

Carryover effects in free recall reveal how prior experiences influence memories of new experiences

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Abstract

We perceive, interpret, and remember ongoing experiences through the lens of our prior experiences. Inferring that we are one type of situation versus another can lead us to interpret the same physical experience differently. In turn, this can affect how we focus our attention, form expectations of what will happen next, remember what is happening now, draw on our prior related experiences, and so on. To study these phenomena, we asked participants to perform simple word list learning tasks. Across different experimental conditions, we held the set of to-be-learned words constant, but we manipulated the orders in which the words were studied. We found that these order manipulations affected not only how the participants recalled the ordered lists, but also how they recalled later randomly ordered lists. Our work shows how structure in our ongoing experiences can exert influence on how we remember unrelated subsequent experiences.

16 Introduction

17 Experience is subjective: different people who encounter identical physical experiences can take
18 away very different meanings and memories. One reason is that our subjective experiences in the
19 moment are shaped in part the idiosyncratic prior experiences, memories, goals, thoughts, expect-
20 tations, and emotions that we bring with us into the present moment. These factors collectively
21 define a *context* for our experiences².

22 The contexts we encounter help us to construct *situation models*^{3,5} or *schemas*^{1,4} that describe
23 how experiences are likely to unfold based on our prior experiences with similar contextual cues.
24 For example, when we enter a sit-down restaurant, we might expect to be seated at a table,
25 given a menu, and served food. Priming someone to expect a particular situation or context
26 can also influence how they resolve potential ambiguities in their ongoing experiences, including
27 ambiguous movies and narratives⁶.

28 Results

29 Discussion

30 Materials and methods

31 Participants

32 Experimental design

33 Analysis

34 References

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36 schemas during narrative perception. *The Journal of Neuroscience*, 38(45):9689–9699.

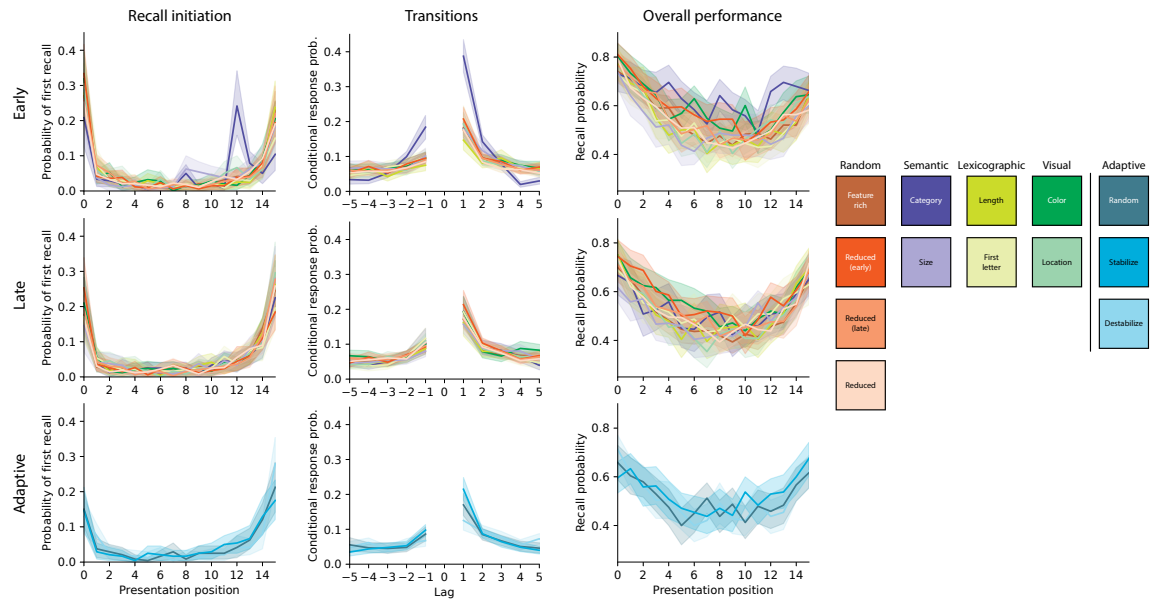


Figure 1: Recall dynamics in free recall.

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