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Overcoming Error: Association between Attentional Reorientation and Vocabulary Size

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Abstract

According to prediction-based theories, prior learning creates expectations for subsequent learning events. As they learn words, individuals develop accurate and inaccurate expectations about word meaning. Existing research shows that people who shift their gaze to the referent of words more quickly have larger vocabularies. This shifting reflects the processing of accurate expectations about the referents of these words. Is the speed of processing inaccurate expectations also related to vocabulary size? To examine this question, adults learned eight novel word-object mappings during cross-situational word learning (CSWL). The mappings were either consistent or inconsistent with a prior familiarization phase. Early in CSWL, hearing inconsistent words violated expectations about the referent of those words. Shifting from a distractor to the target of an inconsistent word during CSWL was significantly associated with productive and receptive vocabulary. These findings are consistent with prediction-based theories, in which individuals use prediction errors to adjust their expectations.