Icelandic is relatively unusual in its high prevalence of [+spread glottis] ([+s.g.]; Halle & Stevens, 1971; Vaux, 1998), which denotes speech sounds in which the vocal folds are wide apart, with high (somewhat noisy) airflow. Thirteen of 25 Icelandic consonants are [+s.g.]: some more common (less marked) across languages (/h/, post-aspirated stops, and voiceless fricatives) and some less common (more marked) across languages (pre-aspirated stops as in *hattur* [hahtʏ̥] 'hat';); voiceless sonorants as in *hlaupa* [l̥œy:pa] 'run'). Icelandic is included in a crosslinguistic study of protracted phonological development. The purpose of the current study is to examine acquisition of [+s.g.] in Icelandic, focusing on preschoolers with protracted phonological development (PPD) and matched typically-developing (TD) peers. Predictions are: (1) age and group effects; (2) lower accuracy for marked targets, except for preaspirated stops, previously shown to be early-acquired (Másdóttir, 2014); and (3) frequent [+s.g.] substitutions, especially [h] and pre-aspirated stops, for the other mismatched categories.

Words were extracted from a general 110-word probe list. The following targets were examined: word-initial (WI) singletons /h, p^h, t^h, c^h, k^h/; word-medial (WM) and -final (WF) singletons /hp, ht, hc, hk/; and, in all positions, singleton /f, s, θ, ç, x/ and voiceless sonorants /l̥, n̥, r̥, l̥t, ŋ̊k, r̥t/. Icelandic speakers transcribed samples from 27 3- and 4-year-olds with PPD and matched TD children.

Age, group (PPD/TD) and relative accuracy effects occurred as expected. The less-marked /h/ and more-marked pre-aspirated stops showed the highest match levels. Mismatches also followed predictions although not completely. For example, for the groups with PPD, other [+s.g.] voiceless fricatives or [h] replaced WI fricatives, and [+s.g.] pre-aspirated stops were the most frequent substitution for WM voiceless sonorants. Substitutions for post-aspirated stops for the children with PPD showed [+s.g.] [h] and voiceless fricatives; however, [-s.g.] unaspirated stops were most frequent at both ages and glottal stops or voiced nasals also appeared as substitutions. WI voiceless sonorants were produced most frequently as [-s.g.] voiced sonorants, followed by [+s.g.] [h].

In terms of the markedness prediction, less-marked targets were generally more accurate than more-marked targets, with one important exception: pre-aspirated stops showed greater accuracy than post-aspirated stops (Másdóttir, 2014). This suggests alternative interpretations: that "pre-aspiration" might be treated as a full segment [h] by the children, or that its phonological realization as devoicing of the last half of the vowel might make it more stable than [+s.g.] that is fully within a consonant. In contrast, post-aspiration requires finer coordination between oral and laryngeal articulators (Studdert-Kennedy & Goldstein, 2003). In terms of the mismatch predictions, this was only partially confirmed. Fricatives and [h] replaced other fricatives and WM voiceless sonorants. However, voicing ([-s.g.]) was the most common mismatch for WI voiceless sonorants. Further, post-aspirated stops were often deaspirated, with a [-s.g.] substitution. Although the [+s.g.] feature is prevalent, its realization during acquisition varies according to word position, syllable boundaries and manner types.

Bernhardt, B. M., Másdóttir, T., Stemberger, J. P., Leonhardt, L. & Hansson, G. Ó. (2015). Fricative acquisition in English- and Icelandic-speaking children with protracted phonological development. *Clinical Linguistics and Phonetics*, 29:642-65.

Halle, M. & Stevens, K.N. (1971). A note on laryngeal features. *MIT Quarterly Progress Report 101*, 198–212.

Másdóttir, T. (2014). *Málhljóðapróf ÞM: Handbók.* [ÞM's phonological test: Manual]. Reykjavík: Heyrnar- og talmeinastöð.

Studdert-Kennedy, M. & Goldstein, L. (2003). Launching language: The gestural origin of dicrete infinity. In Morten Christiansen and Simon Kirby (eds.). *Language Evolution*, Oxford: Oxford University Press, 235-254.

Vaux, B. (1998). Laryngeal specifications of fricatives. *Linguistic Inquiry*, 9, p. 497-511.