

## An articulatory analysis of gliding using ultrasound

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The study will present ultrasound research on child phoneme substitution errors. Children often produce certain sounds from their native language such that those sounds are perceptually identical to other sounds. For example, children may pronounce the phoneme /ɪ/ like a /w/ so that the word rock, /ɹak/, may sound like walk, [wak]. This pattern is generally referred to as gliding. Numerous phonological analyses have been proposed to account for this and other apparent cases of phoneme substitutions (e.g. Smith 1973; Ingram 1974; Bernhardt & Stemberger 1998; Barlow & Gierut 2001; Hayes & Steriade 2003). However, acoustic and articulatory data challenge the premise that phonemes are substituted (e.g. Kewley-Port & Preston 1974; Smith 1979; Gibbon 1999). These latter authors generally dispute claims of literal substitutions, and suggest instead that different articulations must be involved. The present study is an explicit articulatory test of whether the term “phoneme substitution” is justified with respect to cases of gliding. Using ultrasound, we examined gliding in 2-4 year-old children to see whether a glided [ɪ] is or is not articulatorily the same as a [w]. Preliminary results do not support the claim that gliding is a “substitution”, and instead involves distinct articulatory patterns.