Gender in Toronto Heritage Spanish

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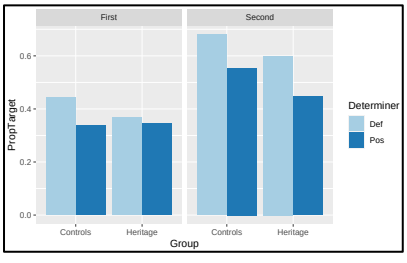
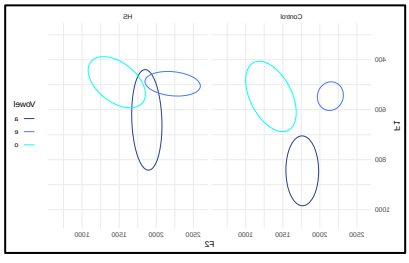
We examine grammatical gender in the Spanish spoken in Toronto. Spanish gender partitions nouns into two morphological classes, which agree with other nominal categories. A high frequency of nouns expresses gender predictably, through word-final unstressed /a o/ vowels. These vowels undergo mergers and centralization in heritage Spanish-English speakers – HS- (Menke 2010; Mazzaro et al. 2016). Monolingual children attribute gender primarily based on the phonological characteristics of nouns (Culberstone et al. 2019) and acquire gender quite early. In contrast, HSs make gender errors in school years and into adulthood (Montrul & Potowski 2007; Pérez-Leroux et al. 2023). Gender has a functional effect: child and adult monolinguals show anticipatory effects on noun selection when the preceding determiner expresses gender but results for child and adult bilinguals are less clear (Lew-Williams & Fernald 2007; Baron et al 2022). Few studies simultaneously consider the impact of bilingualism on the phonological and grammatical systems, except for two studies based on corpus data, which showed that bilingualism impacts gender and vowel realization (Colantoni et al. 2020; Pérez Leroux et al. 2023). Thus, we test the hypothesis that HSs' patterns of word final vowel realization introduce "incipient changes" in the input (Scontras et al. 2015), that may trigger systemic changes in gender marking in bilinguals. We focus on whether the presence of bilingual effects in syntactic processing (absence of facilitation from the gender-marked article) in HSs is predicted from patterns of vowel reduction.

To achieve this goal, we tested adult Spanish speakers with early or late exposure to English. Early bilinguals (n=11) were HSs of Spanish either born in the US/Canada or moved to the US/Canada before the age of 11. Late bilinguals (n=17) were born in a Spanish-speaking country and emigrated to Canada after the age of 11. Participants performed two tasks. The picture naming task determined whether participants were familiar with the words used in the eye-tracking experiment and provided production data of unstressed /a e o/ vowels (F1-F2 extracted from 243 tokens per participant). In the eye-tracking task, participants saw three images controlled for gender (target, gender competitor, distractor) followed by an unspliced audio prompt. Trials were counterbalanced across participants for type of determiner (definite vs. possessive). Gaze patterns were recorded with a Tobii Pro Fusion eye-tracker at 120 Hz. We extracted the proportion of gaze fixations to target at two temporal windows (W 1= noun onset to noun offset; W 2= noun offset+ 300 ms.). We expected that late bilinguals would have a retrieval advantage in both Window 1 (effect of determiner) and Window 2 (effect of noun ending).

Preliminary results of a linear mixed effects model with type of determiner and group as independent factors revealed that only the intercept was significant at W 1 (ß=0.41; SE= 0.02; t=16.01; p<.001), i.e., late bilinguals in trials with the definite determiner have a higher proportion of looks to target than HS. At W 2, both factors were significant, suggesting that HS have fewer fixations to target than controls ß=-0.08; SE= 0.02; t=-3.35; p=.001), and that trials with possessives yield a lower fixation to target than those with definite determiners (ß=-0.13; SE= 0.03; t=-0.37; p<.001). Late bilinguals' performance in the eye-tracking test is consistent with their vowel production patterns, since, as opposed to HSs, they do not show signs of overlap in the production of word-final /a e o/. Results, thus, suggest that morphology (i.e., type of determiner) and dispersion in the vocalic space may interact in shaping the gender agreement system in heritage bilinguals.





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