

ACOUSTICS2008/1625

Phonemic restoration with hearing-impaired listeners

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Baskent et al. (ISAAR 2007) showed that simulated undershoot that may happen due to release from hearing-aid compression may reduce phonemic restoration by normal-hearing (NH) listeners. Phonemic restoration was measured as the increase in recognition of interrupted speech when the silent intervals were filled with loud noise bursts. These results would be more crucial for hearing-impaired (HI) listeners who might encounter such problems in real life as hearing-aid users. However, it has not been previously shown if HI listeners benefit from phonemic restoration similar to NH listeners. Factors such as adverse effects of background noise on speech perception and increased forward masking observed with HI listeners might affect phonemic restoration. The present study explored phonemic restoration with mildly and moderately HI listeners with a method similar to the previous study. NH listeners participated as the control group. Perception of speech interrupted at rates of 1.5 and 2.2 Hz was measured with silent intervals and with noise bursts filling the silent intervals. The preliminary results showed that many HI listeners, especially with mild hearing loss, were able to benefit from phonemic restoration. However, in each subject group, there were a small number of listeners who did not show any benefit.