

Acoustic variation within and between bilingual speakers

Homa Asadi, Maral Asiaee

University of Isfahan, Iran

h.asadi@fgn.ui.ac.ir

An important part of human social interaction is the ability to hear and identify voices on a daily basis. Our voice not only conveys information about the message being spoken but also provides clues about the identity and emotional attributes of an individual. Nevertheless, voices are often more variable within the same speaker rather than between different speakers. One of the sources of within-individual vocal variability occurs when speakers communicate in different languages and switch from one language to another. This adds an intriguing dimension of variability to the speech, both in perception and production. But do bilinguals change their voice while switching from one language to another? From the speech production perspective, it is suggested that while some aspects of speech signal vary due to linguistic reasons, some indexical features remain intact across different languages (Johnson et al., 2020). Nevertheless, little is known about the influence of language on within- and between-speaker vocal variability. In our talk, we will discuss how the acoustic parameters of voice quality vary or remain stable between different speakers' languages. We assume that phonological differences and different sound patterns underlying Persian and English are likely to influence the acoustic parameters of voice quality, and thus it is plausible that acoustic voice structure varies accordingly between the languages of Persian-English bilinguals. Following a psychoacoustic model proposed by Kreiman (2014) and using a series of principal component analyses, we will discuss how acoustic voice quality spaces are structured across the languages of Persian-English bilingual speakers.

References

- Johnson, K. A., Babel, M., & Fuhrman, R. A. (2020). Bilingual acoustic voice variation is similarly structured across languages. *Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH, 2020-Octob*, 2387–2391.
- Kreiman, J., Gerratt, B. R., Garellek, M., Samlan, R., & Zhang, Z. (2014). Toward a unified theory of voice production and perception. *Loquens, 1*(1), e009.

