ACOUSTICS2008/3022 The role of combined consonant duration and amplitude processing on speech intelligibility in noise

Jeffrey Digiovanni and Jessica Wolfanger Ohio University, W218 Grover Center, Athens, OH 45701, USA

Reduced speech intelligibility in noise, especially consonant perception, is a well documented phenomenon. Research in clear speech has revealed many acoustic and phonetic differences between speech spoken in a conversational versus clear-speech mode. In the present study two components were tested in combination, namely increases in consonant duration (and respective decreases in adjacent vowel duration) and selectiveconsonant amplification. Conditions in which intelligibility improvements were observed for the individual processing of duration and amplitude modifications were chosen and tested in combination. The components were applied to Hearing-in-Noise Test sentences and consonant-vowel (CV) pairs. Stimuli were presented in sound field to normal-hearing individuals in the presence of speech-shaped noise. Percent correct was measured for HINT sentences and confusion matrices were developed for the CV pair intelligibility tests. An information transmission analysis was performed. Results will be discussed with regard to the greater body of research in clear speech.