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Boer, M.M. de; Heeren, W.F.L.

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Individual variation in native and non-native filled pauses

Meike de Boer, Willemijn Heeren, Leiden University Centre for Linguistics

Within languages, native speakers differ in their use of the filled pauses uh and um [1]. In addition, individuals tend to be consistent in their use of filled pauses across recordings [2], which makes the feature useful for forensic speaker comparisons. We investigated to what extent individuals are consistent in their filled pauses across languages, i.e. when speaking in their native language (L1) and a non-native language (L2).

For silent pauses, [3] showed that speakers are consistent across languages in terms of the number of pauses and their durations. [4] predicted that L2 speakers transfer their filled pauses from their L1 as well. However, realizations of filled pauses are language-specific [4- 6]. This suggests that advanced learners may acquire the distribution and realization of filled pauses in their L2 as part of the acquisition process.

This paper discusses cross-language comparisons for filled pauses in spontaneous monologues of 60 Dutch females. We used recordings collected by [7] at University College Utrecht, in which each speaker spoke two minutes in their L1 Dutch, and two minutes in their L2 English. Since University Colleges select their students based on their level of English, the speakers' L2 proficiency was above average [8]. We annotated the speakers' filled pauses manually and analyzed the acoustic features duration, fundamental frequency (F0), and vowel formants (F1-3), using Praat [9]. In addition, we calculated the ratio between uh and um for each speaker.

Preliminary results show that speakers are consistent across languages in duration and F0 of their filled pauses, whereas they change the spectral realizations of the vowels in uh and um. Speakers adapted their um:uh ratio to the target language. Results are presented in a likelihood-ratio framework as adopted by [1] to quantify how well filled pauses discriminate between speakers in recordings in different languages.

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