Perception of syllable segregation in untrained and trained listeners

Patricia McCabe, Elizabeth Murray, Tayla Brown, Mary C. Swayze, Donna Thomas and Catherine Madill.

Syllable segregation occurs when movement between syllables within a word is disrupted by pausing resulting in speech sounding halting. It is a core feature of Childhood Apraxia of Speech (CAS) but there is limited research on how it is judged by listeners and no standardised criteria against which to rate it.

Forty students and five researchers were recruited and used Yes/No ratings of whether segregation was present in two experiments which explored the “limin” of syllable segregation.

The first experiment used recordings of an adult female saying two syllable non words with artificial gaps inserted to simulate syllable segregation. Gaps ranged from 0-200ms in 25ms increments. As hypothesised, as the gap length increased, the reliability of listener’s detection of syllable segregation increased. There was a natural divide in untrained listener’s accuracy between 75ms and 100ms. There was no correlation between either stress patterns or order of stimuli and untrained listener’s accuracy in detecting syllable segregation.

In Experiment 2 the method was repeated using samples of single non word speech which was collected from children with CAS.

The perceptual boundaries of syllable segregation for listeners will be described. The implications in developing a quantifiable measure of syllable segregation will be discussed.