adolescence/ adulthood, however, they switched back to Galician for ideological reasons, and since then have been using Galician as their main language of everyday interactions.

To examine how linguistic experience affected the participants' speech patterns, a picture-naming task was carried out that aimed to elicit multiple words containing mid vowels in Galician and Spanish. Mid vowels were chosen because they differ cross-linguistically, with Galician containing a front and a back vowel contrast, i.e. /e-ɛ/ and /o-ɔ/, while Spanish only distinguishes a single mid front and mid back vowel. In total, 1097 vowel tokens were extracted from the word productions and analysed in terms of F1 and F2. Bark-normalised data were then fed into a series of linear mixed-effects regression models in R.

The results revealed no difference in normalised F1 and F2 across the front and back vowel categories. These patterns not only held for the SD bilinguals, for whom neutralisation of the Galician contrasts was expected, but also, surprisingly, for the DS bilinguals, even though previous work had shown that Galician-dominant bilinguals from Vigo maintained the Galician contrasts (Amengual & Chamorro, 2016). This finding suggests that early exposure to a minority language may be a necessary condition for the acquisition of certain language-specific speech patterns, but that maintaining these may require continued extensive experience with the language, and that extensive language use at a later stage may not be sufficient to (re)learn them.

### References

- Amengual, M. & Chamorro, P. (2016). The effects of language dominance in the perception and production of the Galician mid vowel contrasts. *Phonetica*, 72, 207-236.
- Harrington, J. (2006). An acoustic analysis of 'happy-tensing' in the Queen's Christmas broadcasts. *Journal of Phonetics*, 34, 439-457.