

## **A graded effect of real-world plausibility on the N400 evoked by lexically unpredictable words**

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It is well established that the N400 varies with the semantic probability of a word. However, because most studies have used cloze as a proxy for semantic probability, it has been difficult to characterize N400 differences on words that might vary in their semantic predictability (based on real-world knowledge) but that are lexically unpredictable. We measured electroencephalogram (EEG) as participants read highly constraining discourse scenarios that included lexically unpredictable words (<1% cloze), which varied continuously in their event plausibility from merely unexpected to highly implausible. We observed a linear, graded effect of plausibility on the N400, with additional effects on a later, post-N400 positivity. Moreover, in a delayed recall task, participants were most likely to misremember words that they had predicted in very implausible scenarios. These results suggest that the N400 is sensitive to real-world semantic knowledge, even when specific lexical items cannot be predicted, and that plausibility can have downstream influences on memory.