

ELECTROPHYSIOLOGICAL CORRELATES OF ORIENTING RETRIEVAL TO REMOTE
AND RECENT MEMORIES: EFFECTS OF AN EPISODIC SPECIFICITY INDUCTION

Emily K. Leiker

Dr. Jeffrey D. Johnson, Dissertation Supervisor

ABSTRACT

The present set of experiments employed event-related brain potentials (ERPs) to investigate differences in how individuals orient retrieval to memories from different times. Experiment 1 investigated whether ERP effects of orienting to remote and recent memories were distinct from effects of retrieval difficulty by manipulating the repetition of studied items across two separate encoding sessions one week apart. Participants then completed a series of targeted retrieval blocks that distinctly probed memory for items from one of each condition. Contrasting the ERPs to correctly rejected new items from the difficulty-matched orienting conditions revealed a positive-going waveform for recent versus remote orienting that differed from the effect of difficulty in both timing and direction. These results replicate prior findings on orienting retrieval to time and indicate that such effects are dissociable from retrieval difficulty. Experiment 2 examined the functional nature of the time-related orienting effects by manipulating the degree of detailed processing engaged prior to targeted retrieval, through a novel computerized procedure for inducing general and specific episodic processing. Although the orienting effects in Experiment 2 were notably weaker than prior findings, the induction reliably modulated behavioral performance and the ERPs for orienting to recent memories. The findings are discussed in the context of further investigating the effectiveness of induction procedures on the processes supporting episodic retrieval, which could have important implications for addressing memory impairment associated with healthy aging and clinical disorders.