

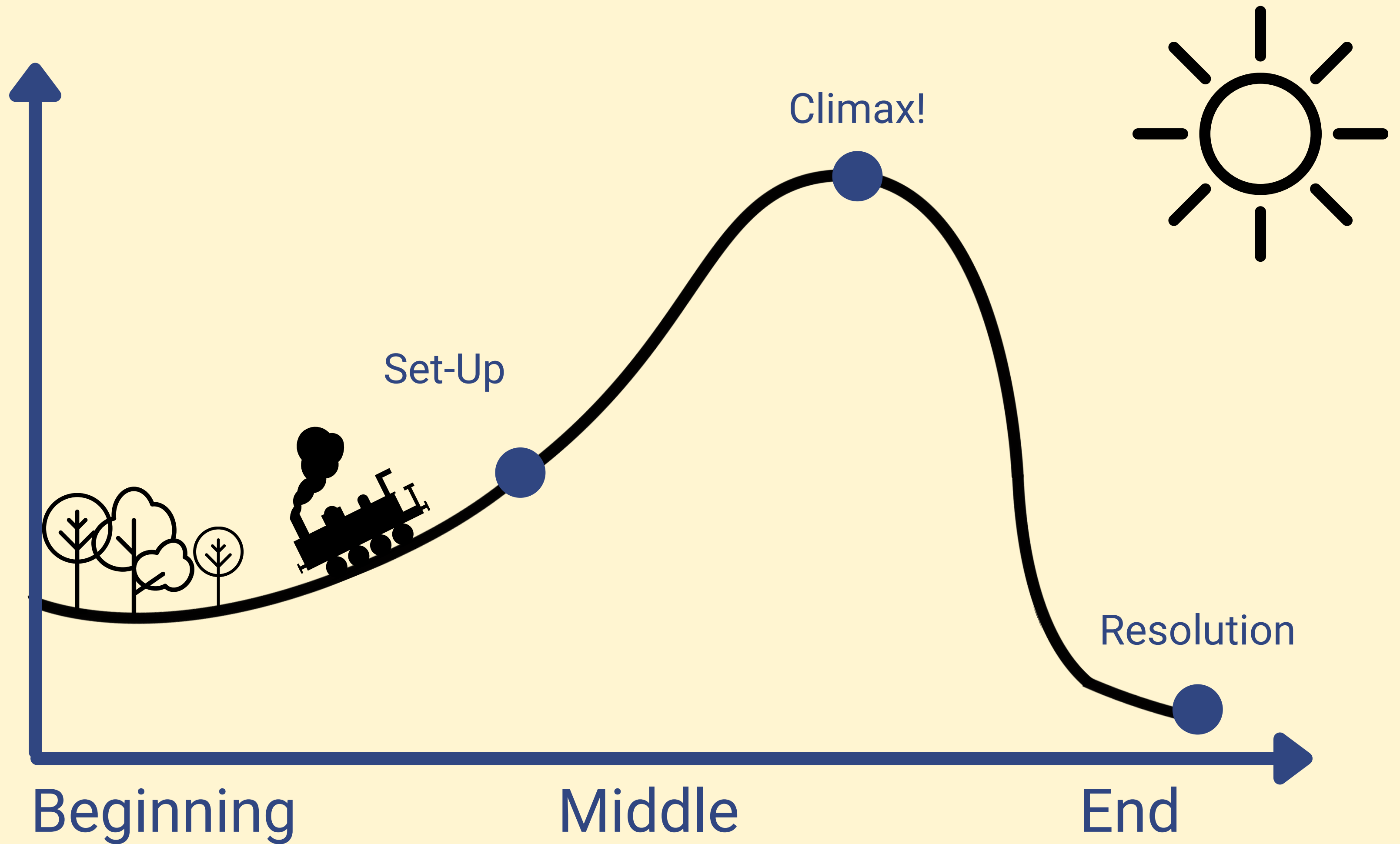
Architectural Arcs in Episodic Details in Recalled Memory Narration

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*denotes shared senior authorship





Do common cognitive patterns exist in storytelling?

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If they do, what do they look like?



Where in a memory narration are episodic and semantic details temporally structured?



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

Due to the pandemic, full study will be conducted online via Zoom

Music and its manipulation is tangential to this project but has been discussed here <https://psyarxiv.com/tejb4/>

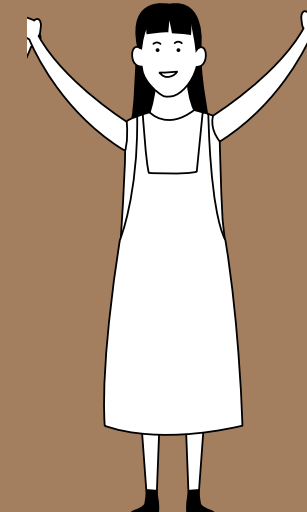
Prescreening Call



Childhood
(ages 5-9)



Adolescence
(ages 14-18)



Early
Adulthood
(ages 20-25)

Prescreening Call



Childhood
(ages 5-9)



Adolescence
(ages 14-18)



Early
Adulthood
(ages 20-25)

*A friend's birthday
party in elementary
school*

Prescreening Call



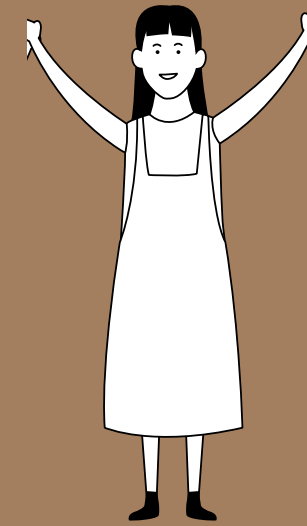
Childhood
(ages 5-9)

*A friend's birthday
party in elementary
school*



Adolescence
(ages 14-18)

*Your high school
graduation*



Early
Adulthood
(ages 20-25)

Prescreening Call



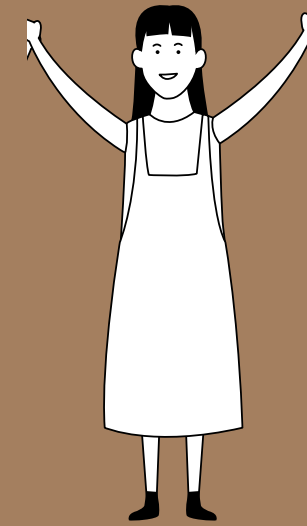
Childhood
(ages 5-9)

*A friend's birthday
party in elementary
school*



Adolescence
(ages 14-18)

*Your high school
graduation*



Early
Adulthood
(ages 20-25)

*A wedding in your
early 20s*

Interview Sessions

Example Memory Recall

15 trials for each developmental stage
(childhood, adolescence, early adulthood)

45 trials in total

*A friend's birthday
party in elementary
school*



memory recall
(4 mins)

Autobiographical Interview Scoring Manual

Details - place, events, time, perceptions, emotion/thoughts, and metacognitive details

(Levine et al., 2002)

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Internal Details

Episodic
“time travel”

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External Details

Semantic + non-prompted
episodic

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"On Lisa's 9th birthday, we ate
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Prompt - A birthday party you attended in your childhood

Internal Details

Episodic
"time travel"

"On Lisa's 9th birthday, we ate chocolate cake during recess"

External Details

Semantic + non-prompted
episodic

"I have always loved birthdays"
"This year we had a Zoom party"

(Levine et al., 2002)

Questions

Questions

Q1 When in a memory narration are details of any type (internal and external) recalled?

Questions

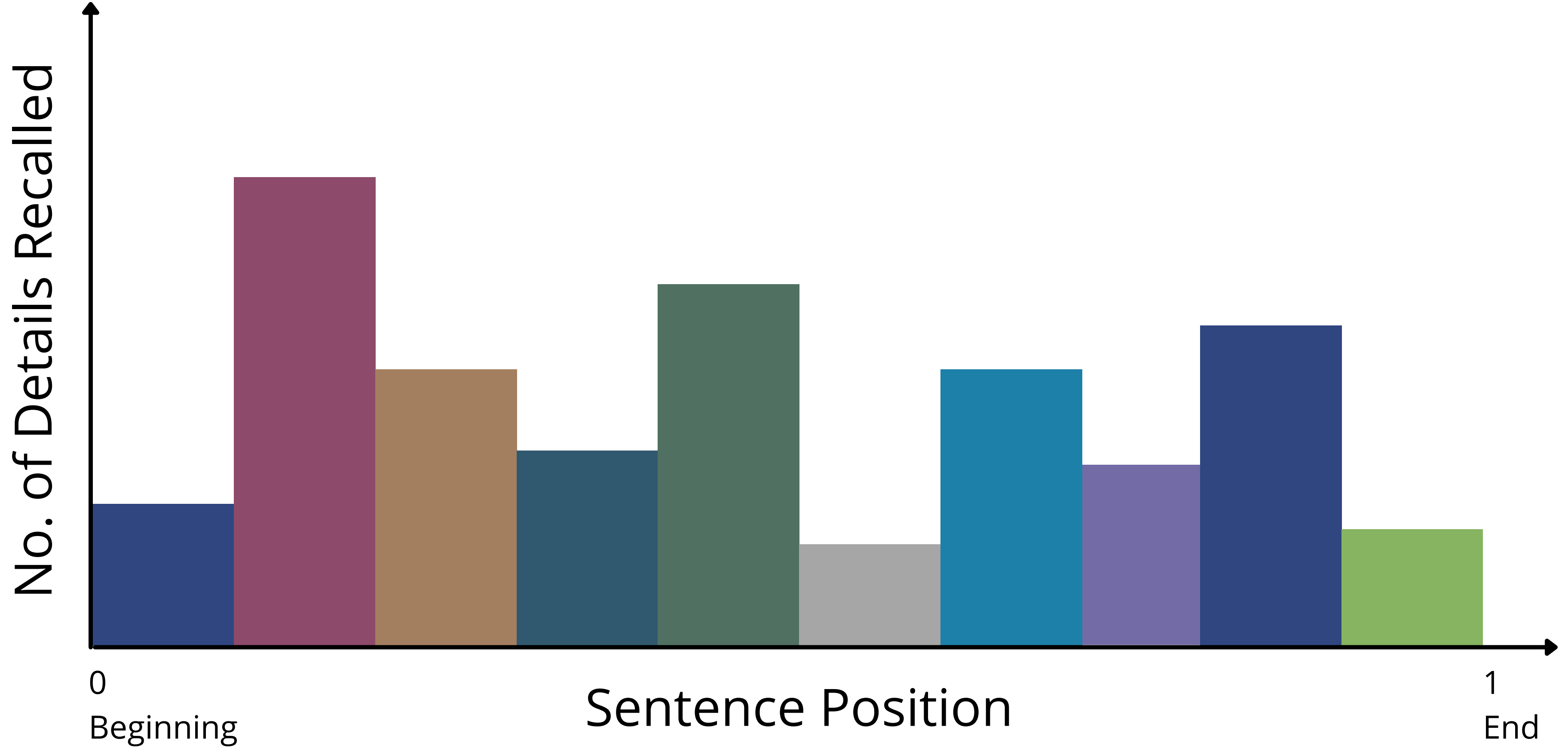
Q1 When in a memory narration are details of any type (internal and external) recalled?

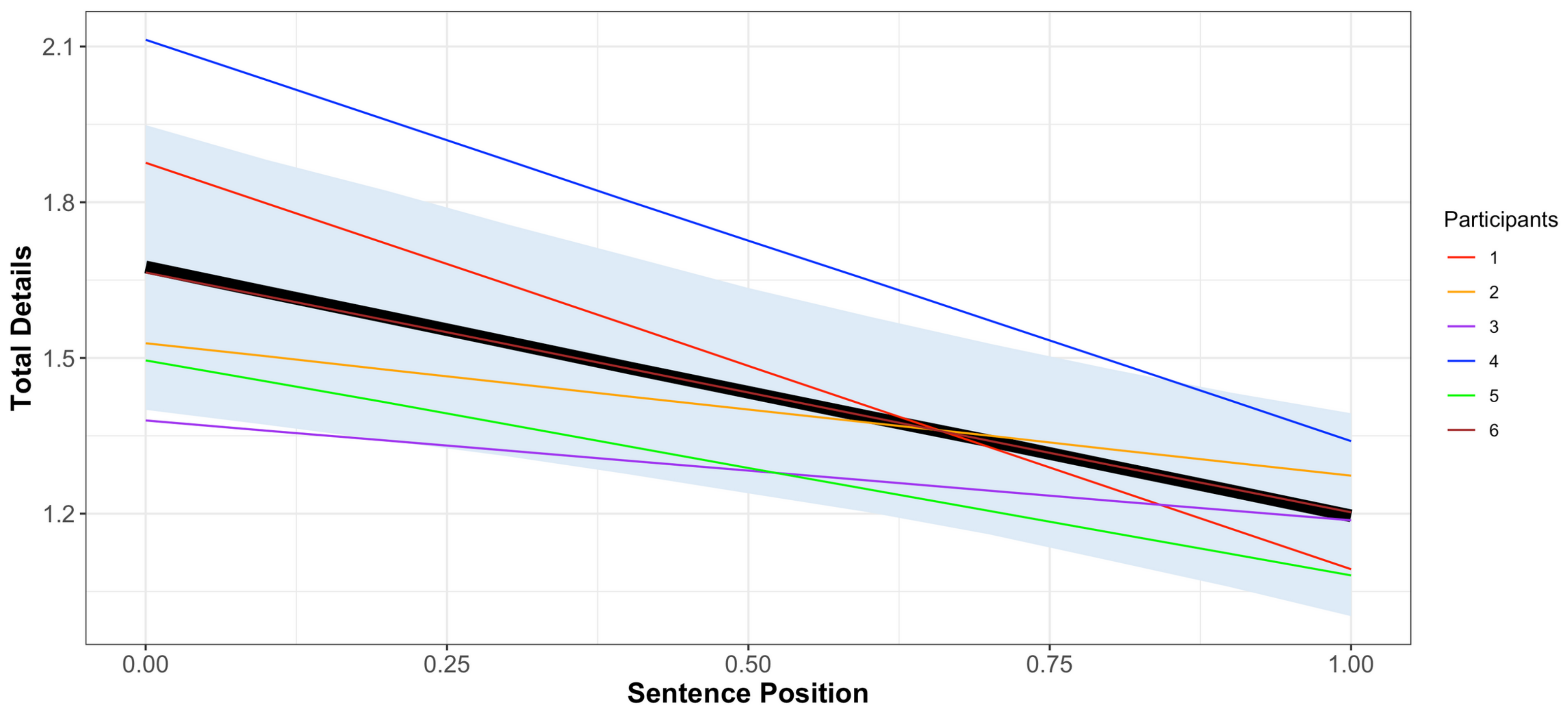
Q2 Where in a memory recall are internal and external details temporally structured?

Sentence Position is the measure of temporal position of a sentence from the beginning to the end of a memory.

$$\text{Sentence Position} = \frac{\text{Number of sentences so far}}{\text{Total number of sentences in the memory}}$$

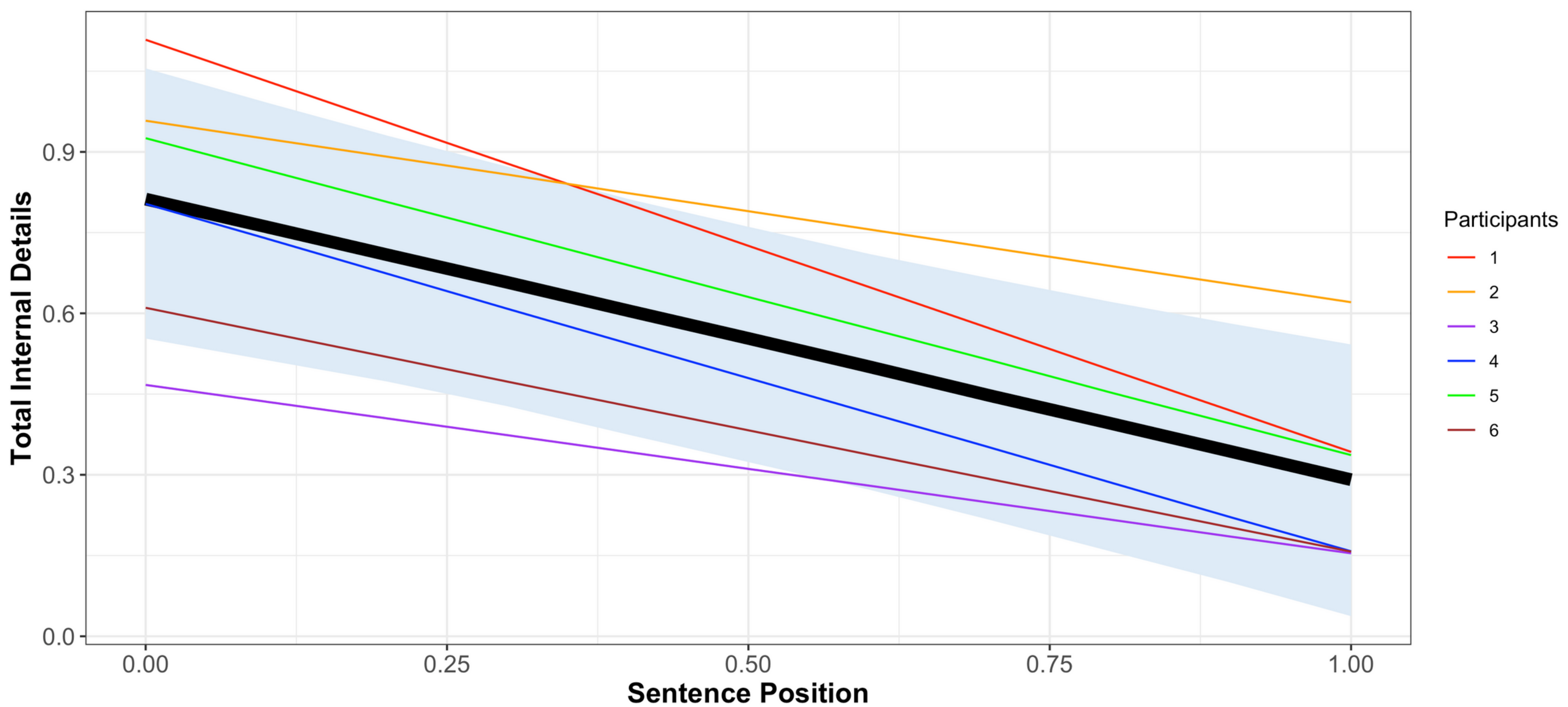
Example Memory





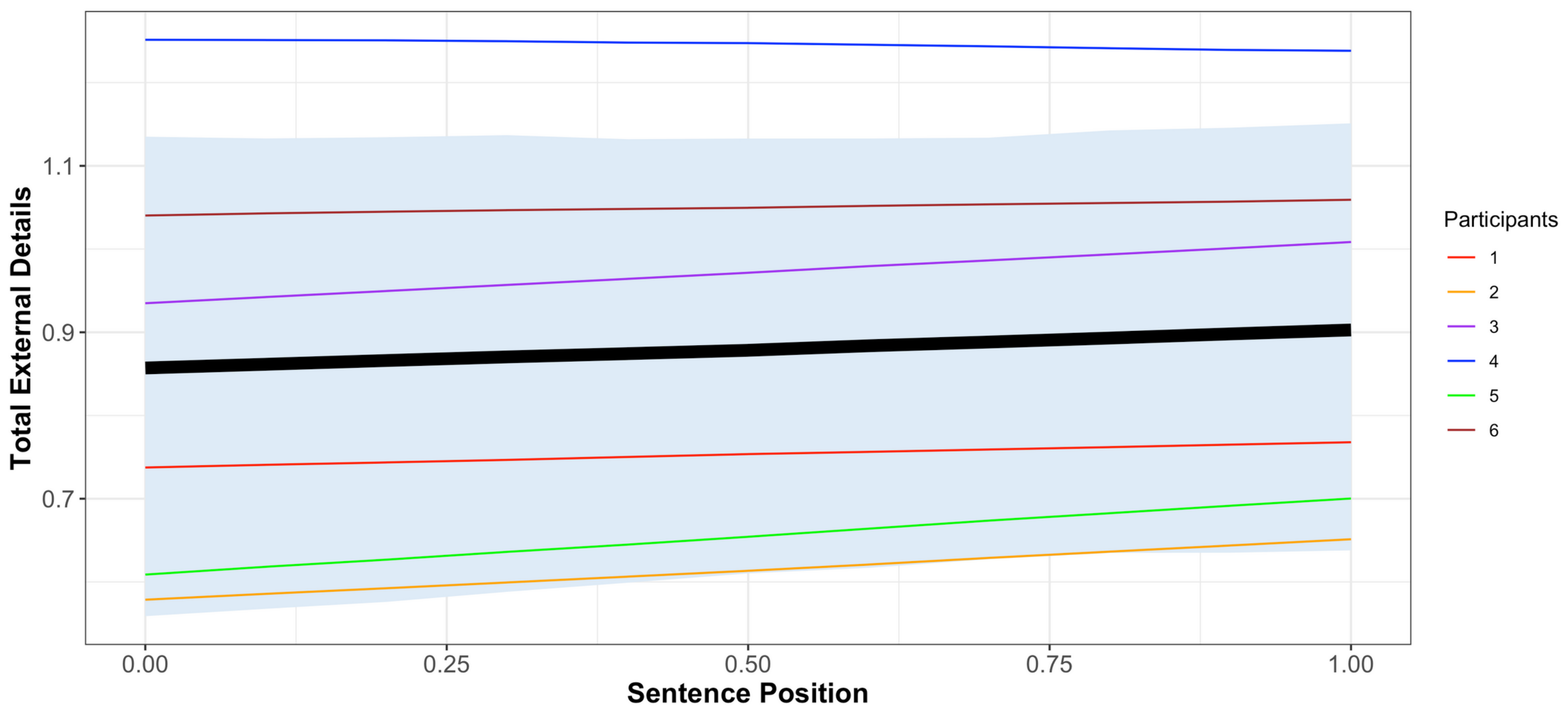
Fewer total details (internal + external) were recalled towards the end of memory recall.

$$\text{total_details} \sim \text{sentenceProp} + (\text{sentenceProp}|\text{subjectID})$$



Fewer internal details were recalled towards the end of memory recall.

`internal_details ~ sentenceProp + (sentenceProp|subjectID)`



External details were recalled consistently throughout memory recall.

`external_details ~ sentenceProp + (sentenceProp|subjectID)`

Preliminary Results : Hypotheses for Full Data

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There will be a decline in the number of details recalled during a memory narration.

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There will be a decline in the number of details recalled during a memory narration.

This decline will be seen primarily due to the decline in internal details as external details will be recalled consistently throughout a memory narration.

Future Directions for the Full Study

In addition to these questions we hope to explore the following-

Future Directions for the Full Study

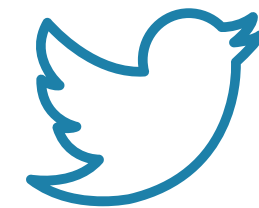
In addition to these questions we hope to explore the following-

- Are these temporal positions of internal and external details consistent across memory narrations from different developmental stages (childhood, adolescence, early adulthood)?

THANK YOU!



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