Phonological awareness (PA) is a reliable correlate of reading ability; rhyming tasks are one measure of PA (Adams, 1990). Event-related potentials (ERPs) are a measure of how the brain processes specific stimuli. The N400 component of the ERP is sensitive to rhyme: in prime-target stimulus pairs, nonrhyming targets elicit a more negative response than rhyming targets (Rugg, 1984). Few ERP rhyming studies have used simple stimuli such as letters.

METHODS
Participants
- 8 subjects (5 F); average age 19.8
- Monolingual, right-handed, no history of language or neurological disorders

Behavioral Testing
Comprehensive Test of Phonological Processing (CTOPP; Wagner, Torgesen, & Rashotte, 1999): Phonological Awareness (PA) and Memory (PM)

Stimuli
- 60 rhyming (A-K) and 60 nonrhyming (A-C) pairs of uppercase letters
- Button press judgment: rhyme/nonrhyme

RESULTS
Accuracy on ERP Task
Rhymes: 98.3%, Nonrhymes: 99.4%

ERP Results
Condition (p = .0071)

CONCLUSIONS
- Even with single letter stimuli, nonrhyming targets elicit more negative ERPs than rhyming targets
- This N400 rhyming effect is largest at medial sites, but widespread across the scalp
- The size of the N400 rhyming effect is correlated with a standardized measure of phonological memory (larger rhyming effect associated with lower PM score)

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