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### **Morpho-orthographic processing of Persian inflectional verbs exhibiting allomorphy**

One of the main problems in psycholinguistic studies is lack of cross-linguistic evidence to evaluate the different models of language processing and production. Studies of morphological processing of written words are not an exception to this problem. A great majority of these studies were conducted on Latin-based alphabets like English, French, Italian, etc (Rastle & Davis, 2008). The primary purpose of the present study was to assess the findings in studies of morphological processing of written words in Persian, an under-studied language with a different writing system. This study also aimed to investigate the extent of early morpho-orthographic processing upon which even pseudo-complex words like ‘corner’ are decomposed into ‘corn’ and ‘er’, in the same way that ‘farmer’ is decomposed into ‘farm’ and ‘er’ (Rastle et al., 2004) . Additionally, we aimed to test the predictions of two models of morphological processing: the edge-aligned embedded word model (Grainger & Beyersmann, 2017) and full decomposition model (Stockall & Marantz, 2006). The main questions that we pursued were: (1) Does this early morpho-orthographic processing also occur in words written in Persian? (2) Is this early morphological segmentation purely guided by orthographic information ((Grainger & Beyersmann, 2017; Rastle et al., 2004)) or is there a form-neutral level of representation where the different allomorphs of the same morpheme are represented by a single entity (Allen & Badecker, 1999; Crepaldi et al., 2010; Stockall & Marantz, 2006)? (3) What is the extent of this processing in terms of allomorphy and morphological complexity? (4) Can the segmentation reach the root when it is between a prefix and a suffix? The reaction times to 50 complex verbs in the infinitival forms were measured in 5 different conditions. In the first condition the prime was a surround-fixed inflectional form containing a non-identical stem; in the second condition the prime was a surround-fixed inflectional form containing an identical stem; in the third condition the prime was a suffixed inflectional form containing an identical

stem; in the fourth condition the primes were morphologically simple forms which were orthographically similar to the targets; and in the fifth condition the primes were simple forms unrelated to the targets.

To answer our questions we ran a masked priming lexical decision task with 100 Persian readers. The experiment was conducted online using the PCIBex farm platform (Zehr and Schwarz, 2018). The preliminary findings indicate absence of successful full decomposition for surround-fixed complex words and absence of early morphological processing altogether. The properties of written Persian words seem to make it more difficult for Persian readers to fully process morphologically complex words when the conscious perception of complex words is inhibited.

Key words: Persian, morpho-orthographic segmentation, masked priming, irregular stem allomorphy, lemma level

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<https://doi.org/10.1075/ml.1.1.07sto>