

ACOUSTICS2008/1680

Cross-language auditory-visual speech perception development

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Speech perception is auditory-visual (AV), but there is more visual information use by English than Japanese language perceivers (Sekiyama & Tohkura, 1993). This raises two questions: (1) when and (2) why do such differences emerge? In Experiment 1 with English- and Japanese-language children (6, 8, 11 years) and adults, AV speech perception (AVSP) was equivalent in English and Japanese 6-year-olds, significantly increased between 6 and 8 years in English- but not Japanese-language children, and remained stable over all ages for the Japanese. The origin of the Japanese-English adult difference in English language children's dramatic rise in AVSP between 6 and 8 years was investigated in Experiment 2. English-language children (5 to 8 years) and adults were tested for AVSP, reading, articulation, and language-specific speech perception (focus on native and away from non-native speech sounds, a known correlate of reading, Burnham, 2003). Regressions showed that language specific speech perception reliably predicted AVSP. It appears children use extra information (AVSP) in the face of challenging linguistic hurdles (learning to read), but only when the language is phonetically complex and the phoneme-to-grapheme conversion rules of the script are not transparent (English, but not Japanese).