

“Because John will throw them out”: Children’s ability to take into account obstacles when planning for the future

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INTRODUCTION

Background

- Thinking about the future is central to human cognition and its development (Suddendorf & Moore, 2011).
- One of the hallmarks of flexible thought is the capacity to draw on our past experiences to make adaptive choices for the future (Atance, Louw & Clayton, 2015).
- Thinking about the future develops rapidly between ages 3-5 (Atance, 2015).
- Based on research by Atance, et al. (2015), only 5-year olds consistently draw on past experience to plan for the future.
- But:** Children did not need to consider an obstacle between “now” and the “future” that would impact their plans.

METHOD

Participants

- Twenty-three 6- ($n = 16$; 9 males) and 7-year-olds ($n = 7$; 3 males)

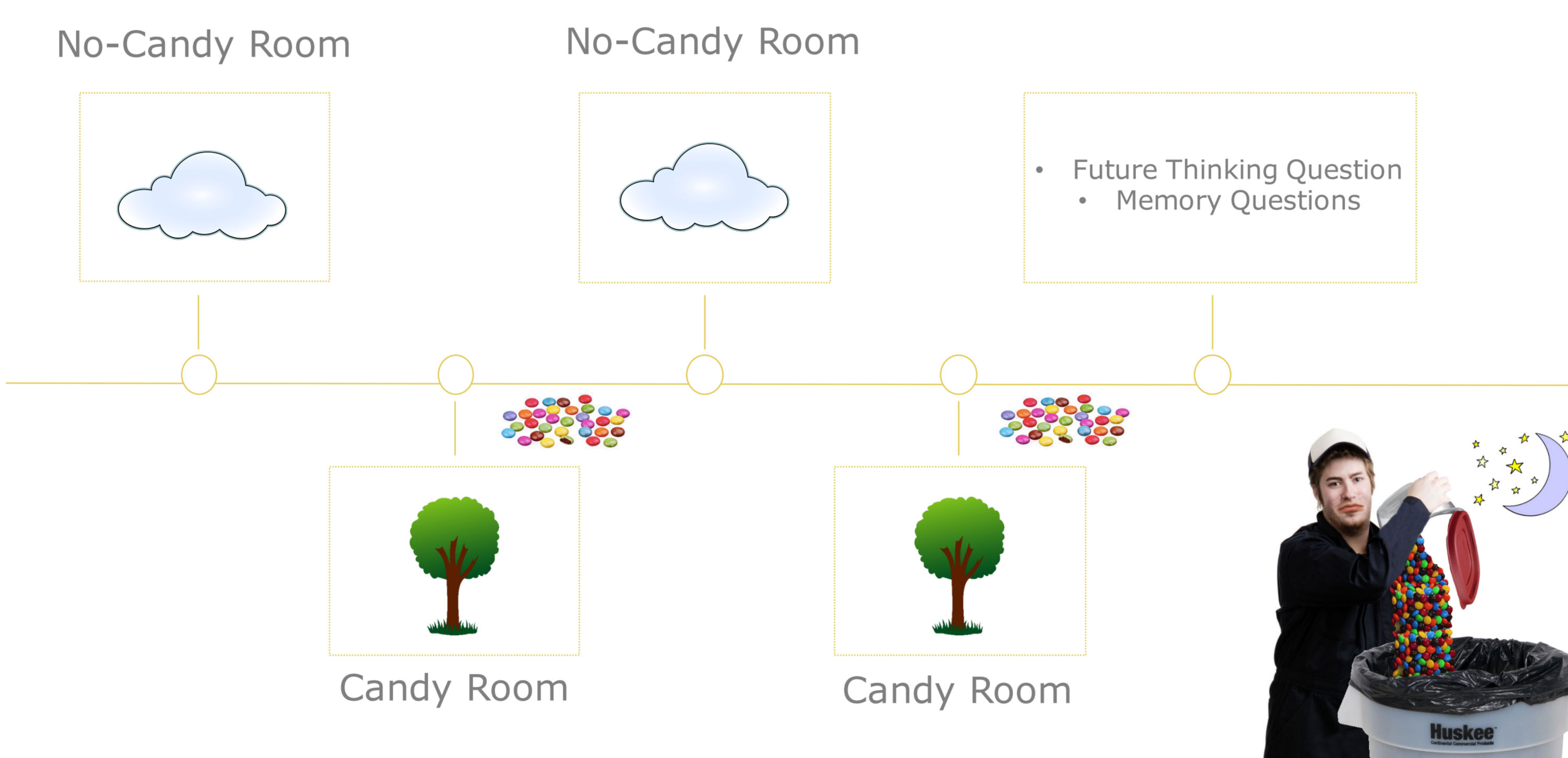
General Procedure

- Children visited two rooms: the “Cloud Room” and the “Tree Room.”
- One room contained candy (Smarties); the other did not.
- Children alternated between the “Candy” and “No-Candy” Rooms, spending 3 minutes per room.
- After visiting each room twice, children learned that they would be visiting the rooms again the next day.
- However**, children also learned that “John the Cleaner” cleans the Cloud Room (No-Candy Room) every night, and throws out any candy he finds.
- Children were then asked the **future thinking question**: “which room would you like to put this candy in for tomorrow?”
- Though the correct response would normally be the Cloud Room (No-Candy Room) so that they would not be bored on their future visit, since John cleans out the candy from that room every night, the correct answer in this study is the Tree Room (Candy Room).
- To assess children’s memory for the critical past information, we asked them four questions; two about which room had candy and which room did not, and two about what room John the Cleaner visits and what he does in that room.

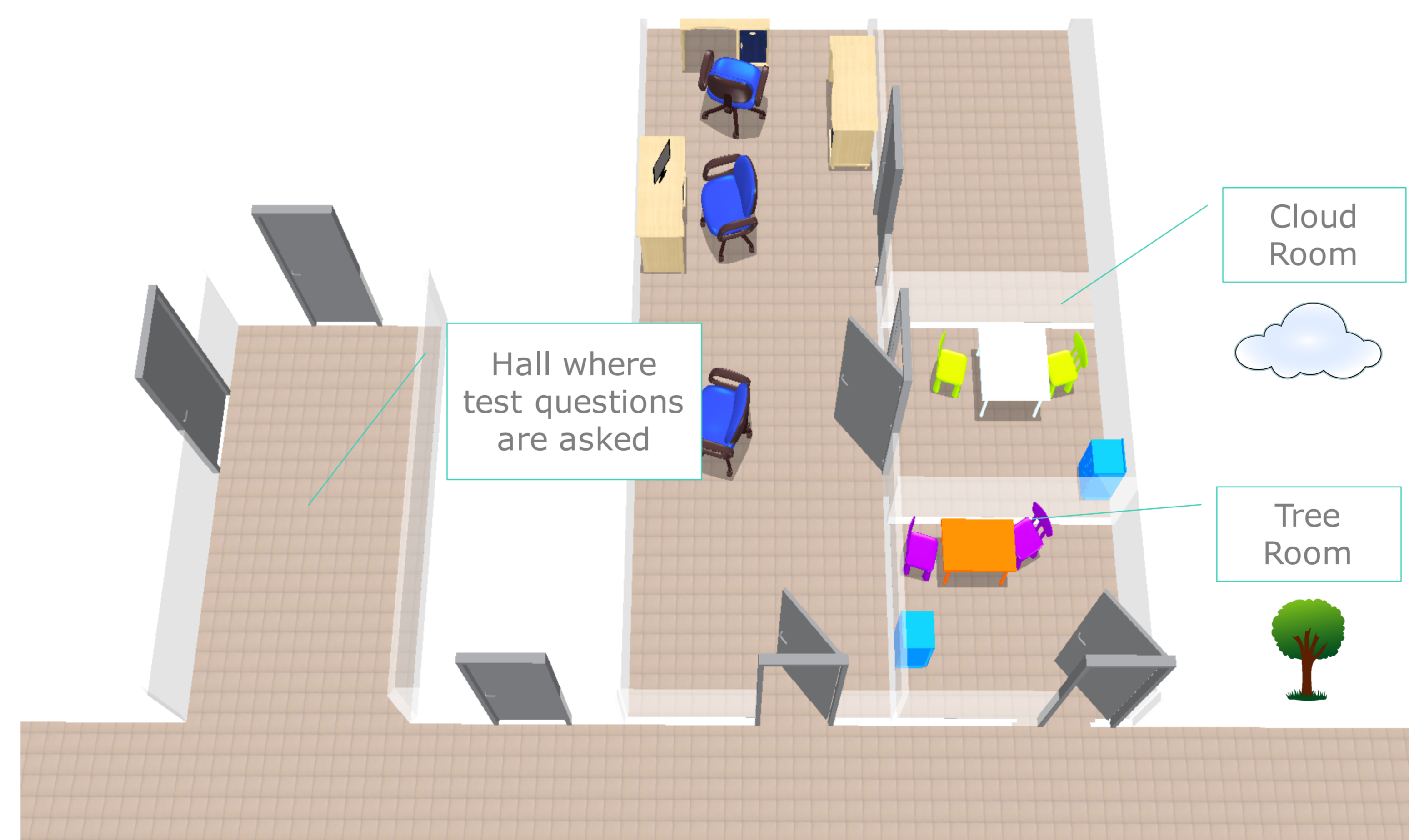
HYPOTHESES

- Children will correctly answer the memory questions above chance.
- Children will correctly answer the future thinking question above chance.

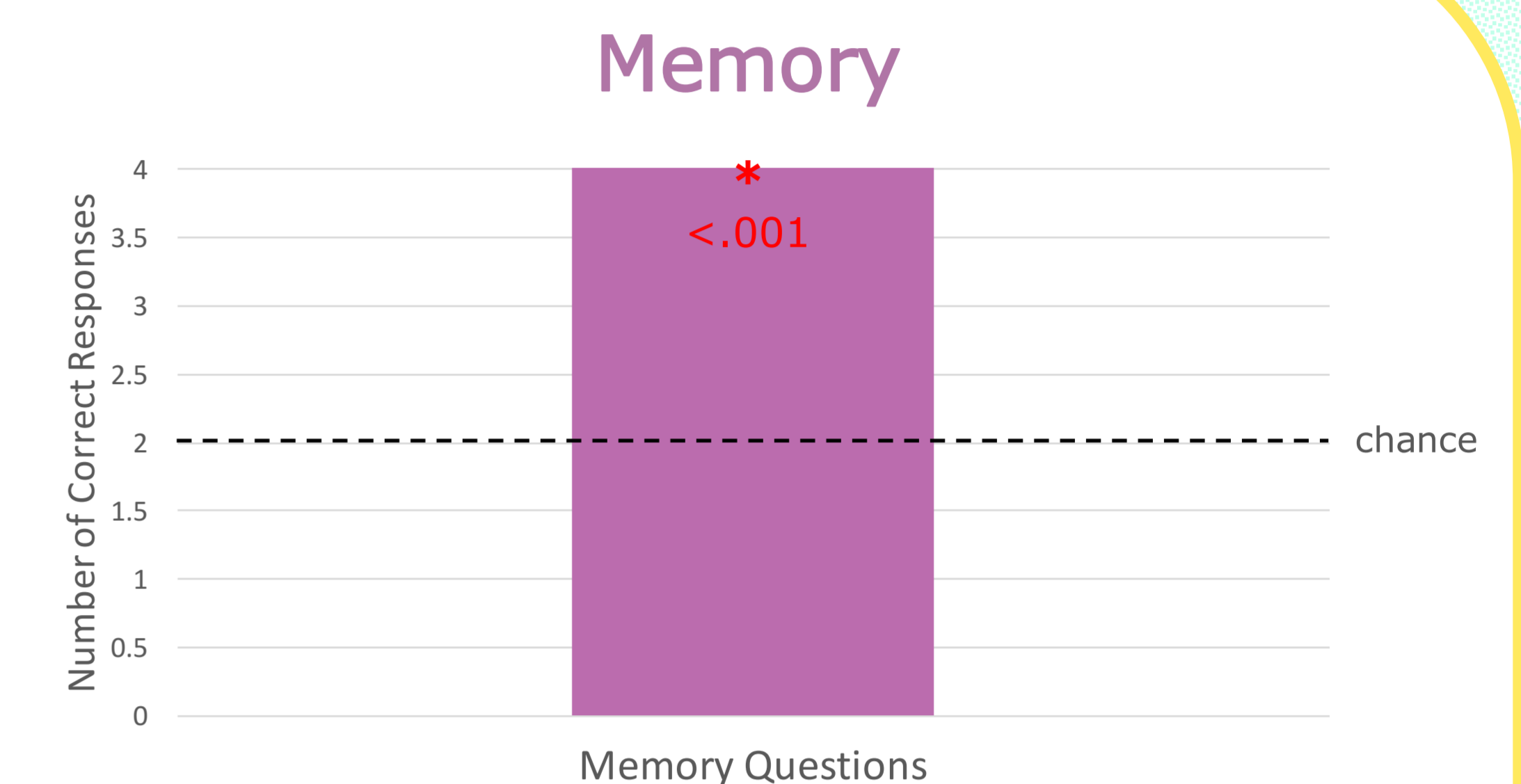
Procedure Timeline



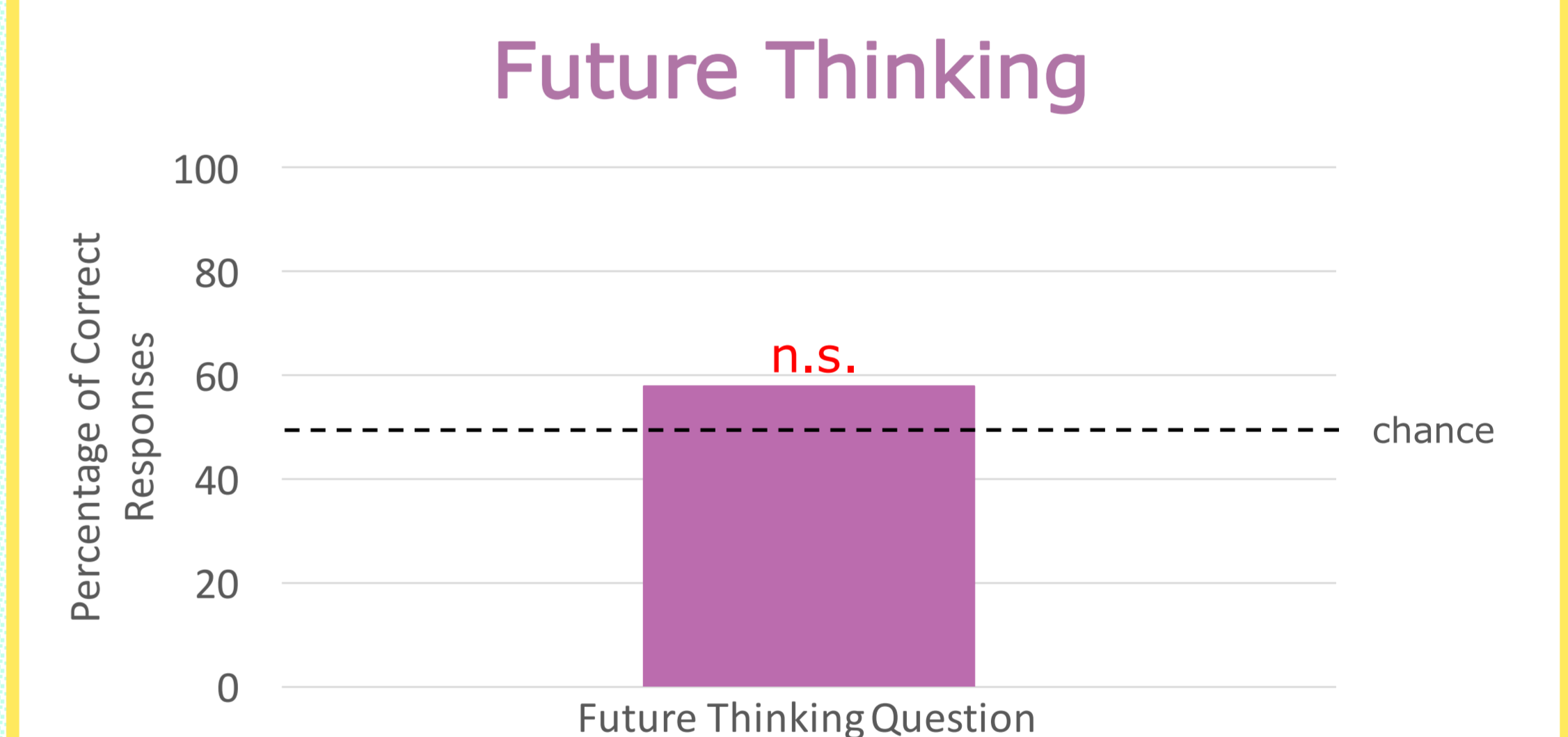
Schematic of the Testing Rooms



RESULTS



A one-sample t-test suggested that children correctly answered the memory questions above chance ($M = 3.96$, $SD = .21$). The number of memory questions asked was 4. Results were significant, with the t-value exceeding the critical t-value, $t(22) = 45$, $p < .001$.



A binomial test set to 0.5 suggested that children’s performance was no different than chance, $p = .68$: 57% of children chose the Candy Room (correct answer) and 43% chose the No-Candy Room.

DISCUSSION

- Children’s performance on the memory questions was well above chance, suggesting that this was not a limiting factor for the future thinking results.
- Motivation may play a role in the non-significant future thinking findings, so manipulations to the current protocol will be made.
- Future research could include testing 8-year olds to see whether they succeed on this task.
- Results of this study can have applications for both parents and educators, informing them about when during development they can properly communicate with children about planning for the future when obstacles are a possibility.



References

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- Atance, C. M., Louw, A., & Clayton, N. S. (2015). Thinking ahead about where something is needed: New insights about episodic foresight in preschoolers. *Journal of Experimental Child Psychology*, 129, 98-109. doi:10.1016/j.jecp.2014.09.001
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