

The current study explores statistical learning (SL), more precisely, the usage of transitional probabilities between syllables, in second language (L2) learners' word segmentation at first exposure. While we know that SL is an important mechanism in first language development, less is known about SL in L2 acquisition (for a review, see Frost, Armstrong, & Christiansen, 2019). Moreover, most studies rely on artificial input, which limits ecological validity (Newport, 2021).

Thirty Spanish adults listened to German input in a familiarization phase (FP). In a subsequent forced choice task, they heard bisyllabic target words and indicated whether they heard the respective word in the FP (yes-indication) or not. Critical words appeared in the FP, absent words were not presented in the FP and part words consisted of syllables that were present in FP, while the word itself was not presented during the FP.

A GLMM revealed a significant influence of target condition (critical, part, or absent word). Critical words elicited more yes-indications than absent ($z = 2.348$, $p < .0001$) and part words ($z = 3.716$, $p = .0006$). We furthermore calculated medium response sensitivity (d' prime) for critical vs. absent words ($d' = 1.422$) and critical vs. part words ($d' = 0.358$).

These results suggest that learners can exploit transitional probabilities to segment words from the continuous speech stream of a foreign language. We will discuss theoretical implications and directions for future research.

Frost, R., Armstrong, B. C., & Christiansen, M. H. (2019). Statistical learning research: A critical review and possible new directions. *Psychological Bulletin*, *145*(12), 1128–1153. <https://doi.org/10.1037/bul0000210>

Newport, E. L. (2021). Statistical language learning: computational, maturational, and linguistic constraints *. *Language and Cognition*, *8*, 447–461. <https://doi.org/10.1017/langcog.2016.20>