

ACOUSTICS2008/842

A comparison between two cases of voicing neutralization: Final devoicing and voicing assimilation in obstruent clusters

Rebeka Campos-Astorkiza

Ohio State University, Dept. Spanish & Portuguese, 298 Hagerty Hall, 1775 College Rd, Columbus, OH
43210, USA

This study compares two processes that result in voicing neutralization, namely final obstruent devoicing and regressive voicing assimilation in obstruent clusters in Lithuanian. The goal is to find out whether both neutralizing environments present similar acoustic patterns. Acoustic data was collected from native speakers of Lithuanian in order to analyze /k/ and /g/ in word final position (final devoicing) and in the word medial clusters /gs/, /ks/, /kz/ and /gz/ (voicing assimilation). Three main acoustic cues to obstruent voicing were measured: obstruent closure duration, voicing during closure and duration of preceding vowel. The statistical results show that, although both final devoicing and voicing assimilation result in incomplete voicing neutralization, they use the acoustic cues differently. In the case of voicing assimilation, there are statistically significant differences in closure duration, voicing during closure and preceding vowel duration between the stops in /ks, gz/ and their assimilated counterparts in /gs, kz/. As for final devoicing, underlyingly voiceless obstruents and devoiced obstruents show differences in their closure duration and voicing during closure but not in their preceding vowel duration. These results suggest that final devoicing and voicing assimilation have different acoustic realizations in Lithuanian, supporting their analysis as two different processes.