

## Cross-linguistic voice recognition between Korean and English

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The aim of the study is to investigate whether naïve listeners can recognise a voice spoken in a language which they cannot understand in a voice lineup spoken in a language which they can understand. 30 British naïve listeners were asked to identify a voice from seven L1 Korean speakers' speaking English immediately after they were exposed to a voice speaking Korean. A control group of Korean listeners performed the same task. In addition, Speaking Fundamental Frequencies, Articulation Rates, Vowel Formant Frequencies, and High Formant Frequencies were acoustically analysed in order to find what parameters might have contributed to voice recognition. In auditory-perceptual analysis with British listeners, only 27% of the listeners were able to correctly recognise the original voice and one foil was selected by 43% of the listeners. On the other hand, in auditory-perceptual analysis with Korean listeners, only 17% of the listeners had the correct answer and one foil, different from the one British subjects chose, was selected by 50% of the listeners. In acoustic analysis, it was found that there were non-significant differences in the Speaking Fundamental Frequencies of the speakers when speaking English and Korean. It is very similar for the Articulation Rates between the original voice and the one of the favoured foils. In conclusion, differences in High Formant Frequency values appeared to correlate with recognition by British listeners. Therefore, it may be no more difficult for naïve listeners to recognise a voice spoken in an unknown language than in a known language. Indeed, the results from this exploratory study indicate it may even be easier. It is suggested that this method should be further developed with other speech data of various languages.

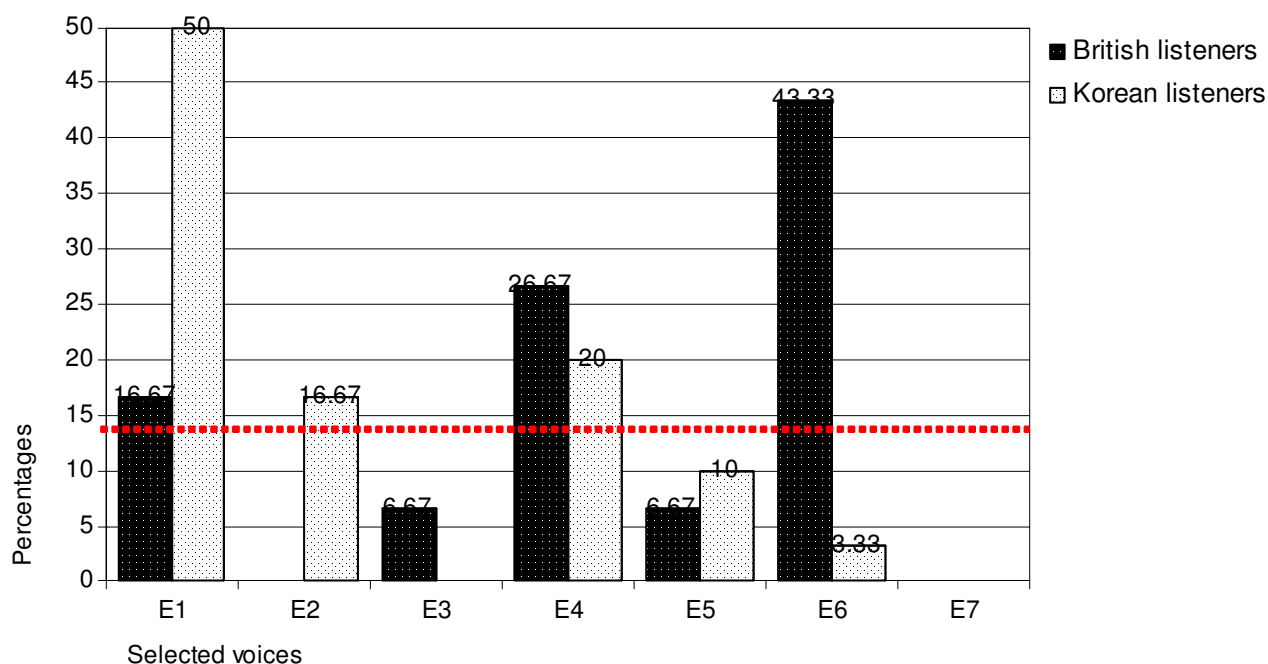


Figure 1. The percentage frequency for selected voices by British and Korean listeners

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