Acoustic duration and typing timing – same, same… but different?

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Previous research has demonstrated that response latencies and interkeystroke intervals (IKIs) in typing, akin to acoustic duration in speech, are influenced by various lexical and sub-lexical variables. IKIs are susceptible to manipulations of, for example, word-, constituent-, bi- and trigram-frequencies (e.g., Baus et al. 2013; Scaltritti et al. 2016), semantic transparency (e.g., Gagné & Spalding 2016; Libben & Weber 2014), prosodic boundaries (e.g., Fuchs & Krivokapic 2016), syllable structure (e.g., Nottbusch et al. 2005; Weingarten et al. 2007), and morphological structure (e.g., Will et al. 2006). Despite the obvious commonalities, however, research on durational differences in typing has remained largely independent of research on durational differences in pronunciation. This lack of direct comparison has left unanswered many questions regarding the similarities – and also differences – of the two language production modes.

To bridge this gap, we conducted an online typing study focused on word-final /s/ in English. Recent studies have shown that the duration of word-final /s/ varies based on its morphological status (Zimmermann 2016; Plag et al. 2017; Plag et al. 2020; Schmitz et al. 2021; Tomaschek et al. 2019). Our aim was to test the generalizability of these findings to written language production. Using Schmitz et al. (2021)'s experimental design, we investigated whether participants typed word-final /s/ in English pseudowords at different internal boundaries – non-morphemic, plural, auxiliary has-clitic, and auxiliary is-clitic – with varying speeds. We compared our results to those reported by previous studies on acoustic duration.

We find that the influence of morphological structure on timing differed between articulation and typing. While non-morphemic /s/ and plural /s/ were typed at nearly identical speeds, a significant difference emerged in the typing of auxiliary clitics. Our results suggest that typing timing may be influenced by processing units other than morphemes.

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