Are abstract letter representations indexed by the P260 event-related potential?
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Results of a previous event-related potential study with single letters suggest that the P260 indexes abstract letter representations in the adult brain (Petit, Midgley, Holcomb, & Grainger, 2006). Whether novel stimuli that are visually similar to letters can elicit this effect has not been tested. In a forward- and backward-masked priming paradigm, we presented college students with letter-letter and false font-false font (letter-like stimuli controlled for visual elements) pairs in which the targets did (e.g., a-a) or did not (e.g., a-b) match the masked primes preceding them. Participants responded to each trial by pressing buttons indicating whether each target was or was not a real letter. Preliminary analyses with half ($n = 9$) the anticipated participants show a significant difference ($p < .05$) in mean amplitude (220-300 ms) between matching and non-matching targets in the letter condition, replicating the pattern in Petit et al. despite task differences. They also show a trend toward a similar pattern in the false font condition ($p = .06$) in the same epoch. The suggestion of an analogous effect in the false font condition (comprised of novel stimuli that should not have abstract neural representations) may call into question the hypothesis that the P260 specifically indexes abstract letter representations, and may suggest that it reflects more basic visual processing.

The N200 as an index of orthographic processing in a Reicher-Wheeler paradigm
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Previous research has suggested that the N200 component of the event-related potential (ERP) waveform may index early, automatic orthographic processing. To investigate the sensitivity of the N200 to orthography, we used a variant of the Reicher-Wheeler task in an ERP paradigm. We briefly presented (40 ms) four-letter strings, followed by a mask (200 ms), then a string of four hash marks with one letter below and one letter above a given hash mark; this required a button press response indicating which of the two letters had been presented in the masked string in that position. ERPs were recorded to the masked four-letter strings, which were real words (DARK/PARK), pseudowords (DARL/PARL), or nonwords (RDKA/RPKA); here followed by forced-choice letters D and P. In participants run to date ($n = 13$, half the full sample), a behavioral word superiority effect (WSE) was evident: letter choices were more accurate for words than nonwords ($p < .01$). A pseudoword superiority effect (PWSE) was also evident, with greater accuracy for letters in pseudowords than nonwords ($p < .01$). Electrophysiologically, mean amplitude of the N200 (170-220 ms) was greater for nonwords than words at posterior, right hemisphere sites (condition x hemisphere x anterior/posterior, $p < .05$) and was greater for nonwords than pseudowords (condition, $p < .05$). Our findings from a classic masked priming, forced-choice letter paradigm adapted into an ERP format are consistent with the suggestion that the N200 is sensitive to early, automatic orthographic processing in terms of both a WSE and a PWSE.