

Phonological patterns (templates) in 5p- syndrome (Cri du Chat Syndrome)

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Whole-word approaches to emergent phonology have been around since the 1970s, with Waterson (1971) and Menn (1971) as early pioneers. More recently Marilyn Vihman and colleagues have investigated phonological acquisition in terms of templates, or whole-word phonological patterns (see Vihman and Keren-Portnoy (2013) for an introduction to this framework, and also for research conducted within it). Templates can be understood as generalizations over known words that are closely related to the child's babbling patterns. As well as being closely related to the emergent articulatory skills of the child, they can also be regarded as reflections of the early phonological representations the child has of certain words. On the basis of templates the child gradually acquires knowledge about individual segments. In this way, templates have a bridging function in acquiring segments.

In this study we have examined a corpus of utterances produced by children with 5p-syndrome (aka *cri du chat syndrome*), a genetic disorder with an estimated incidence between 1:20,000 and 1:50,000 births associated with speech and language impairment. According to Kristoffersen (2008) and Kristoffersen, Garmann & Simonsen (2014), persons with this syndrome exhibit poor articulatory skills, arguably due to reduced motor control. More specifically, these studies documented several recurrent types of deviant consonants, inaccuracy in realization of target phonemes and variable similarity to target words, all of which contribute to reduced intelligibility. This situation raises several interesting questions, e.g., to what extent persons with this syndrome are able to make phonological generalizations, and, to what extent their reduced articulatory skills are reflected in those generalization patterns.

Against this background we examine data from eight children with 5p- syndrome, and address the following questions: (1) Do children with cri du chat syndrome make phonological generalizations in terms of templates? (2) In what ways and to what extent are templates related to articulatory skills? (3) What can template use tell us about these children's lexical representations? To answer these questions we have related the children's template scores (Vihman et al 2013) to three other phonetic measures: per cent consonant correct, variegation and proportion of whole word proximity.

References

Kristoffersen, K. E. (2008). Consonants in Cri du chat syndrome: A case study. *Journal of communication disorders*, 41, 179-202.

- Kristoffersen, K. E., Garmann, N. G., & Simonsen, H. G. (2014). Consonant production and intelligibility in cri du chat syndrome, *Clinical Linguistics & Phonetics*, 28:10, 769-784, DOI: 10.3109/02699206.2014.904442
- Menn, L. (1971). Phonotactic rules in beginning speech: a study in the development of English discourse. *Lingua*, 7, 225-251.
- Vihman, M. M. & Keren-Portnoy, T. (eds.) (2013). *The emergence of phonology. Whole word approaches and cross-linguistic evidence*. Cambridge, UK: Cambridge University Press.
- Vihman, M. M., Keren-Portnoy, T., Bidgood, A., McGillion, M. & Whitaker, C. (2013). Late talking toddlers: Relating early phonological development to later language advance. *York Papers in Linguistics*.
- Waterson, N. (1971). Child phonology. A prosodic view. *Journal of phonetics*, 7, 179-211.