

When the past serves the future: Exploration of episodic future thinking among preschoolers

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BACKGROUND

➤ **Episodic future thinking (EFT)**, the ability to imagine specific experiences that might occur in one's personal future, is **essential** for many other cognitive (e.g., planning) and socio-emotional (e.g., emotion regulation) abilities (1).

➤ Its development begins during the **preschool years** (2).

? However, little is known about the **mechanisms** underlying this early development.

➤ A widespread assumption is that EFT relies on the **memory of personal experiences** (3), and that **similar factors** could therefore be involved in its emergence, including **parental reminiscing style** (4). Indeed, the way parents discuss past experiences with their children varies greatly, with important impacts on preschoolers' **memory** (5).

Low-elaborative parents



High-elaborative parents

Differences in terms of the **structure** of the conversations and the **content** addressed.

AIMS

This study aimed to explore:

➤ The relation between **preschoolers' EFT** and their **memory performance** (using two kinds of memory tasks: one assessing children's memories about recent events and one evaluating more isolated episodic memory skills through a laboratory episodic memory task).

➤ Whether **preschoolers' EFT** was related to their **parental reminiscing style** (focusing on both the structure and the content of the conversations).

PARTICIPANTS

50 typically developing French-speaking preschoolers ($M = 52.12$ months, $SD = 10.68$; 25 females) and the parent with whom they talk the most ($M = 35.02$ years, $SD = 3.44$; 44 females).

STUDY DESIGN



Visit of an aquarium



Parent-child reminiscing about the aquarium

Structure Indices

- Initiations** (tendency to switch the focus of the discussion to new elements, including sometimes not following the child's lead)
- Concretizations** (tendency to discuss elements in depth and follow the child's lead)
- Evaluations** (tendency to provide feedback)
- Encouragements** (tendency to prompt the child to contribute to the discussion)
- Repetitions** (tendency to repeat himself/herself)

Content Indices

- Episodic Richness** (tendency to discuss factual and contextual information, perceptual details and emotions felt during the visit)
- Intern Perspective** (tendency to address elements that increases the coherence of the reminiscence, such as subjective evaluations and related comments including about general knowledge, ...)
- Metamemory Talk** (tendency to discuss memory performance and/or processes)

1st session



Child's testing session

- Coloring
- PPVT-R (A)
- Metacognitive question
- **Episodic future thinking task**
- Reward

Children were asked to describe **3 activities** they were going to do **the next day**.

The experimenter then asked questions about any missing information among the "what," "who," "where," and "at what time of day".

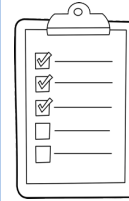
At the end of the task, the parents had to judge whether these activities could indeed occur the next day.

2nd session
(2 to 5 days apart)



Laboratory episodic memory task
(The small house test (6))

- Encoding
- Free Recall
- Recognition



Memories about the testing session

- Free recall
- Recognition



Memories about the aquarium visit

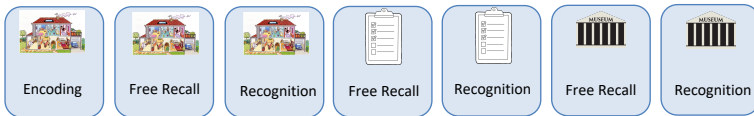
- Free recall
- Recognition

RESULTS

Relation between children's **EFT** and their **memory performance** (α was set at $p = .01$)

EFT

$r = 0.39$, $p = .005$ $r = 0.25$, ns $r = 0.39$, $p = .005$ $r = 0.29$, ns $r = 0.27$, ns $r = 0.07$, ns $r = 0.17$, ns



Relation between children's **EFT** and the **structure** of parental reminiscing style

➤ GLMM : the best-fitting model included **repetitions** (AIC = 532.08)

Repetitions

$b = 0.68$
 $p = .04$

EFT

For each one-point increase in parental repetitions, children were 68% more likely to report an additional piece of plausible information about future activities.

Relation between children's **EFT** and the **content** of parental reminiscing style

➤ GLMM : the best-fitting model included **episodic richness** and **metacognitive talk** (AIC = 531.65)

Episodic Richness

ns

X

$b = -1.29$
 $p = .05$

EFT

For each one-point decrease in episodic richness, the effect of metamemory talk on children's likelihood of reporting an additional plausible piece of information about future activities increased by 129%.

CONCLUSIONS & PERSPECTIVES

Children's EFT and their memory performance

Preschoolers were capable of **EFT about near-future events**, and this skill was related to their performance on the **laboratory episodic memory task**.

➤ This supports the idea that **episodic representations**, as specifically assessed in the small house test, are crucial for **projections into the near future**.

➤ This also suggests the involvement of **binding processes** in the relation between preschoolers' memory and EFT, as both the small house test and the EFT task explicitly asked children to provide details associated with the recalled and anticipated activities, while this was not the case in the other tasks.

Children's EFT and their parental reminiscing style

Innovatively, we found that **certain specific components of parental reminiscing style** were associated with children's EFT performance:

➤ For the **structure**, the data revealed a positive association of children's EFT with parents' **repetitions**.

→ Through repetitions, children could internalize information relevant to processing life events, and then use it recurrently when imagining the future.

➤ For the **content**, the role of parents' **metamemory talk** was revealed in interaction with episodic richness.

→ Through metamemory comments, children could acquire some metacognitive skills (such as the availability heuristic) and develop knowledge about their own functioning, which serves both past and future projections.

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- (6) Picard et al. (2012). *Child Development*, 83(3), 1037-1050.