



Introduction

- Help-seeking is a type of self-regulated learning that develops substantially throughout childhood (Nelson-Le Gall, 1990; Selmecky et al., 2021).
- However, previous research has yet to examine how help-seeking compares to other learning strategies (i.e., testing (Fazzio & Marsh, 2019; Roediger & Karpicke, 2006)), and whether children recognize the associated benefits of different strategies.
- Furthermore, previous research shows that metamemory plays an important role in help-seeking such that children are more likely to seek help when they feel uncertain (Coughlin & Ghetti, 2015; Nelson Le-Gall, 1985; Nelson Le-Gall, 1987). However, we have a limited understanding of the role of metacognition in children's decision to seek different types of help.

The Current Study Research Questions

- What is the role of metacognition in children's help-seeking decisions?
- Does having the opportunity to actively seek help lead to better learning than other strategies including testing and restudying?
- Do children's observed behaviors correlate with their self-reports?

Method

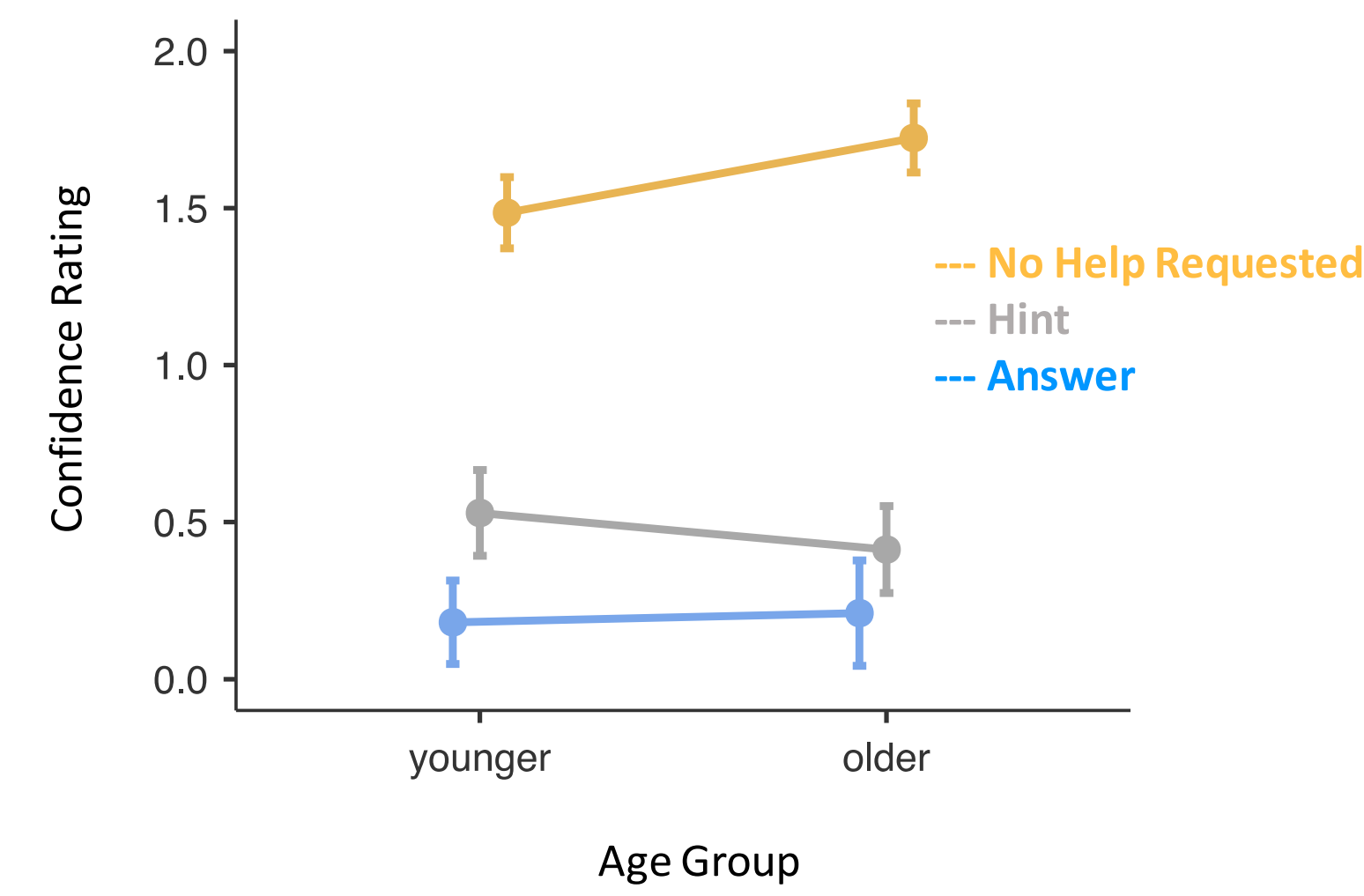
- Participants: Ages 8-13, $N = 68$, $M = 10.8$ years of age, $SD = 1.61$
- Procedure: Children completed an online memory task via two Zoom sessions approximately 24 hours apart.
 - Session 1:
 - Encoding Phase: Participants encoded 36 animal facts across 3 categories (eyes, moves, eats).
 - Help-Seeking Phase: Participants took a practice memory test consisting of multiple conditions.
 - Help Available Condition (20 Trials)
 - Test Condition (8 Trials)
 - Restudy (8 Trials)
 - Session 2:
 - Final Memory Test: Participants completed a final test in the absence of help.
 - Self-Report Assessment: Participants reported which condition they liked the most and which they felt was most helpful for their learning.

Results

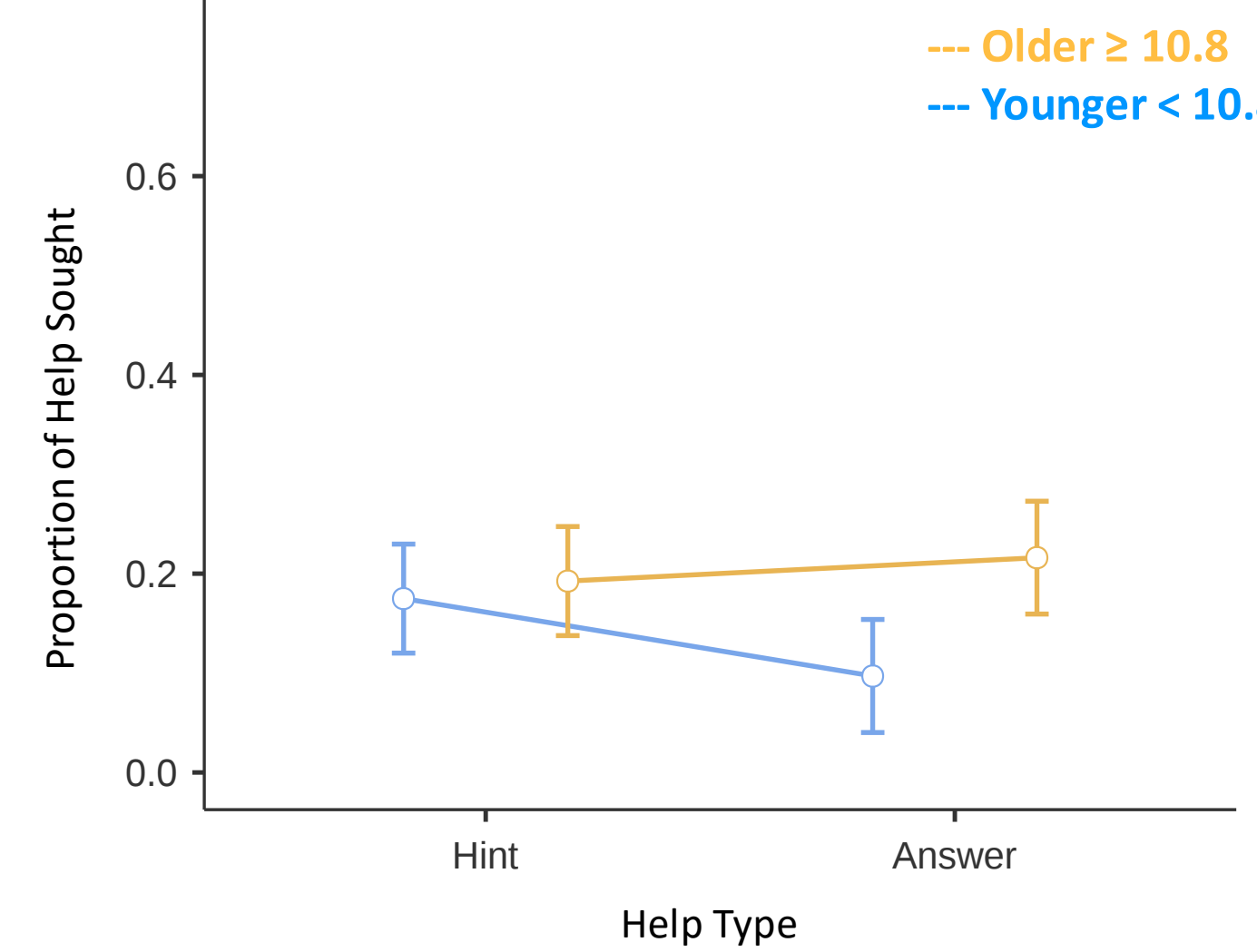
Development of Help-Seeking and Metacognition

- Children were more likely to seek help when they experienced low confidence and less likely to seek help when they experienced high confidence, $p < .001$. This relationship was stronger in older compared to younger children, $\beta = .31$, $p < .001$.
- Additionally, children experienced lower confidence when seeking answers compared to hints, $\beta = .27$, $p < .001$.

Confidence and Help Sought by Age

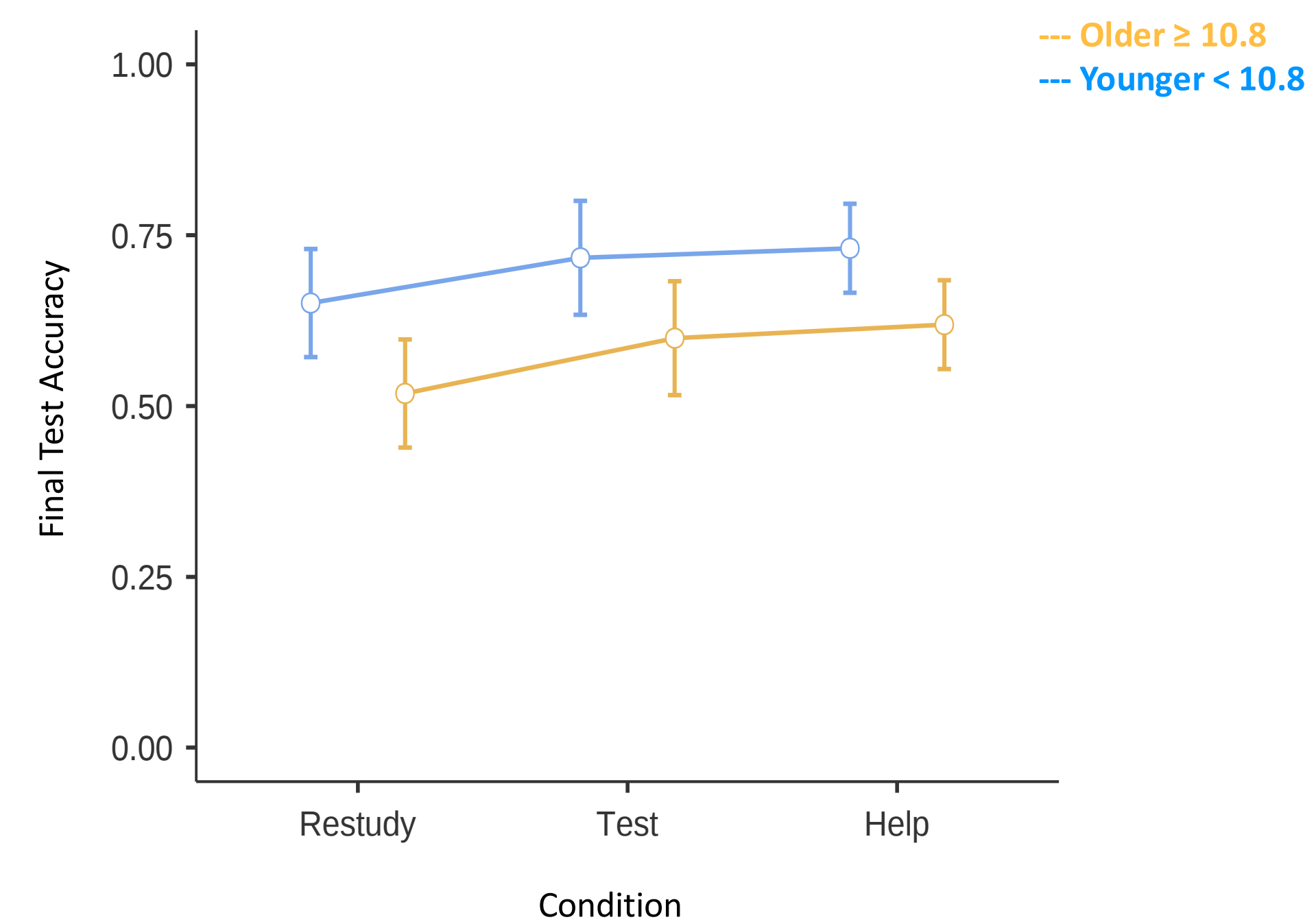


Type of Help Sought by Age



- Older children asked for less help overall ($M = .27$, $SD = .17$) than younger children ($M = .41$, $SD = .25$), $F(1,66) = 6.93$, $p = .01$, $\eta^2 = .04$.
- Older children were numerically more likely to seek hints ($M = .18$, $SD = .14$) compared to answers ($M = .10$, $SD = .15$) while younger children sought hints ($M = .19$, $SD = .17$) and answers ($M = .22$, $SD = .18$) at similar rates, $F(1,66) = 2.89$, $p = .09$, $\eta^2 = .02$.

Comparing Learning Strategies

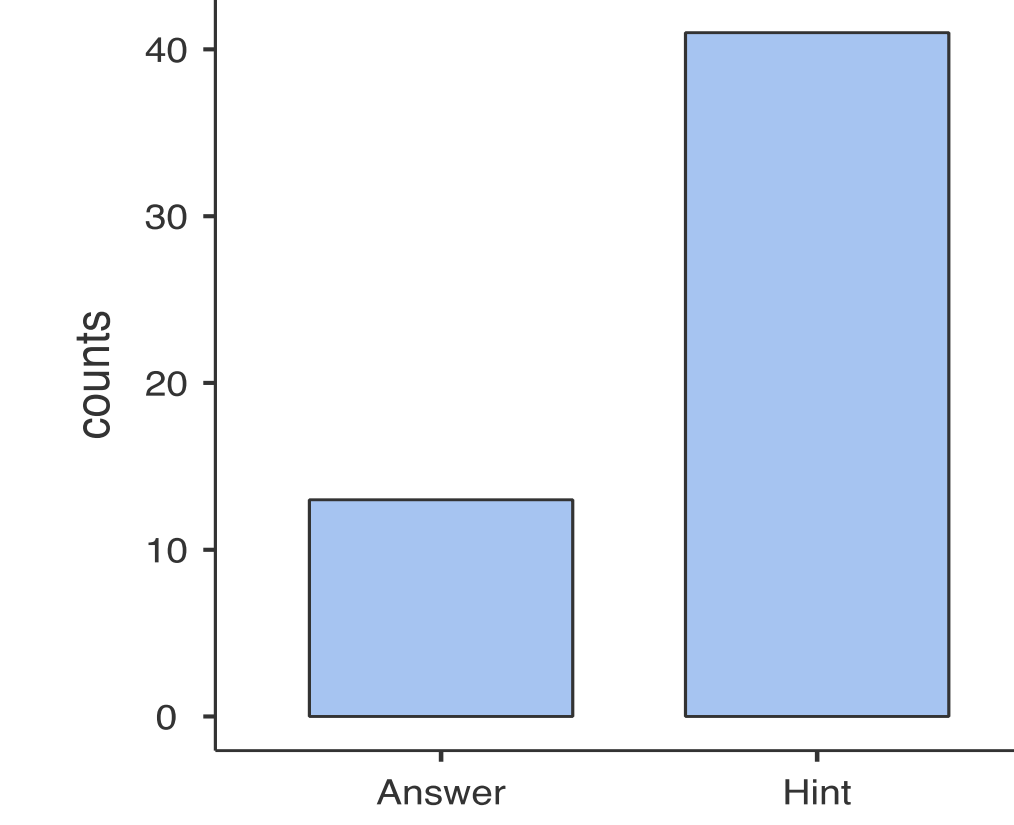


- Older children performed better during the final test ($M = .70$, $SD = .19$) than younger children ($M = .58$, $SD = .17$), $F(1,66) = 7.42$, $p = .008$, $\eta^2 = .03$.
- Children's final test accuracy was significantly higher in the help ($M = .68$, $SD = .20$) and test conditions ($M = .65$, $SD = .25$) compared to the restudy condition ($M = .59$, $SD = .24$), $F(2,132) = 6.34$, $p = .002$, $\eta^2 = .03$. No significant difference was observed between test and help conditions.
- The age group by condition interaction was not significant.

Results cont.

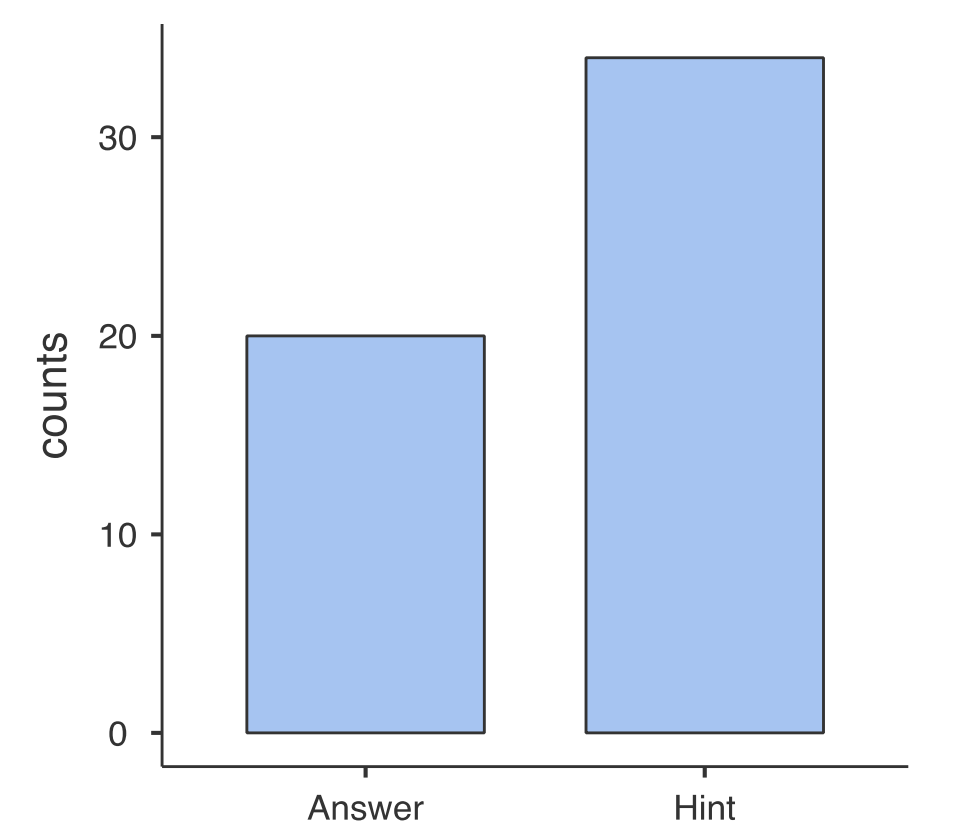
Self-Reported Behaviors and Learning

Which did you like the most?



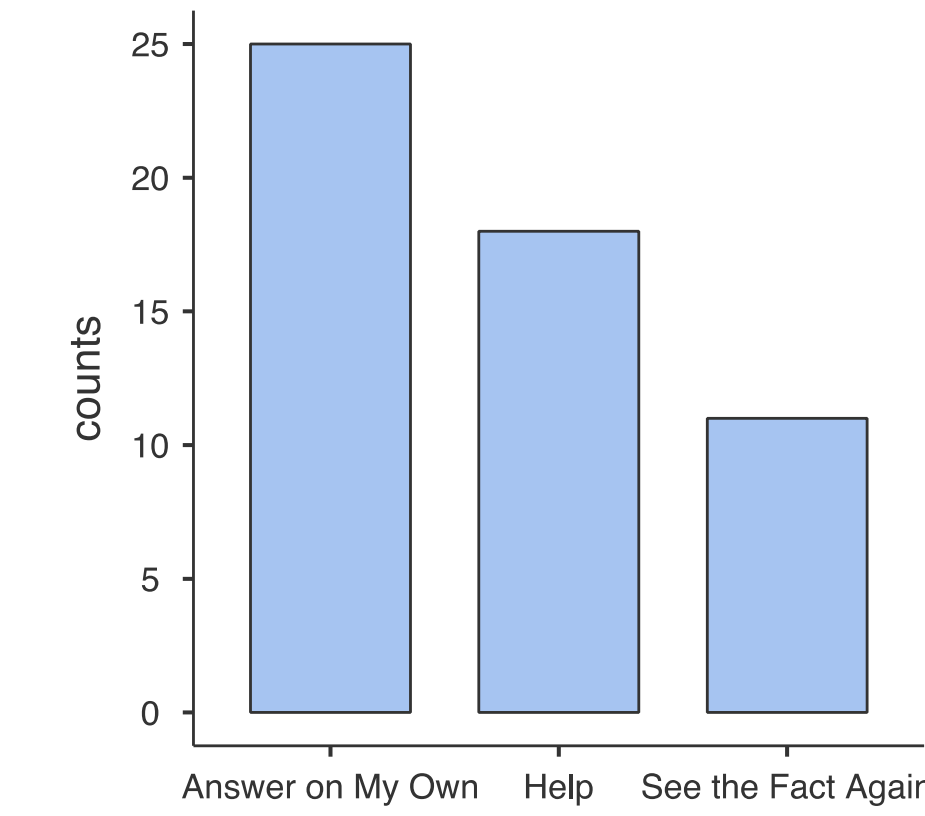
- Children reported liking hints (75.9%) more than answers (24.1%), $\chi^2 = 14.5$, $p < .001$.

Which helped you learn the most?



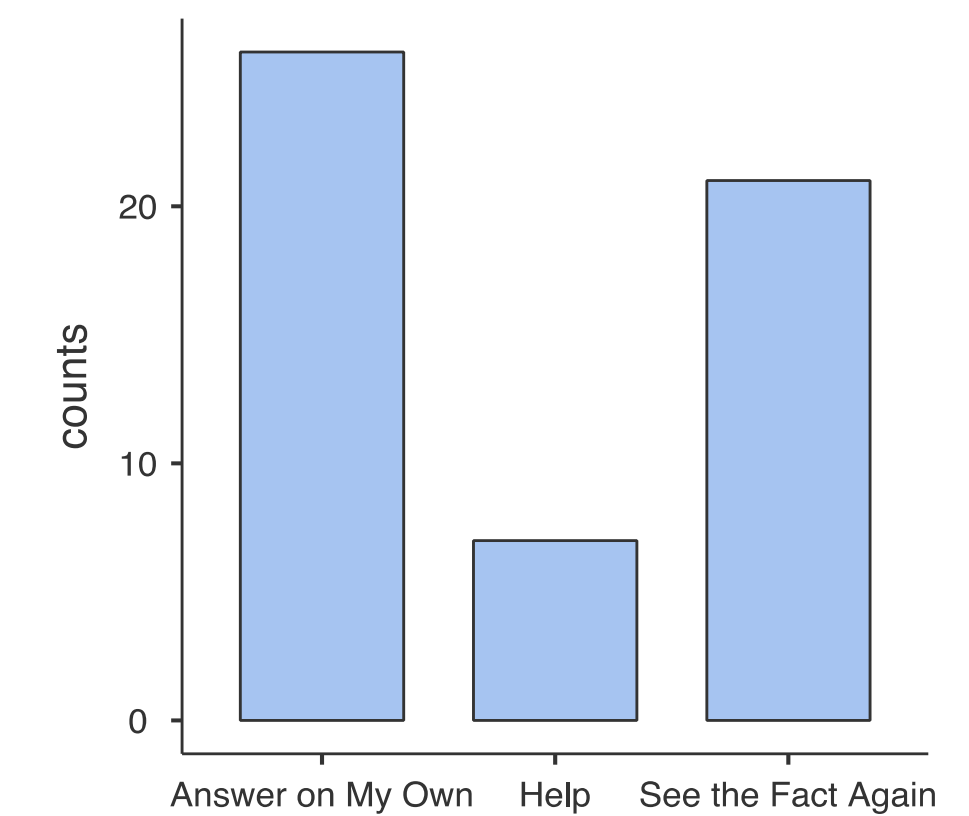
- Children reported hints (63%) as marginally better for their learning than answers (37%), $\chi^2 = 3.63$, $p = .06$.

Which did you like the most?



- Children reported marginally liking the test condition most (48.1%), followed by the help condition, (33.3%) and lastly the restudy condition (20.4%), $\chi^2 = 5.44$, $p = .06$.

Which helped you learn the most?



- Children reported learning the most from the test condition (48.1%), followed by the restudy condition (38.9%), and lastly the help condition (13.0%), $\chi^2 = 10.8$, $p = .005$.

Discussion

- The current study suggests metacognition plays a role in children's adaptive help-seeking. Children were less likely to seek help when experiencing high confidence and this process improved throughout middle childhood. Children also used metacognition to guide which type of help they sought and were more likely to seek help in the form of an answer when they were the least confident.
- Help-seeking and testing were found to be better strategies for learning than restudying. However, no difference was observed between help-seeking and testing strategies, suggesting that active help-seeking does not increase learning above and beyond the retrieval enhanced benefits that occur through testing.
- Children accurately assessed that testing conditions led to better learning than restudying. However, children perceived the help-seeking condition as the least beneficial for their learning, despite observed accuracy being highest in this condition. These results suggest children have limited insight into which strategies are more beneficial for learning.

References

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