

A sociophonetic account of morphophonemic variation in Palestinian Arabic

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Introduction

There is a dearth of research on the phonetics of spoken Arabic varieties. Even less research has been conducted on the Arabic vocalic system, and the potential for sociophonetic variation within this system is almost completely unexplored.

The Present Study

This study examines variation in the pronunciation of the **Arabic feminine gender marker /a/**:

- This is a word final vowel that is realized differently across varieties of spoken Arabic
- /helwa/ 'pretty' – [helwa] ~ [helwe] ~ [helwi]

I examine this morpheme in **three communities**:
 Palestinians in Gaza City, refugees from Jaffa who live in Gaza City, refugees from Gaza City who live in Jordan



Figure 1. Map of historic Palestine

Variation in /a/

(Al-Wer 2007, Levin 1994, Shahin 2006)

- /a/ can be raised from [a] to [e, e], or as high as [i]

Raising is phonologically conditioned:

- The default phonetic realization is [e]
- The realization is [a] after back consonants and /r/, if preceding r there is no high front vowel

Hypotheses:

- Stability in the realization of /a/ in Gaza City, given that it is a non-raising dialect (Bergsträßer 1915)
- For Jaffa refugees I hypothesize lowering and backing towards the Gaza City norm
- For Gaza refugees, I predict fronting and raising towards the local Jordanian realization

Methods

The demographic representation of the 30 speakers is not balanced:

Table 1: Speaker demographic backgrounds						
Age Gender	Gaza City		Jaffa Refugees		Gaza Refugees	
	M	F	M	F	M	F
17-39	3	3	2	1	1	1
40-64	3	3	2	0	3	1
65+	2	1	0	2	1	1
Total	15		7		8	

1,132 instances of this vowel were considered, all of which occurred in phonological environments that allow raising

Vowels were measured in Praat and F1-F3 measurements were extracted from each vowel at 20/40/50/60/80 % of the vowel duration (5,660 data points)

Measurements were normalized for gender differences using: $(F2-F1)/F1$, and the resulting raising index score was treated as the dependent variable

Results

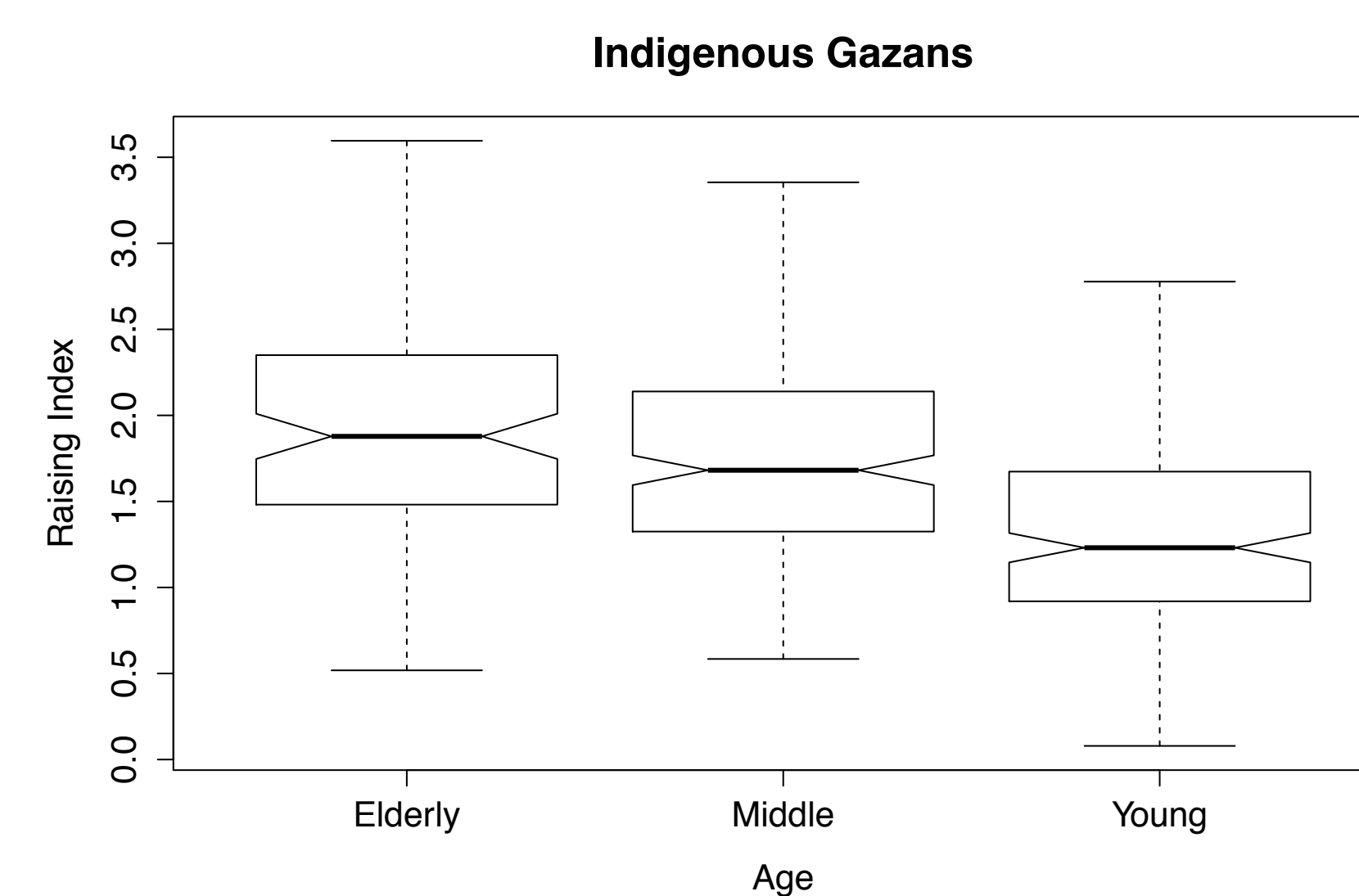


Figure 2. Distribution of vowel raising in the speech of indigenous Gazans by age group

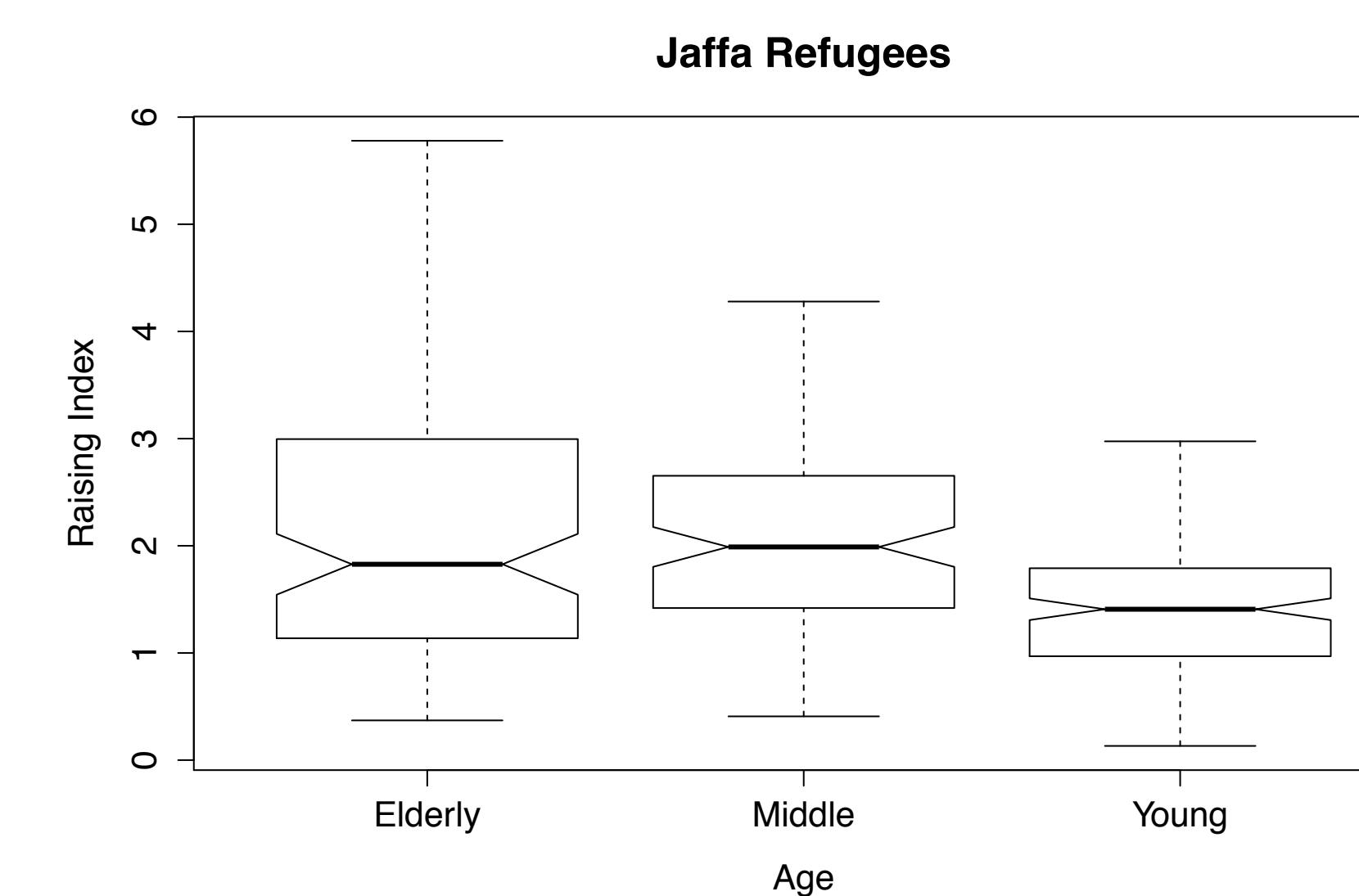


Figure 3. Distribution of vowel raising in the speech of Jaffa refugees by age group

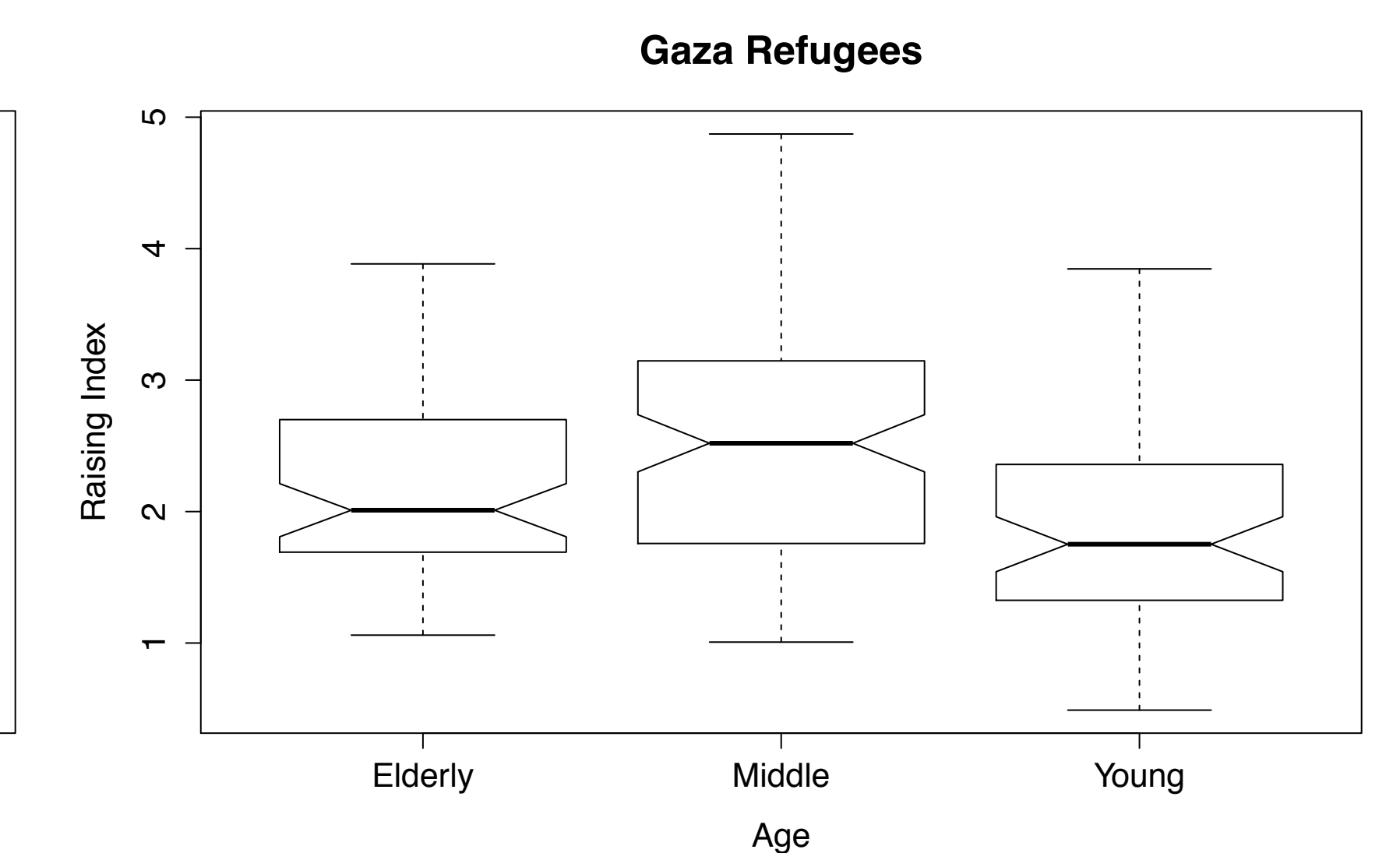


Figure 4. Distribution of vowel raising in the speech of Gaza refugees by age group

Model/Reference	Significant Fixed Effects
Gaza	BACKGROUND (GAZA REFUGEES), AGE (YOUNG)
Jaffa Refugees	BACKGROUND (GAZA REFUGEES), AGE (YOUNG)
Gaza Refugees	BACKGROUND (GAZA, JAFFA REFUGEES), AGE (YOUNG)

Table 2: Significant predictors for each best-fit model

- Log likelihood tests confirm that the full model, which includes both BACKGROUND and AGE as fixed factors better accounts for the data
- BACKGROUND was significant for degree of raising in all models. ($p < .05$)
- AGE was also significant for degree of raising in all models. ($p < .05$)
- There were no interaction effects.

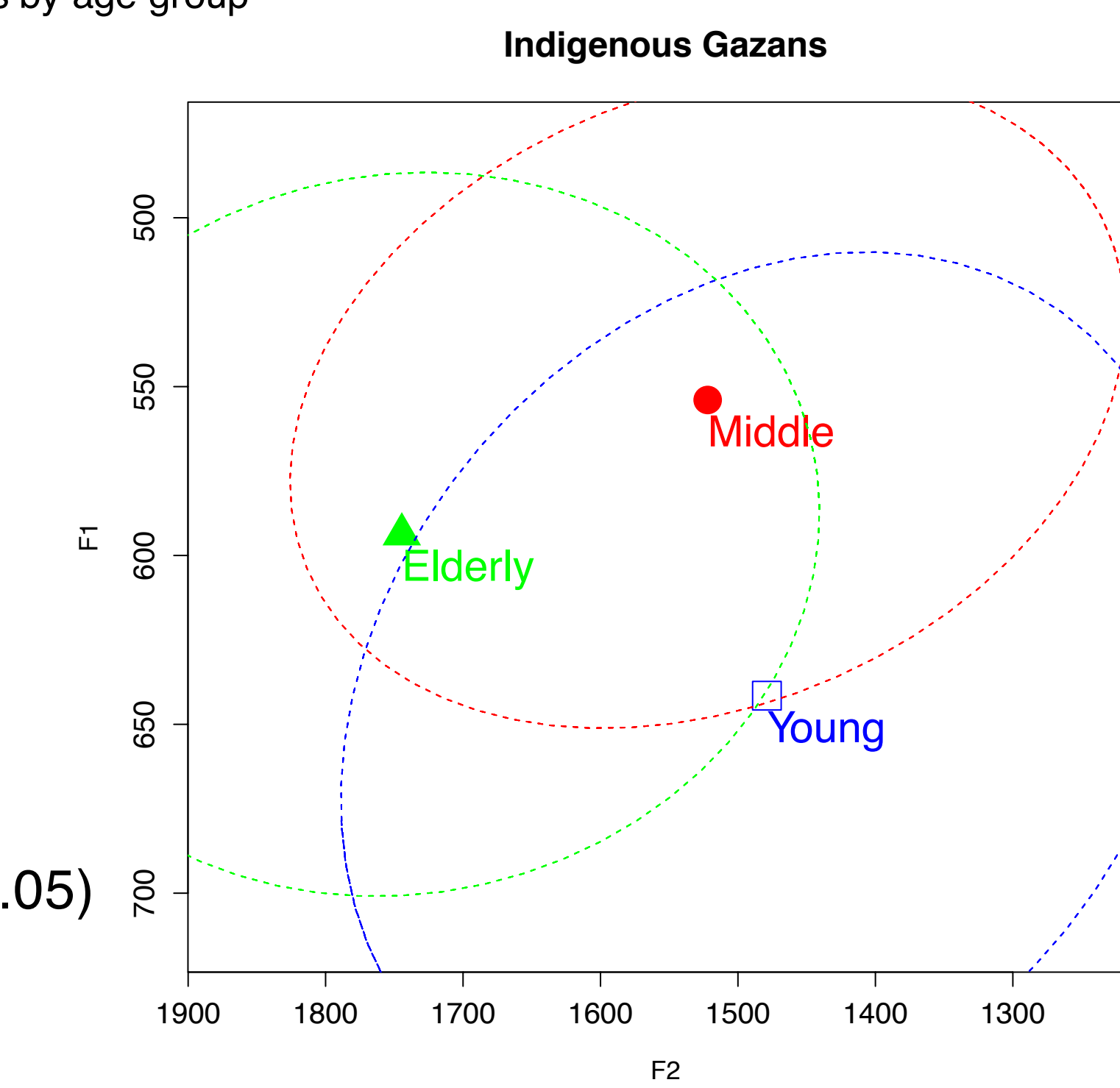


Figure 5. Realization of the feminine gender marker in the speech of indigenous Gazans by age group, (ellipses= 1std)

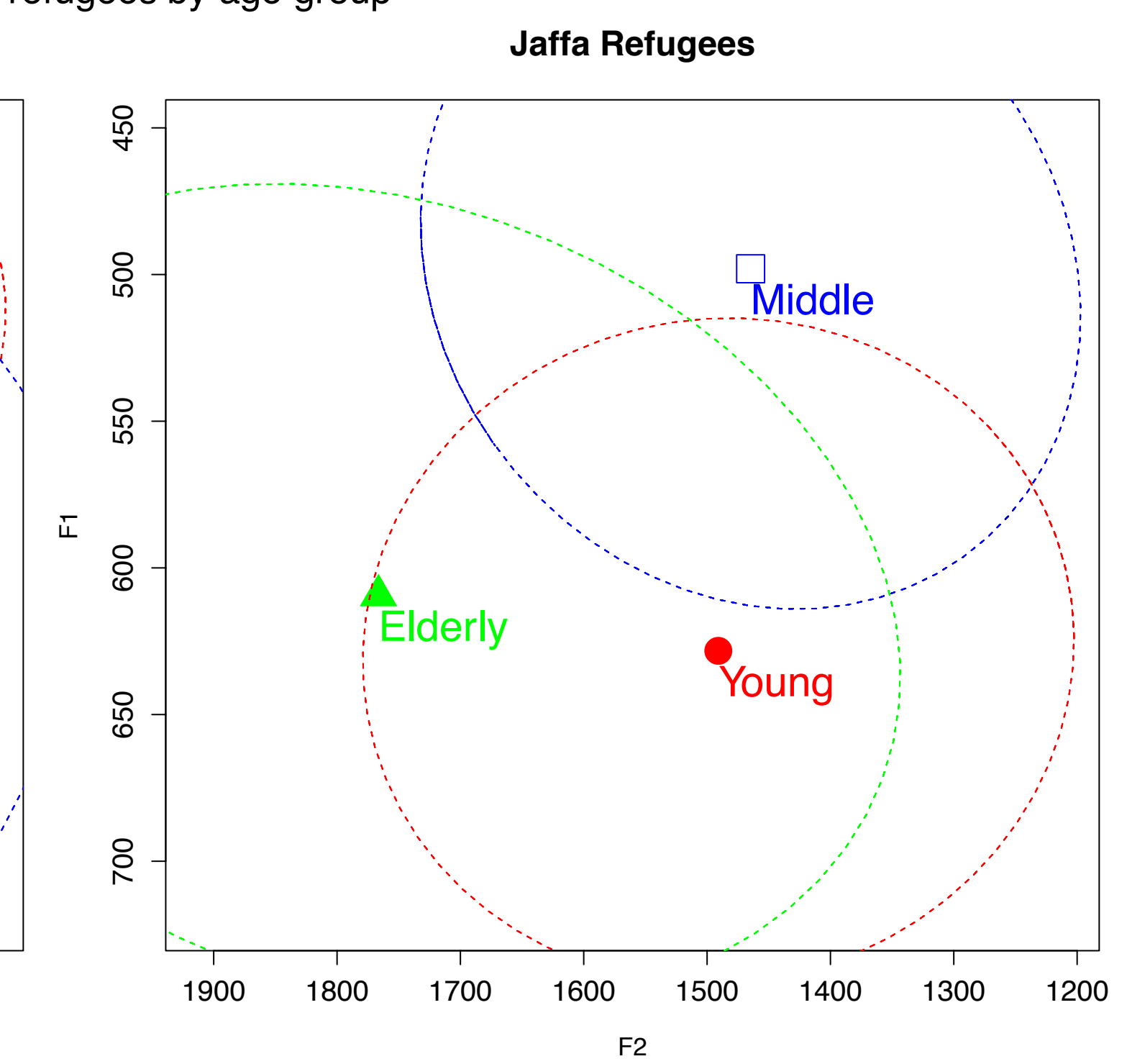


Figure 6. Realization of the feminine gender marker in the speech of Jaffa refugees by age group, (ellipses= 1std)

Discussion

- For Jaffa refugees, lowering and backing shows an apparent-time correlation with AGE, suggesting that Jaffa refugees are lowering the vowel as a result of dialect contact with speakers of other varieties of Palestinian Arabic in Gaza City
- Indigenous Gazans show a similar apparent time correlation with AGE, suggesting that the traditional dialect of Gaza City is also undergoing change as a result of dialect contact
- For Gaza Refugees, young speakers lower more than elderly speakers, while middle aged speakers show a clear, but not statistically significant, pattern of raising and fronting

Conclusion

- Within Gaza City, speakers of different varieties of Palestinian Arabic are undergoing similar processes of dialect convergence as a result of politically induced dialect contact. In contrast, the patterning of vocalic realization among Palestinian refugees in the diaspora calls out for additional analysis

Future Directions

The patterning among middle aged Gaza Refugees in Jordan requires a more in-depth analysis. Data collected from interviews with an additional 21 speakers from the same refugee camp who are of different dialect backgrounds is also present in the corpus. Analyzing this feature across speakers of varied dialect backgrounds could illuminate more general processes of change happening within this refugee community

During interviews Gaza Refugees described social network structures that suggest they interact more regularly with members of the local Jordanian community. A wider study of /a/ within this refugee camp could lend support to the idea that social network structure has an effect, as has been described in Palestinian refugee communities in Beirut (Hennessey 2011)