Geminate consonant production across three generations of Farsi-English-speaking Iranian-Canadian bilinguals
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Consonant length in Farsi/Persian has been reported as phonologically contrastive (e.g., Hansen, 2004; Rafat, 2010), for example [aj] ‘carat’ contrasts with [aj:ar] ‘brave’. Although attrition in the perception of geminate consonants has been investigated by Celata & Cancila (2010), it has not been examined in the production of bilingual immigrant communities. This study will investigate geminate production across three Farsi-English bilingual generations, namely, first, second and 1.5 Farsi-English-speaking generations (e.g. Rumbaut, 2004) in Toronto.

Eleven participants whose ages ranged from 30-66 took part in the study. The first generation participants consisted of two balanced bilinguals and a Farsi-dominant bilingual, born in Iran. The 1.5 generation participants were two English-dominant bilinguals and one balanced bilingual, born in Iran. Their ages of arrival varied from 5-13. The second generation participants were two English-dominant bilinguals, born in Toronto. The controls were three monolingual Farsi-speakers born in Iran. All participants completed a word-naming task in Farsi and a background questionnaire. Geminate and singleton duration was measured for sonorants (e.g., /m,n,l,r,j/), fricatives (e.g., /s, z, h/) and obstruents (e.g., /p,t,k,b,d,q,\textipa{tʃ},\textipa{dʒ}/).

The preliminary acoustic analysis of 2463 tokens from the word-naming task suggests that the length contrast was categorically maintained in the first generation bilinguals, but not in the 1.5 and second generation groups. Moreover, when the data was collapsed across phonemes the following hierarchy was established with respect to the overall mean duration, where consonant mean duration decreased from left to right: control group (159ms) > first generation immigrants (150ms) > second generation (126ms) > 1.5 generation (118ms) groups. While the difference between the control group and the first generation group was not significant ($p=0.981$), the results yielded a significant difference between the control group and the 1.5 generation ($p=0.037$) and the control group and the second generation ($p=0.02$). Between-phoneme comparisons were also conducted and another hierarchy with respect to 'class of sounds' was established, where degemination was more likely from left to right in the 1.5 and second generations: Sonorants > fricatives > obstruents. That the factor 'class of sounds' is a good predictor of degemination has also been reported in the acquisition of Italian geminate consonants by German, English, and Mandarin learners (e.g, Sorianello, 2014). This hierarchy is also consistent with degemination patterns across the languages of the world (e.g., Blevins, 2004; Podesva 2002; Steriade, 1982; Taylor, 1985). Previously, phonetic factors such as perceptual salience and articulatory difficulty have been proposed to constrain geminate consonant production in the context of L2 phonological acquisition (e.g., Sorianello, 2014) and markedness patterns in the languages of the world (e.g., Blevins, 2004; Podesva 2002; Steriade, 1982; Taylor, 1985). We therefore propose that phonetic factors also condition degemination/sound change/attrition in language contact situations.

In conclusion, this study is important because (a) by providing new data, it adds empirical contribution to the dearth body of evidence on phonological loss in bilingual speakers and (b) it furthers our understanding of degemination/sound change in language contact situations by
drawing parallels with patterns observed in second language phonological acquisition of geminate consonants and degemination patterns in the languages of the word.

References


