The interplay of phonetics and phonology in speech development – A study of children with dysarthria

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The formation of phonological representations requires abstraction from phonetic diversity (e.g., recognizing a word spoken by different speakers as the same). In typically developing children this process of *phonologization* interacts with the continuing increase of articulatory proficiency as the children´s own vocal productions are successively integrated into the emerging phonological concepts (1, 2). This raises the question of how phonological representations emerge in children with early acquired, persisting disorders of phonetic processes, such as in *dysarthria* (neurologic speech disorder) (3). The current study investigates (a) if childhood dysarthria interferes with the process of phonologization and (b) to what extent characteristics of dysarthria can be mapped onto aspects of phonological processing.

A minimal pair discrimination task was developed. To assess phonological abstraction, the stimuli pertaining to each target word were phonetically diverse (different speakers; manipulation of acoustic properties). We chose minimal pairs with contrasts that are typically reduced in the speech of children with dysarthria (e.g., *oral/nasal* in children with *hypernasality*). The experiment is administered to dysarthric as well as typically developing children of pre-school age.

Examinations and analyses are still under way. We expect to find differences between dysarthric and typically developing children regarding their stage of phonologization (e.g., a higher sensitivity towards phonetic diversity in dysarthric children) that can be related to the characteristics of dysarthria in the neurologically impaired group. Our findings will have implications for current models of language acquisition as well as for clinical assessment of children with dysarthria.

References

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