

## The salience of morphonotactic consonant clusters during sublexical and lexical processing: findings from Croatian

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**Introduction:** The term *mophonotactics* refers to the interface or an interaction between phonotactics and morphotactics (Dressler & Dziubalska-Kořaczyk, 2006). The distinction between phonotactic clusters occurring within a morpheme and morphonotactic ones which emerge across morpheme boundaries bears important theoretical and psycholinguistic implications given the important information these clusters carry. Studying consonant clusters relies on the principles of Beats-and-Binding (B&B) phonotactics (Dziubalska-Kořaczyk, 2002) and Strong Morphonotactic Hypothesis (SMH; Dressler & Dziubalska-Kořaczyk, 2006). The latter account claims that consonant clusters that occur over morpheme boundaries are more salient than the phonotactic clusters and that the effect of synergy between morphology and phonology will manifest itself in acquisition and processing. According to SMH, morphonotactic consonant clusters are acquired earlier and processed more accurately and more rapidly than the corresponding phonotactic clusters. Claims have been made that this applies to morphologically rich languages, such as Croatian.

**Aims:** The aim of the study is to investigate whether the morphonotactic clusters are processed faster and more accurately at the level of sublexical and lexical processing. Considering the SMH and previous findings on acquisition, we hypothesise that this is the case.

**Methods:** 71 native speakers of Croatian participated in the study. Two experiments were conducted to test sublexical and lexical levels of processing: auditory sequence targeting experiment (AST) and lexical decision task (LDT), respectively. In the AST, participants had to indicate whether the visually presented cluster appeared in the word they had previously heard, and in the LDT they had to decide whether the string of letters presented on the screen is or is not a real Croatian word. Clusters within the stimuli were controlled for type (phonotactic vs. morphonotactic) and preferability (preferable vs. non-preferable; calculated using NAD). In the second experiment we manipulated lexicality (word vs. pseudoword), as well. To test the influence of these factors on performance (reaction time and accuracy) a repeated measures ANOVA was conducted.

**Outcomes:** The results of reaction times in the first experiment (AST) indicate a significant main effect of *preferability* [ $F(1,70) = 59.515$ ;  $p < .001$ ] and an interaction between *cluster type*  $\times$  *preferability* [ $F(1,56) = 38.894$ ;  $p < .001$ ]. Preferable clusters were processed faster. The results of the second experiment (LDT) show a main effect of *lexicality* [ $F(1,70) = 120.451$ ;  $p < .001$ ], *cluster type* [ $F(1,70) = 21.685$ ;  $p < .001$ ], *preferability* [ $F(1,70) = 6.231$ ;  $p < .015$ ], and an interaction between *lexicality*  $\times$  *cluster type* [ $F(1,70) = 25.054$ ;  $p < .001$ ]. Words with preferable morphonotactic clusters were processed faster. Accuracy reached ceiling performance in both experiments.

***Discussion and conclusion:*** The results indicate that the interplay between phonology and morphology indeed aids processing, especially on the higher, lexical level. According to the SMH, the reason lies the saliency and significant information that these clusters carry in a morphologically rich system. Current findings have strong implications for theory and are to be investigated further in populations with and without language disorders.

**Keywords:** morphonotactics, strong morphonotactic hypothesis, sublexical processing, lexical processing, Croatian language