

Architectural Arcs in Episodic Details in Recalled Memory Narration

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Introduction

- Researchers across disciplines have asked whether there is a common architectural framework in narratives.
- There is ample evidence suggesting arcs of emotional details in narrations, which raises further questions about narrative structures in general.¹⁻²
- Studies in narrative development suggest that encoding may begin with episodic details.³

Primary Question:

How are episodic and semantic, as well as emotion and thought-related details, structured in the course of recalled memories?

Music & Memory Prompt Selection

- Memory prompts were preselected during prescreening, >1 week in advance of interview sessions.
- Participants were asked whether they can remember a specific event from a list of events they were read. This list of events prompted for memory recollection.
- The selection of music and its manipulation is tangential to the goals of this project, but has been discussed in other work.⁴

Memory Prompts: Events where participants can recall a *specific episode* during childhood (ages 5-9), adolescence (ages 14-18), or young adulthood (ages 20-25).

Ex. "A friend's birthday party in elementary school."

Participants

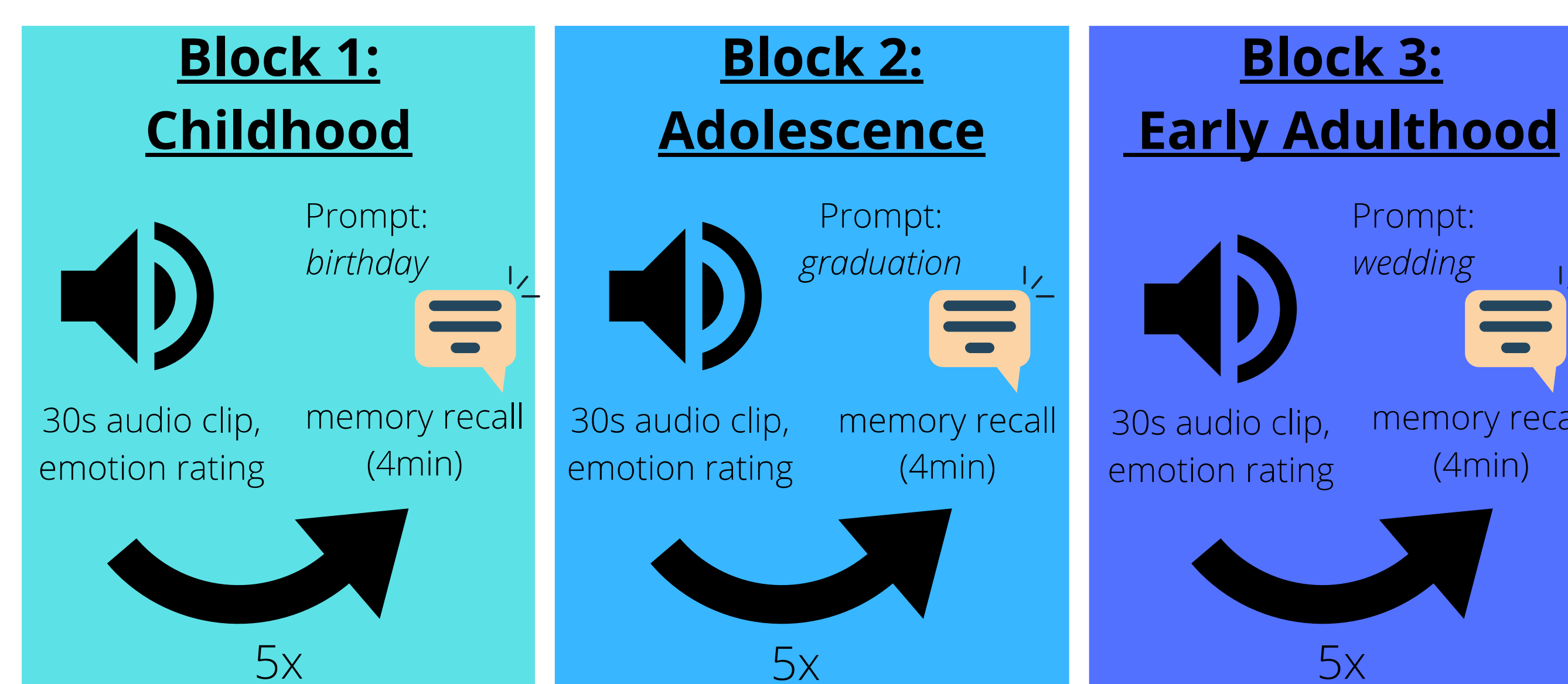
- Pilot Study, N = 6 (5F, 1M)
- Sessions conducted in person in 2019
- **Inclusion criteria:** Age 65-80 years (M = 71), fluency in English, no reported neurological conditions or hearing impairments, memory for sufficient early-life events and musical artists, MoCA score >=21

Music & Autobiographical Interview Sessions



At least one week between sessions
Session order counterbalanced across participants
15 trials/session (45 total trials)

Example Session



(block order counterbalanced across participants)

60-90 minutes

Scoring Recalled Memories

- Memories were scored using Autobiographical Interview Scoring Manual⁵, in particular for *internal vs external* details.

Internal Details
Episodic
(“time travel”)

“On the day Lisa turned 9, we had chocolate cake in the school gym.”

External Details
Semantic + Non-prompted episodic

“I have always loved parties.”
“Sadly, this year, we only had Zoom parties.”

The position of details from beginning to end of a memory recall was calculated as follows:

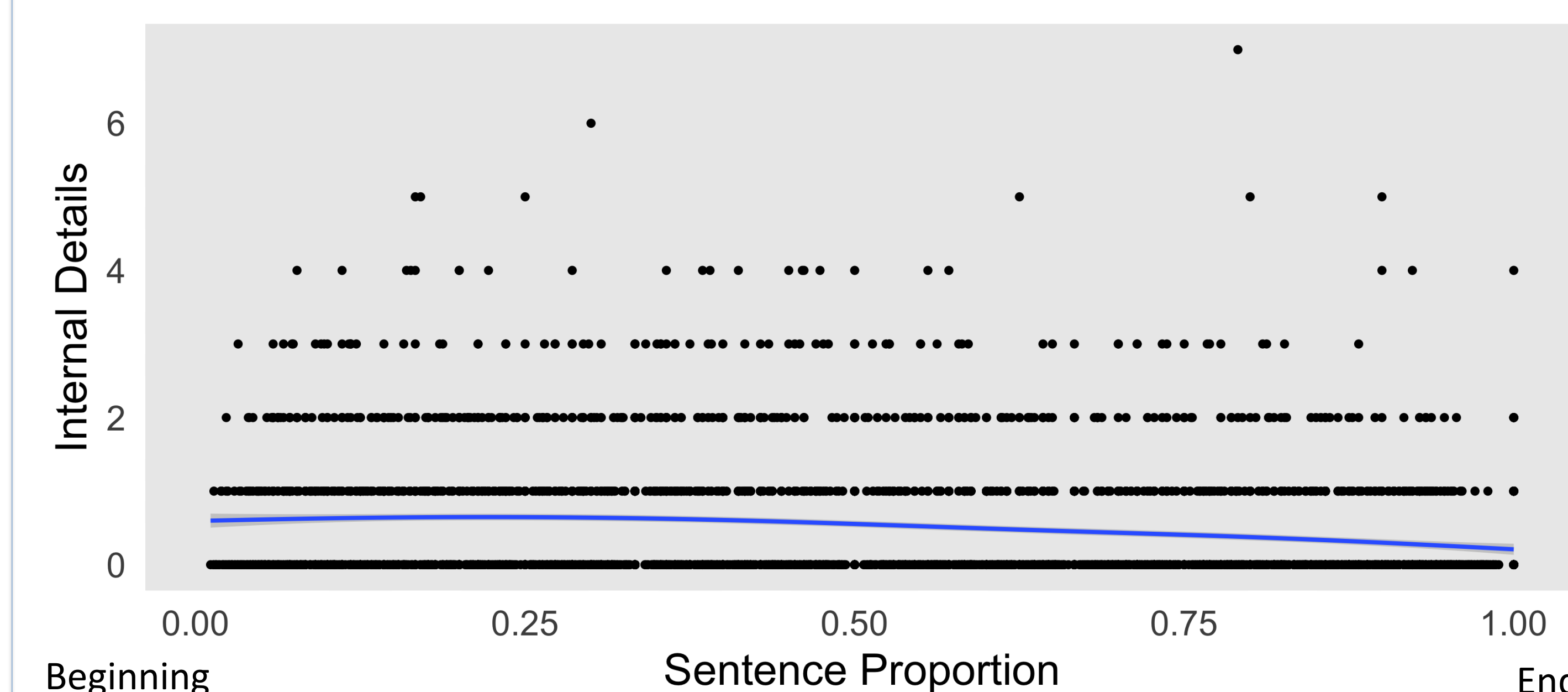
$$\text{Sentence Proportion} = \frac{\text{Sentence Number}}{\text{Total Number of Sentences}}$$

Pilot Analyses

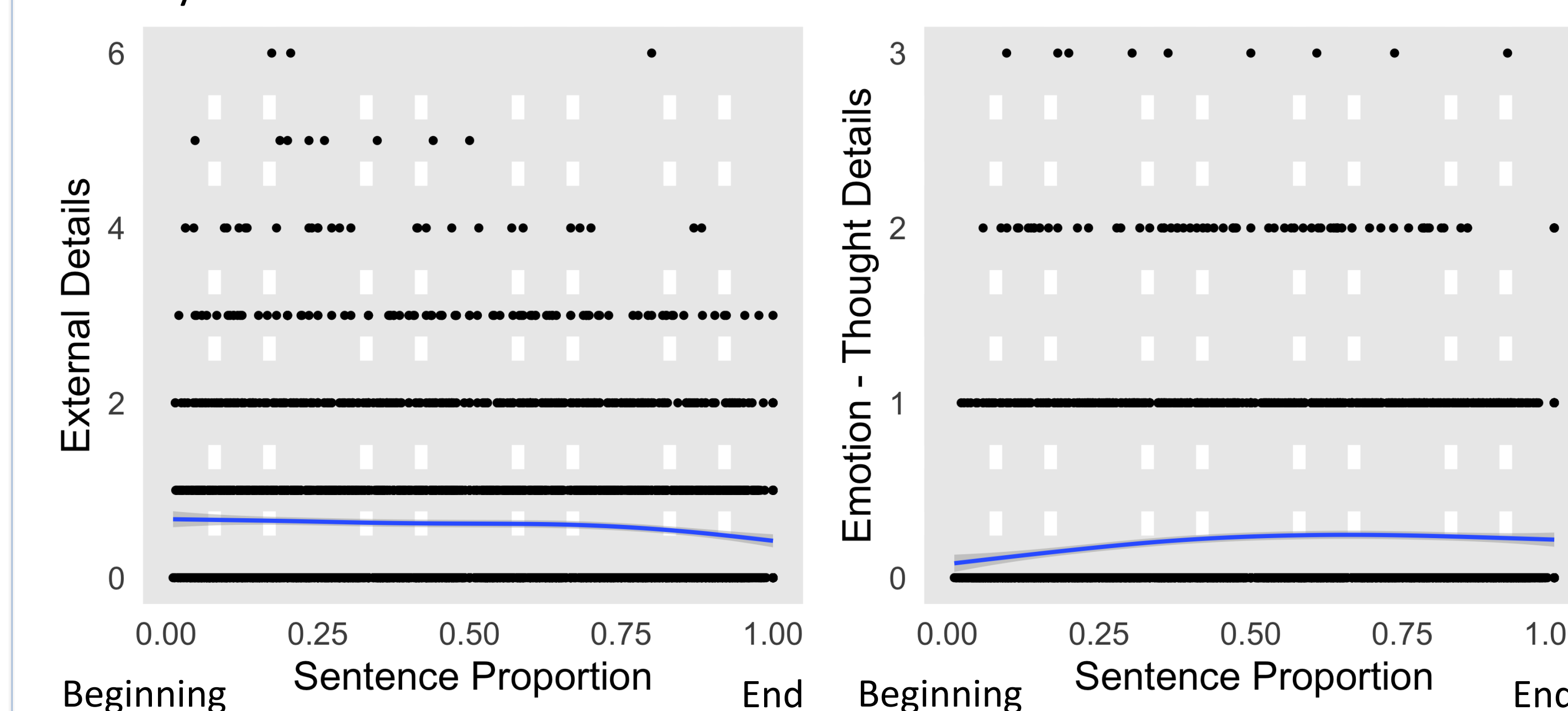
- The primary aims of the analyses were exploring and describing the pilot data.
- Through this, we hope to generate hypotheses to test specific architectural frameworks in recalled memory narration.

Preliminary Results

- Visual inspection of the data suggests that there is a peak in episodic retrieval at the beginning of autobiographical memory recall.
- Each dot represents the number of details for one sentence at a particular time during memory recall. Dots are shown for all memories and all participants.



Architectural positioning of external and emotion-thought details in recalled memory narration:



Emotion-thought details are one category in the Autobiographical Interview Scoring Manual⁵.

*uncertainty estimates derived from pilot data & simulations

Results

Visual inspection of data suggests that fewer emotion-thought details were recalled at the beginning of narratives, and fewer external details were recalled towards the end.

Future Directions

The results of this study will shed light on architectural frameworks in recalled memory narration.

References

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