

A Socio-phonetic Study of Pharyngealisation in Syrian Arabic: Gender and Regional Differences

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1. Introduction

- The plain vs. pharyngealised distinction, which is reflected in VOT and F1-F2 values, is phonologically conditioned in that it yields a phonemic distinction in Arabic. However, extra-linguistic factors such as **gender** and **region** have been found to have an effect on this distinction.
- In most studies, the acoustic correlates of pharyngealisation were stronger for Males than for Females (Khan, 1975; Khattab, 2006).
- In terms of dialects, Bedouin dialects show more evidence of pharyngealisation than Levantine dialects (Bellem, 2007).

So, does Syrian Arabic follow these patterns of gender and regional differences?
No: compared to Jordanian Arabic results.

2. Aims

- This study:
- investigates gender and regional effects on the **production** and **classification** of pharyngealised segments in Syrian Arabic.
 - examines personal native intuition about Aleppians' extensive use of the pharyngeal area by comparing it to Damascenes'.

3. Method

Speakers	Damascus	Aleppo
Male	2	2
Female	2	2

Data: 18 minimal pairs repeated twice within the carrier phrase:

ʔiʃ/ ju: bis'i:r ʔiza s'arax ... bs'o:t ʃeʃ/ ʃa:ʃi
"what happens if he shouted ... loudly"

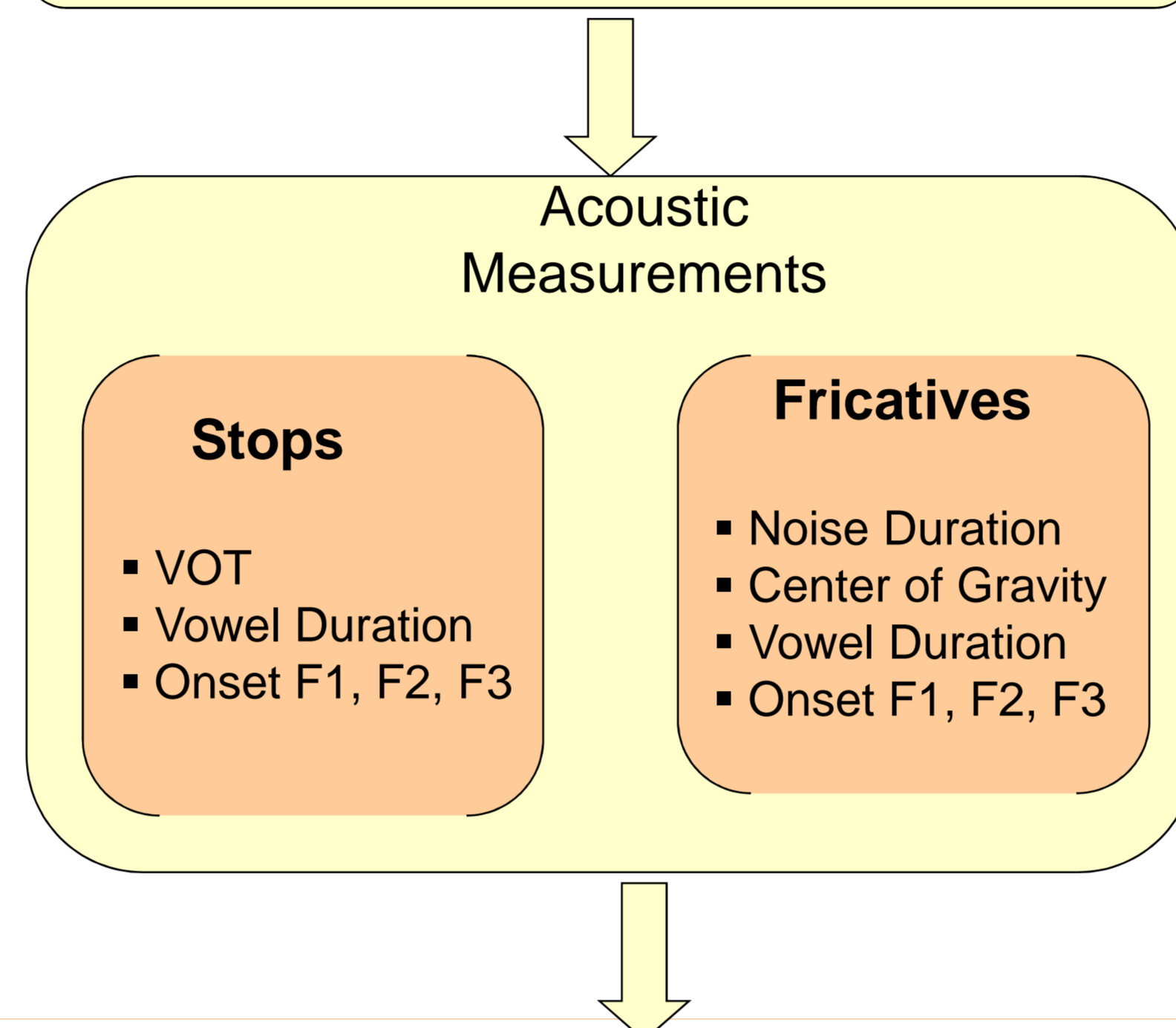
Target words were extracted and put into categorical and acoustic Analyses.

Listeners	Syria	Saudi Arabia
Gender	1 Male	1 Female



4. Acoustic Analysis

Target consonants and following vowels were acoustically analyzed using Praat.



A series of univariate ANOVAs were conducted to test gender, regional, and consonant type effects on plain vs. pharyngealised differences, regarding the above dependent variables.

5. Results

Gender and region were not found to have an executive effect on the production of plain/ pharyngealisation distinction in Syrian Arabic.

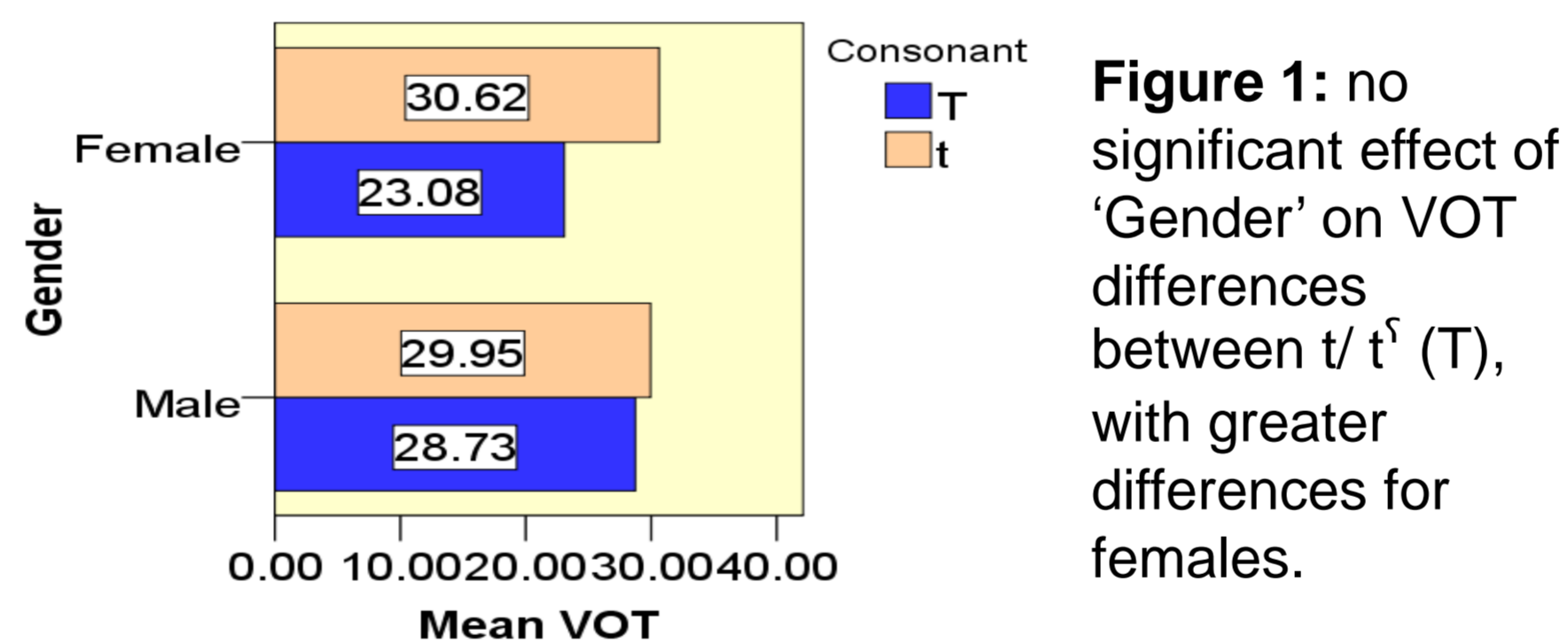


Figure 1: no significant effect of 'Gender' on VOT differences between t/ tʰ (T), with greater differences for females.

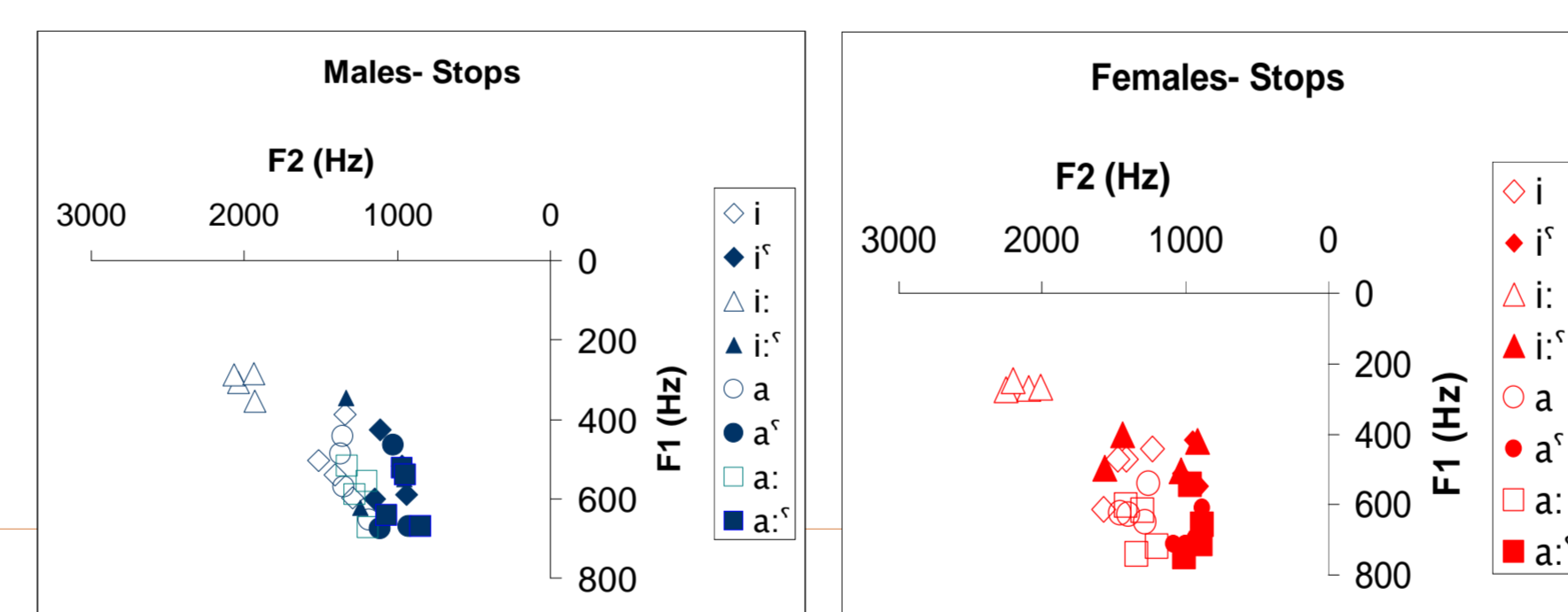


Figure 2: Females show more approximation of normalised F1-F2, and significantly more F2 lowering after pharyngealised stops than males.

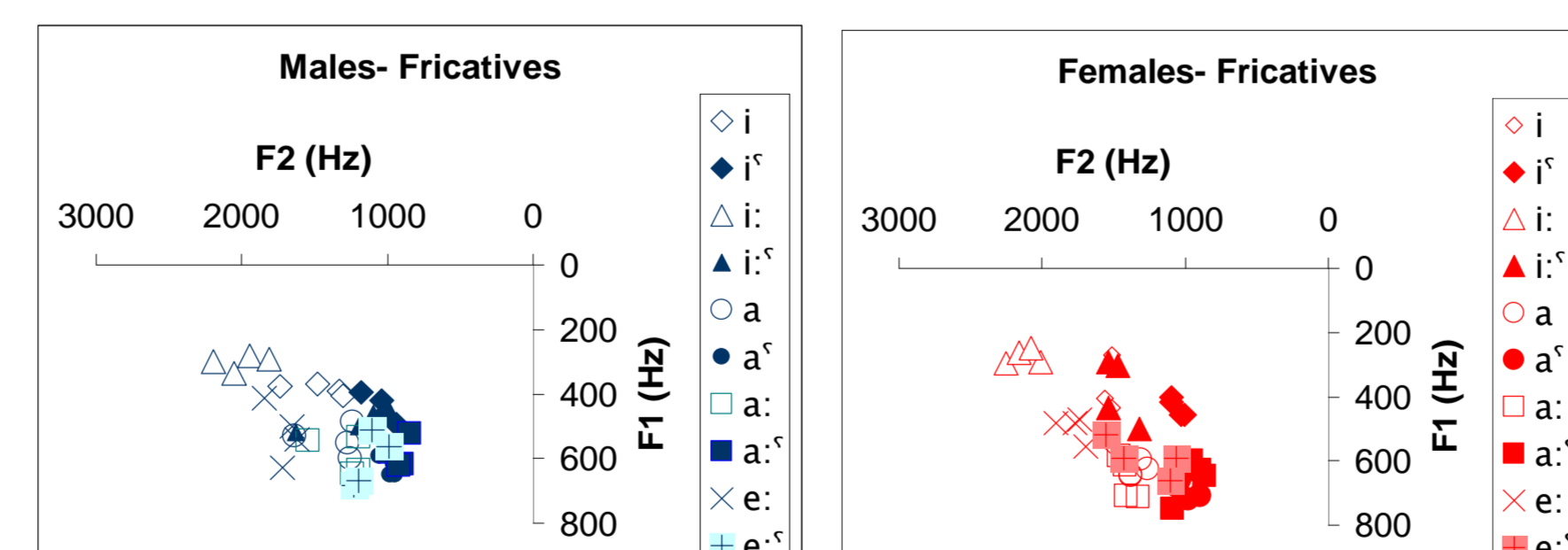


Figure 3: No significant effect of 'Gender' on F2 values after plain and pharyngealised fricatives. Males show more approximation of normalised F1-F2 values, and more F2 lowering after pharyngealised fricatives than females.

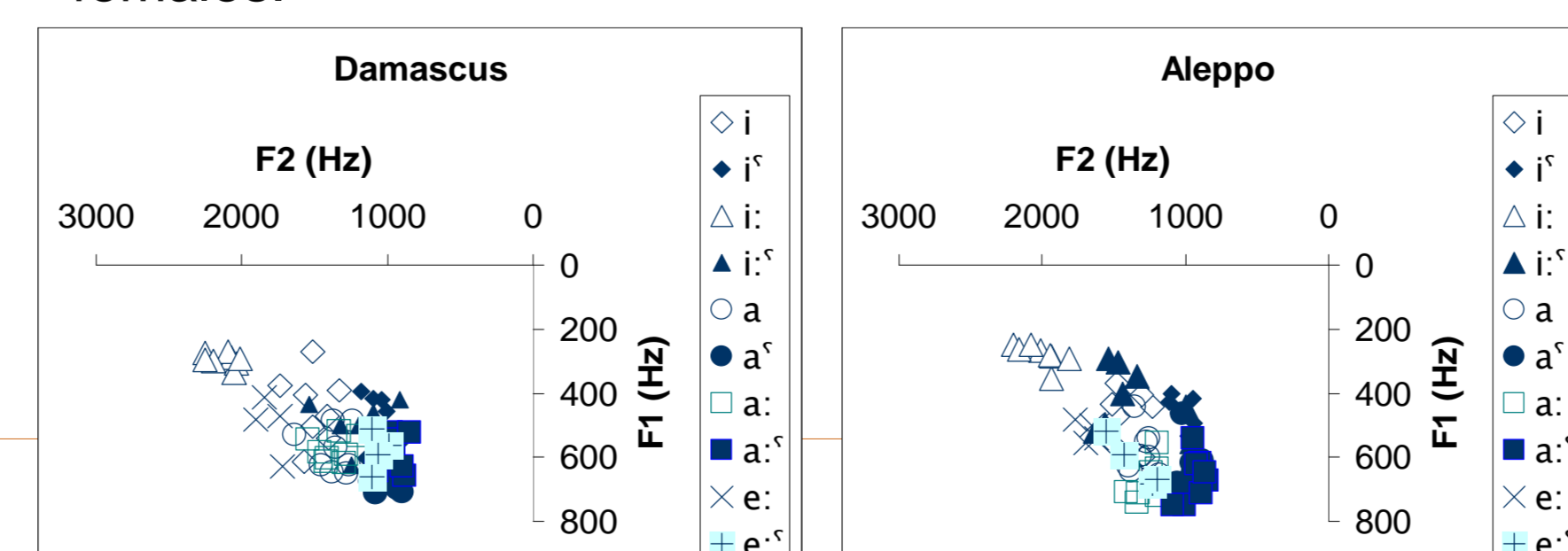
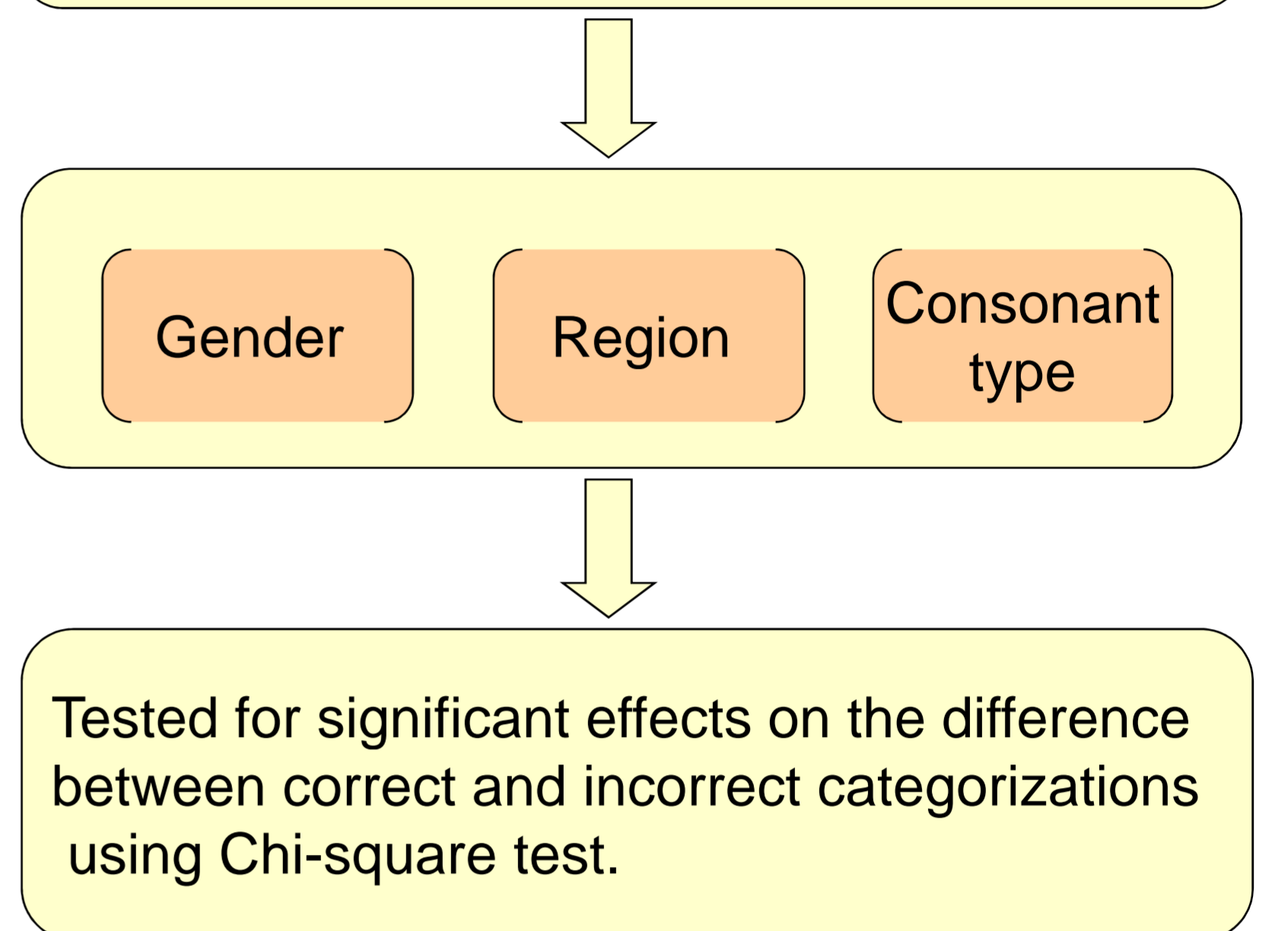


Figure 4: No significant effect of 'Region' on plain/ pharyngealised distinction. Aleppians show more F1-F2 approximation, and F2 lowering after pharyngealised segments than Damascenes.

6. Categorical Analysis

Listeners categorized speakers' productions of target consonants into plain vs. pharyngealised



7. Results

Gender and region of speakers were not found to have an executive effect on plain/ pharyngealisation categorization in Syrian Arabic.

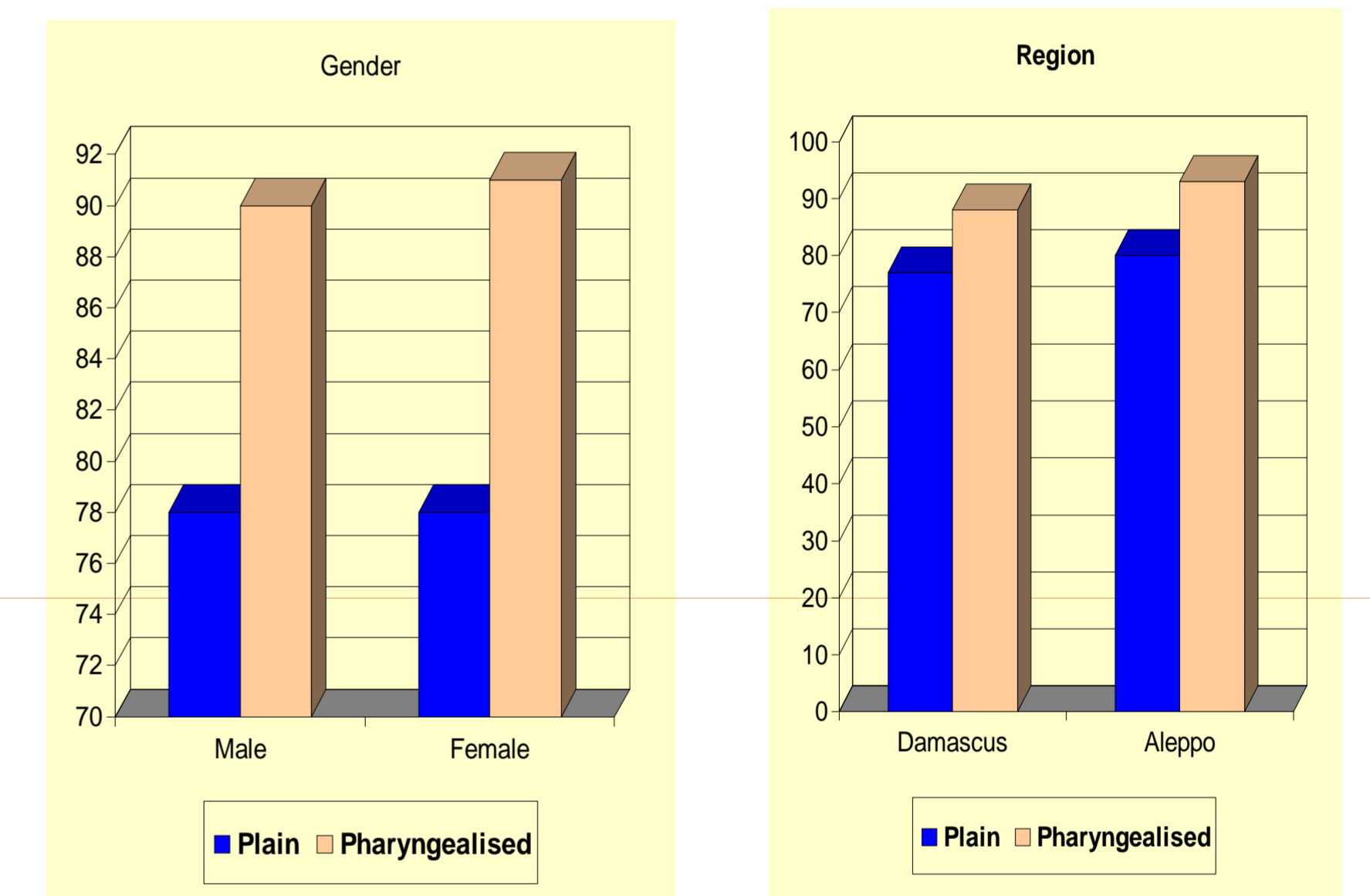


Figure 5: No significant effect of region and gender, 'Consonant type' has a significant effect on the categorization of [d dʰ] and [s sʰ], with more accurate categorization of pharyngealised segments.

8. Conclusions

- Correct categorization of plain/ pharyngealised segments and the production of plain/ pharyngealised distinction are phonologically determined by the phonological feature 'pharyngealisation'.
- Unlike other dialects, gender and region do not have a robust executive function in the plain/ pharyngealised distinction.
- Compared to Jordanian Arabic, gender effect is not in the expected direction. In Syrian Arabic, females pharyngealise more than males.
- Regional effect is in the expected direction. Thus, the phonological feature 'pharyngealisation' is expected to colour the Aleppian sound system.

9. Acknowledgements

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