

Morphology renders homophonous segments phonetically different: Word-final /s/ in German

Recent research challenges established models of speech production by revealing unexpected phonetic differences in phonologically identical elements induced by morphological structure. While established models assume that morphology does not play a role in later production stages (Kiparsky, 1982; Roelofs & Ferreira, 2019), it has been shown that English word-final /s/ duration is longest in non-morphemic contexts, shorter with suffixes, and shortest in clitics (Plag et al., 2017; Schmitz et al., 2021). Subsequent research found that such differences are not only produced but also perceived by listeners and able to influence comprehension (Schmitz, 2022).

Recently, Baer-Henney & Schmitz (2023) investigated if German speakers could use subphonemic durational cues to acquire the morphological categories singular (short word-final /f/) and plural (long word-final /f/) in an artificial language. However, the study revealed subphonemic cues were insufficient.

Building on English findings, the present production study examines subphonemic durational differences in German word-final /s/. Preliminary results (10 speakers, 400 data points) show significant differences between non-morphemic and plural /s/ duration ($p < 0.001$; *Cohen's d* = 1.06). The findings challenge established models, suggest that Baer-Henney & Schmitz's (2023) null-results were due to the reversed direction of durational cues used, and indicate morphological influences on speech production extend beyond English.

References

- Baer-Henney, D., & Schmitz, D. (2023). In morphological learning, phonemic cues are stronger than phonetic cues. *Manuscript*.
- Kiparsky, P. (1982). Lexical morphology and phonology. In I. Yang (Ed.), *Linguistics in the morning calm: Selected papers from SICOLI* (pp. 3–91). Hanshin.
- Plag, I., Homann, J., & Kunter, G. (2017). Homophony and morphology: The acoustics of word-final S in English. *Journal of Linguistics*, 53(1), 181–216. <https://doi.org/10.1017/S0022226715000183>
- Roelofs, A., & Ferreira, V. S. (2019). The architecture of speaking. In P. Hagoort (Ed.), *Human language: From genes and brains to behavior* (pp. 35–50). MIT Press.
- Schmitz, D. (2022). *Production, perception, and comprehension of subphonemic detail: Word-final /s/ in English*. (*Studies in Laboratory Phonology 11*). Language Science Press.
- Schmitz, D., Baer-Henney, D., & Plag, I. (2021). The duration of word-final /s/ differs across morphological categories in English: Evidence from pseudowords. *Phonetica*, 78(5–6), 571–616. <https://doi.org/10.1515/phon-2021-2013>