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Differential Effects of Adjacent-Letter and Open Flanking Bigrams on Lexical Decision Performance

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Abstract

Some models of word identification hypothesize units responsive to bigrams—letter pairs—that may not be adjacent in a letter-string stimulus. Grainger, Mathot, and Vitu (2014) and Palinski (2016) found, for words, responding was more efficient when flanking bigrams contained target-string letters than when they did not. They also found that responding was more efficient when flanking bigrams contained letters ordered as in the target than switched but whether flanking bigrams were ordered as in the target did not affect performance. Palinski (2016) replicated the results of Grainger et al. (2014) and conducted a second experiment that included four additional conditions in which the flanking bigrams consist of letters separated by one letter in the target (ex. FO FROG RG; RG FROG FO; OF FROG GR; GR FROG OF). Although, for nonadjacent letter bigrams, the pattern of performance over conditions was like that in Grainger et al. (2014) and Palinski (2016) Experiment 1, for adjacent bigrams, the pattern was different. To investigate the stability of these results, we repeated Palinski's second experiment. We replicated her results. The effect of adjacent-letter flanking bigrams may depend on whether nonadjacent-letter flanking bigrams are encountered in the experiment.