

ACOUSTICS2008/3136 Correlations among three audiovisual (AV) speech tasks

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Visual speech information influences what listeners hear. When the place of articulation of visual and auditory speech tokens are incongruent, perceivers often report hearing a visually influenced response (the "McGurk effect", McGurk & MacDonald, 1976). However, individual differences in this visual influence are poorly understood. Extending work by Grant & Seitz (1998) and Conrey & Pisoni (2006), we examined correlations between susceptibility to the "McGurk effect" and performance on three related audiovisual tasks. 1) AV speech in noise: we assessed visual gain by comparing word identification in audio-only and AV conditions. 2) AV asynchrony detection: Participants made asynchrony judgments of speech and nonspeech stimuli with asynchronies ranging from +250ms visual to +250ms auditory lead. The speech stimuli were CV syllables and the nonspeech stimuli consisted of lissajous circles paired with sine waves. In one set of nonspeech stimuli, the lissajous was modeled on the lip aperture of the CV and the sine wave, amplitude and frequency were derived from the CV. For the other set, the lissajous and sine wave were derived from clapping hands. 3) Speechreading: Participants identified isolated words presented visually. Factors associated with a strong McGurk effect will be discussed. [Work supported by NIH.]