# Discourse clicks across speakers in a German corpus of spontaneous speech

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Languages without phonemic clicks still feature them in various forms, e.g. as side effects of articulation [1,6,8] or for signaling disapproval [3]. Discourse clicks are also frequent, e.g. as isolated sounds when having word-finding trouble or starting a new discourse sequence. They have been reported for several languages including English [4,7,14,15], German [13], Russian [9], Swedish [16], and French [10]. It is unclear whether this phenomenon can be observed for all or only selected speakers across speaking situations, as considerable differences between speakers have been reported [4]. Discourse clicks may coincide with inhalation noises before articulation [14] which supports the idea that they are related to speech preparation (cf. [2,11,12]).

This study aims to investigate how prevalent tongue clicks are across a larger number of speakers and how they relate to inhalation. Concretely, we are interested in the number of speakers producing clicks, the between-speaker variability, and the location of clicks with respect to audible inhalations. We use the POOL corpus [5], including spontaneous speech of 100 German male participants produced in two conditions: Lombard, with additional noise, and non-Lombard (~4min per speaker and condition). All 100 speakers produced clicks (see Fig. 1), but varied widely in the number of clicks produced. A fairly high number of clicks happened within audible inhalation noises: 37% in the non-Lombard and 40% in the Lombard condition.

The data suggest that discourse clicks are not a rare phenomenon. Although non-verbal, they should not be ignored in linguistic phonetics when studying pauses and prosody at a discourse level. The large inter-speaker variability found here confirms the results of [4]. The finding that clicks are often produced in pauses before articulatory phases, especially within inhalation phases, confirms prior observations [12,14] for a larger sample of speakers. Discourse clicks may give insight into questions of speech preparation and initiation.

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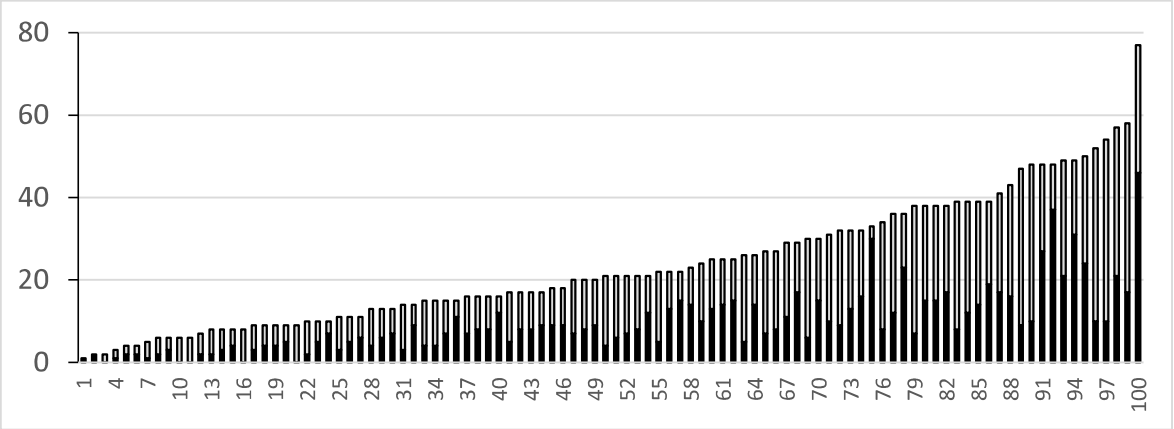


Figure 1. Cumulated number of clicks in the POOL corpus [5] per speaker and speaking condition: 'Lombard' in light grey, 'normal' in black.

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