

## The quality of word-medial consonantal clusters as predictors of lexical access of compounds – evidence from an auditory lexical decision task

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Lexical frequency effects in word recognition are considered a reliable index of how compounds are accessed (Amenta & Crepaldi, 2012) – either via their constituents – *door* and *bell* (Taft, 2004) or as a whole word (Giraudo & Grainger, 2001) *doorbell* or via both these processes occurring in parallel (Baayen & Schreuder, 2000). If compounds are initially decomposed, behavioral data (e.g. response times, RTs) will be modulated by the frequency of individual morphemes. However, if compounds are recognized via full form, no morpheme frequency effects are expected. Past research has suggested that the nature of compounds' lexical access might be modulated by phonological qualities of consonantal clusters across morpheme boundaries, as specified by the Net Auditory Distance (NAD) (Author, 2014). The rationale is the following. Generally, clusters resulting from morphological operations (Dressler & Author 2007) are expected to be phonologically marked (dispreferred according to Net Auditory Distance, cf. Author, 2014) to saliently signal a morphological function. Compounds (if lexicalized) no longer need such signaling. We predict that compounds with unmarked (“non-signaling”) clusters are lexicalized (cf. Authors et al., 2015) and, consequently, accessed via their full form. In contrast, compounds with marked (“signaling”) clusters are not lexicalized so they are accessed via their constituents. Authors et al. (2016) tested advanced learners of English as L2 in a (visual) lexical decision task and found that L2 learners appear to be sensitive to the qualities of word-medial clusters in compounds. Learners' RTs to compounds with *preferred* word-medial clusters (according to NAD) were statistically significantly modulated by full form frequency but not by morpheme frequency. Whereas compounds with *dispreferred* clusters (according to NAD) showed no full form frequency effects but marginally significant morpheme frequency effects. However, it is unclear to what extent the participants of that study activated the phonological representations of the stimuli during a visual task. Consequently, the present paper is a replication of that research with a group of Polish speakers of English as L2 in the auditory lexical decision task. The participants were presented with 220 items but as auditory stimuli (Tucker et al. 2019) and asked to decide if these constitute English words or not. The results of the study did not bring the confirmation of the role of NAD in lexical access in the auditory modality. The observed frequency patterns will be discussed in the context of models of compound processing.

### References

- Author. (2014). to be added  
Authors et al. (2015). to be added  
Authors et al. (2016). to be added  
Dressler & Author. (2007). to be added  
Amenta, S., & Crepaldi, D. (2012). Morphological processing as we know it: An Analytical review of morphological effects in visual word identification. *Frontiers in Psychology*, 3.  
Baayen, R. H., & Schreuder, R. (2000). Towards a psycholinguistic computational model for morphological parsing. *Philosophical Transactions of the Royal Society of London A: Mathematical, Physical and Engineering Sciences*, 358(1769), 1281-1293.  
Giraudo, H., & Grainger, J. (2001). Priming complex words: Evidence for supralephical representation of morphology. *Psychonomic Bulletin & Review*, 8(1), 127-131.  
Tucker, B.V., Brenner, D., Danielson, D.K. et al. (2019). The Massive Auditory Lexical Decision (MALD) database. *Behav Res* 51, 1187–1204. <https://doi.org/10.3758/s13428-018-1056-1>

