

Cross-linguistic influence on vowels of Salento Italian-French bilinguals

We examine the native language (L1) and the second language (L2) of adult Italians from Salento living in the Paris region (i.e., Salento Italian-French Bilinguals, hereafter B). Authors have already studied phonetic L2-L1 and L1-L2 influence, but few have addressed both the L1 and L2 of the same group of adult bilinguals, and the adult bilinguals whose L1 or L2 is not English. This study fills these gaps by focusing on French (L2) and Salento Italian (L1) mid vowels (/e/, /ɛ/, /o/, /ɔ/) in the speech of B and comparing them with those produced in L1 by two control groups: Italians living in Salento and the French living in the Paris region. Since the distinction between open and close mid vowels lacks in Salento Italian, but not in French, based on the Speech Learning Model, we hypothesize that:

- (H1) The L1 and L2 mid vowels of B will influence each other. This will lead the B to inaccurate production of the L2 mid vowels (i.e., not equal to that of the French controls), and to production not equal to that of the Italian controls of the L1 mid vowels.
- (H2) The B will differ in the inaccuracy of their L2 mid vowels and in the extent of L2 influence on their L1 mid vowel as they vary in L2 experience (here assessed through multiple variables, e.g., Length Of Residence in France - LOR, L1 and L2 use in various contexts: home, work).

The speech was elicited by pictures corresponding to phonologically similar words in Italian and French (e.g., /tete/ and /pɔz/ in French, /tɛsta/ and /poza/ in Italian). A word X, shown on the PC screen, was produced by speakers in the carrier sentence 1) 'I say X', 2) 'I put X next to Y. I moved X' to describe the way the experimenter was moving X. The recordings of the L1 and L2 of 15 B (9M, 6F; mean age = 41.13 y.o.; SD = 10.39, mean LOR = 14.4 years, SD = 9) and the L1 of 15 Italian and 15 French controls were orthographically transcribed. Automatic labelling and segmentation were corrected manually in PRAAT where the vowel F1 and F2 were measured; their values were normalised in R.

Regarding H1, the comparison of the speech of B *versus* those of controls by linear mixed-effects models shows the B differ significantly from French controls in their F1 of /ɛ/, /e/ and /o/, and F2 of /e/, /ɔ/ and /o/ suggesting an incomplete acquisition of these L2 vowels by B, interpretable as L1-L2 influence. However, L1 vowels of B and Italian controls do not differ significantly meaning no L2-L1 influence. Testing H2 by multiple linear regression models shows a significant result only for the use of French at home which predicts F2 of /e/ and F1 of /ɔ/ meaning that the more a speaker uses French at home, the more accurate his/her pronunciation of French /e/ and /ɔ/ is. Thus, H1 and H2 are only partially confirmed.