

Production of consonant clusters in patients with phonological impairment vs. apraxia of speech

Patients with phonological impairment as well as patients with apraxia of speech show errors like phoneme substitution or -elision in their speech production. It is still unclear if these two patient groups, which are deemed to suffer from different underlying pathologies, can be distinguished on the basis of their error patterns. Several studies have used phonologically complex stimuli, e.g., words containing consonant clusters, to evoke phonological errors in these patients.

Some of these studies found that patients from both groups tend to simplify syllable structures, e.g., by omitting one of the consonants of a cluster or by inserting a schwa between cluster consonants (Buchwald & Miozzo, 2011; 2012). Contrary to these findings, other studies found this tendency only in patients with apraxia of speech, whereas patients with phonological impairment produced similar amounts of simplification and complication errors (Galluzzi et al., 2015).

Previous studies used paradigms involving elicitation of single words, e.g., through word repetition or object naming tasks. Yet, it is known that speech production in patients with aphasia or apraxia of speech can be particularly vulnerable to context influences, potentially as a result of buffer overload. In the study presented here we therefore elicited word pairs to examine potential context effects on speech accuracy in clusters vs. singletons. Single word production served as a control condition. Within word pairs we controlled for phonological similarity effects. Patients with apraxia of speech and phonological impairment were included.

I will present first, preliminary, results from two patients who can be considered representative of the two syndromes, i.e., phonological impairment and apraxia of speech.

References:

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Galluzzi, C., Bureca, I., Guariglia, C. & Romani, C. (2015). Phonological simplifications, apraxia of speech and the interaction between phonological and phonetic processing. *Neuropsychologia*, 71, 64-83.