

When do preschoolers understand that their current and past preferences differ?



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Background

- Reasoning about changes in mental states is an important aspect of human cognition, yet little is known about the early development of this skill.
- We know that 5-year-olds, but not 3-year-olds, understand that their future preferences will differ from their current preferences (e.g. that when they are all grown up, they will prefer coffee to Kool Aid; Bélanger et al. 2014) and that 4-year-olds, but not 3-year-olds, are able to correctly identify when a past desire differs from a current desire (Gopnik & Slaughter, 1991).
- Extending previous research, we explored whether preschoolers understand that their own **past preferences** differed from their **current preferences**.
- We hypothesize that 5-year-olds (and 4-year-olds to a lesser extent), but not 3-year-olds, will demonstrate understanding that their past preferences differed from their current preferences.

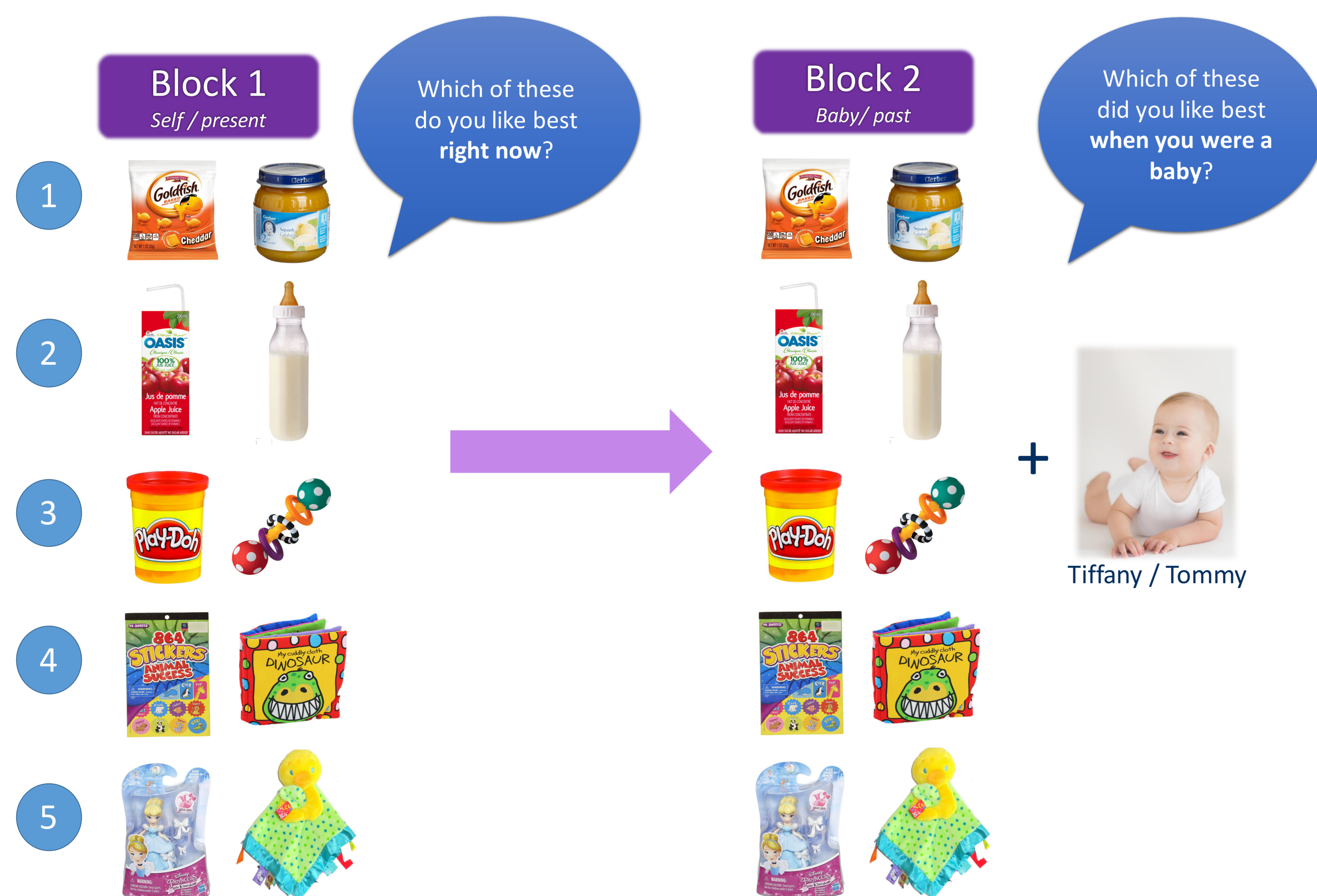
Methodology

Participants:

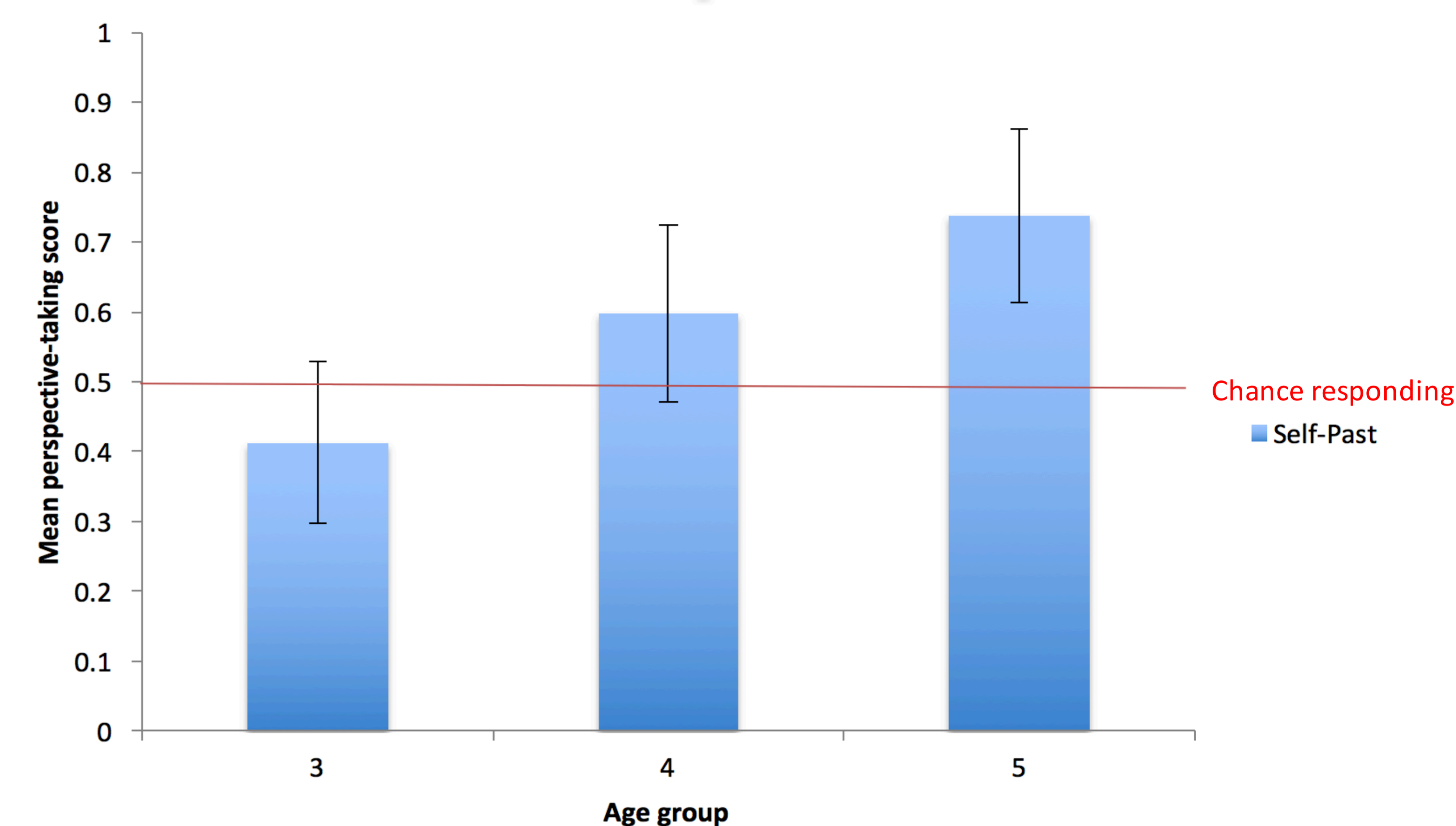
Twenty-five 3- ($n = 11$; 7 males), 4- ($n = 9$; 4 males), 5-year-olds ($n = 5$; 1 male) participated at the Canada Science and Technology Museum's Living Lab.

Procedure:

- Extending Bélanger et al.'s (2014) methodology, children were presented with five trials including **child-preferable** items (e.g., juice box) and **baby-preferable** items (e.g., milk in a bottle).
- In **Block 1**, children were asked to select which items they like best **"right now"**.
- In **Block 2**, children were reminded that they used to be a baby with the aid of a pictured baby named "Tiffany" or "Tommy" (name matched according to participant gender). Children were then asked to select which items they **"used to like best when they were a baby"**.
- A "perspective-taking score" was calculated to determine level of performance for each child: number of correct self-now items/number of correct self-past items. This yielded a score ranging from 0-1.



Results



Chance Analysis

- Children's perspective-taking scores were compared to chance responding (i.e., mean perspective-taking score of 0.5) using the t distribution.
- All age groups performed no different from chance: 3-year-olds ($M = 0.41$, $SD = 0.43$, $t(13) = -0.75$, $p = 0.467$), 4-year-olds ($M = 0.60$, $SD = 0.36$, $t(7) = 0.78$, $p = 0.463$), or 5-year-olds ($M = 0.74$, $SD = 0.25$, $t(3) = 1.90$, $p = 0.153$).

One-Way Within-Subjects ANOVA

- A one-way ANOVA was conducted to determine if children's perspective-taking scores differed across age.
- Results indicated that perspective-taking scores did not significantly differ by age, $F(2, 23) = 1.30$, $p = 0.293$, partial $\eta^2 = 0.10$.

Conclusion

- Preliminary results indicate that 3-, 4-, and 5-year-olds experience difficulty reasoning about changes in their past preferences.
- Despite null findings, performance trends suggest potential improvement in reasoning with age.
- Pending completion of data collection, if performance is shown to improve with age, these findings would support and extend previous research on children's understanding of changes in their own mental states.

References, Acknowledgments & Contact

References:

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- Gopnik, A., & Slaughter, V. (1991). Young children's understanding of changes in their mental states. *Child Development*, 62, 98-110.

Acknowledgments:

I would like to thank Dr. Cristina Atance for her guidance and unconditional support as my UROP research project supervisor, and Leia Kopp for her ongoing mentorship.

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