

# The Role of Surprise in Memory: Assessing the Impact of Levels of Surprise on Children's Episodic Memory

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## Abstract

Expectations play a critical role in children's learning. Prior studies suggest that children selectively focus on and better remember details of expectation-violating events (Stahl & Feigenson, 2017; 2019). Yet, it remains unclear whether this enhanced memory persists across varying degrees (e.g., somewhat vs. very surprising) and types of expectation violations (core-knowledge vs. schema-based violations). Adapting a surprise storybook paradigm from Foster and Keane (2019), we measure children's (5-8 years; N=20) surprise and recognition memory for six stories that span different expectation-related domains and contain outcomes that are expectation-congruent, somewhat expectation-violating, or completely violating. While preliminary data revealed no significant difference in recognition accuracy by level of surprise, a trend towards better memory for violations of well-entrenched versus schema-based expectations was observed. This preliminary work points to potential differences in how varying types of expectations influence memory in young children and has important implications for learning.