

ACOUSTICS2008/1705
Consequences of regional accent differences for speech perception studies

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Sociophonetic research has demonstrated effects of regional accent on vowels. However, little attention is paid to regional accent in hearing and speech perception studies that use standard vowel stimuli. This poster illustrates the importance of these factors to perception. A library of synthetic vowels from 9 different regions of the U.S. (e.g., southern California, upper Midwest) was generated according to published formant values. The vowels were categorized into three groups (near, medium, far) according to Euclidean distance in an F1 by F2 space relative to Pacific Northwest (PNW) vowels. Based on several experimental factors, two vowel pairs representing the high back and low front vowels were chosen as stimuli. The near, medium and far exemplars and PNW exemplars were presented to native PNW listeners in a forced-choice identification task. Dependent variables were identification accuracy and reaction time. Task difficulty was manipulated using background noise level. Results indicate that recognition scores were poorer, and reaction time was longer, for vowels that were spectrally distant from the listener's regional accent. These data suggest that researchers should take into account regional accent in selecting vowel stimuli or generating synthetic vowels for general-use speech perception tests. Supported by NIDCD (DC00033, RO1 DC006014).