

## *The epenthetic vowel in Persian loanwords*

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**Background:** Persian is a language which blocks word-initial consonant clusters (Jabbari & Samavarchi, 2011). For this reason, an epenthetic vowel [e] is added to the beginning of loanwords which start with a consonant cluster in Persian as in (1a-b). Previous findings in other languages suggest that epenthetic vowels in loanwords have different phonetic properties (e.g. vowel length or formant values) compared to the vowel available in native words (Uffman, 2006; Steriade, 2001).

(1) a. stadium → estâdiyom

b. standard → estândârd

Phonetically, it has been observed that epenthetic vowels in loanwords have different properties from the original vowels in the target language such that they are shorter or less salient (Steriade, 2001 among others). In addition, it is acknowledged that speakers' knowledge of phonetic and phonological systems of the source language can affect the adaptation of loanwords into the target language (Chang, 2008). Thus, it is expected that the length of the epenthetic vowel [e] in loanwords to be different for bilinguals and monolinguals.

**Present Study:** The main aim of this study is to explore (i) whether the length of the epenthetic vowel [e] in Persian loanwords is different from that of the Persian original vowel [e] and (ii) whether the length of the epenthetic vowel is the same in Persian monolinguals and Persian-English bilinguals.

**Materials and Procedure:** A group of 20 Persian monolinguals and 20 English-Persian bilinguals are recruited to read 30 experimental and 103 filler items while their voice is recorded and analyzed in Praat (Boersma 2001). The reading list includes 15 Persian loanwords with an epenthetic vowel [e] in the initial position (e.g. *estâdiyom* 'stadium') and 15 Persian native words beginning with [est] sequence (e.g. *estaxr* 'swimming pool'). All words are read in the same context a carrier sentence as in (2).

(2) Babak [estâdiyom/ estaxr]      râ    dus    dâr-ad  
Babak stadium/ swimming pool OBJ like have-3Sg  
'Babak likes the stadium/swimming pool.'

All data are analyzed in R (R Core Team 2013) using the linear mixed effect modelling method, with the word type and speaker group as fixed effect factors and items and participants as random effect factors. Word Type (Native vs. Loanword) and Speaker Group (Monolingual vs. Bilingual) function as the independent variables, while the dependent measure is the vowel length.

**Results:** The result of the first part of the study reveals that Persian monolinguals produce the word-initial vowel [e] in Persian native words (Mean = 95ms) significantly longer than the epenthetic vowel [e] in loanwords (Mean = 87ms) (p-value=0.0074 \*\*).

**Discussion and Future Directions:** So far, the result of this study is in line with previous findings suggesting that speakers of a language produce lexical and epenthetic vowels differently, with epenthetic vowels being shorter (Davidson & Stone, 2003 in English; Widdison, 2004 in Spanish; Gouskova & Hall, 2009 in Arabic among others). The result of the bilingual group will also shed light on how bilingual speakers produce loanwords in a language differently from their monolingual counterparts.

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