

# A Cross Linguistic Examination of Geminate Consonant Attrition

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## What is attrition?

“A loss or gradual decline in the proficiency of the L1 mainly caused by an interference from a second language (Schmid & Kopke, 2007).

## This study

- We explored the phenomenon of language attrition (Schmid & Kooke, 2007, Celata & Cancilla, 2010; Chang, 2012; De Leeuw, Tusha, & Schmid, 2017).
- Explored acoustic properties of consonant gemination across three groups: monolinguals, late bilinguals, and heritage speakers.

## Predictions

- Geminate durational properties will change in Italian-English and Arabic-English bilinguals living in the United States. Specifically, these sounds will become shorter across generations.
- Universal phonetic factors will determine the degree of geminate change across generations (the extent to which this happens may depend on the specific language)

## Procedure

- Language background questionnaire
- Delayed word repetition task (Bassetti, 2017)

## Stimuli

**Italian-English:** 60 bi-syllabic/tri-syllabic Italian minimal and near minimal pair.

/zitti/ “pasta”  
/ziti/ “quiet”

**Stops: /b,d,t,k,g,p/**

**Arabic-English:** 60 bi-syllabic/tri-syllabic Arabic minimal and near minimal pair.

/sadaq/ “he said the truth”  
/sad:aq/ “he approved”

**Stops: /b,d,t,k,g,p/**

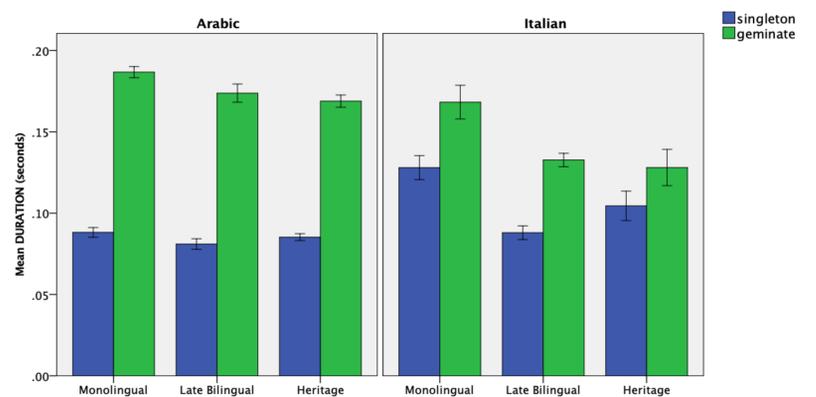
## Participants

### Italian-English

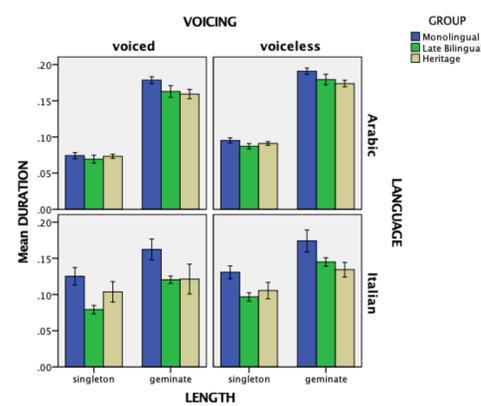
- 4x **Monolingual** Italian speakers control (Native)
- 5x **First Generation** immigrated to U.S. after puberty (late bilinguals)
- 4x **Second Generation** born in the U.S. (Heritage)
- Age: 19-24; Mean age: 24

### Arabic-English

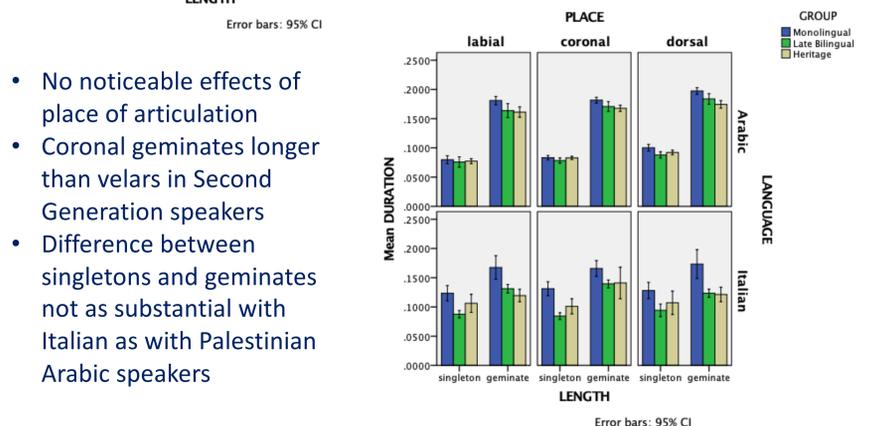
- 5x **Monolingual** Arabic speakers control (Native)
- 4x **First Generation**
- 7x **Second Generation**
- Age: 20-45; Mean age: 25



- For Arabic speakers, geminates were significantly shorter for heritage and late bilingual speakers compared to monolinguals.
- The same pattern was observed with Italian speakers, but the difference from monolinguals was more pronounced.



- The Control group had the longest values (expected)
- Similar behavior for First and Second Generations
- Voiceless stops are longer than voiced ones ATB



- No noticeable effects of place of articulation
- Coronal geminates longer than velars in Second Generation speakers
- Difference between singletons and geminates not as substantial with Italian as with Palestinian Arabic speakers

## Conclusion

Language contact leads to phonological change

Significant main effects of group, voicing, and consonant type were found on duration

Geminate attrition is real, but not very clear differences between First and Second generation bilinguals