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Establishing stuttering instruments for Arabic Children Who Stutter, CWS I. Phonological complexity in Disfluent Speech

Roaa Alsulaiman[1,2], Lamia aldukair[1], HENOUF A ALTUWAIJRI[1]
[1]King Saud University, Riyadh, Saudi Arabia. [2]University College London, London, United Kingdom

Abstract

Widely-used instruments such as SSI-4 (Riley, 2009) do not take into account the structural features of Arabic. Currently, no tool is available for assessing fluency in Arabic even though calls have been made for clear symptom-definition and assessment procedures when studying stuttering in languages other than English (Howell & Rusbridge, 2011). As a first step, the goal here was to develop a scheme for the analysis of Arabic stuttered speech based on the Arabic Index of Phonetic Complexity (AIPC; Al-Tamimi et al., 2013). The AIPC assays difficulty of words based on the phonetic factors they possess, and the measures are then used to gauge susceptibility to likelihood of word being stuttered. We hypothesized that stuttered words would have higher AIPC scores than fluent control-words.

Method. Five children (details are in Table 1) diagnosed with stuttering by an SLP produced 200-300 syllables in spontaneous conversation. Recordings were orthographically transcribed offline. Words were coded as fluent or stuttered and stutters were designated as repetition, prolongation, or break. The grammatical class of words was also coded. Fluent words from the same grammatical class and with the same number of syllables as the stuttered words were selected at random for control. AIPC scores were obtained by summing up the number of phonological factors within each word.

Results. Figure 1 gives mean AIPC for Stuttered and Fluent words 1. Paired-sample T-test showed stuttered words had higher AIPC scores (M = 2.05; SEM =.1) than controls (M = 1.46; SEM = .1).

Discussion. The higher AIPC scores of stuttered words is consistent with previous findings (Al-Tamimi et al., 2013). A tentative conclusion is that Arabic words with specific phonological characteristics pose more difficulty and therefore attract more stuttering. This establishes the phonetic parameters associated with difficulty that leads to stuttering in Arabic. The next goal is to establish a valid formula that can combine lexical types and phonological complexity into an overall severity score. Data collection is ongoing and results from more children will be presented at the conference.