

Introduction

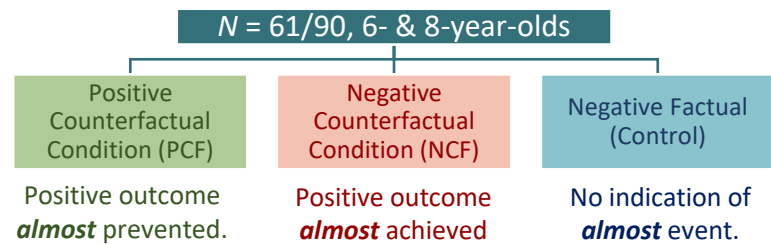
Counterfactuals (CF) are imagined alternatives to past events. By thinking about how the past could have been different we can make better decisions in the future¹.

Simulation Mindset Hypothesis: CF exposure broadens cognitive mechanisms to consider alternatives beyond specific contexts, facilitating problem-solving by making alternative possibilities more accessible². E.g., Adults primed with a CF performed better on subsequent problem-solving task³.

The current study examines whether CFs induce the simulation mindset in children & whether the emotional tone (valence) of the story influence the priming of the simulation mindset.

Study Design

Listen to storybook with *four* different CF scenarios & complete *two* unrelated problem-solving tasks.



Hypotheses

If CFs prime a simulation mindset in children

- **CF conditions > Control** on problem-solving measures

Negative outcomes may lead to a stronger activation of the simulation mindset

- **NCF > PCF** on problem-solving measures

Example Stimuli & Measures



The runner behind Alex *almost* catches up to him, but Alex crosses the finish line and in the end *wins/loses* the race.

Alternative Uses Task



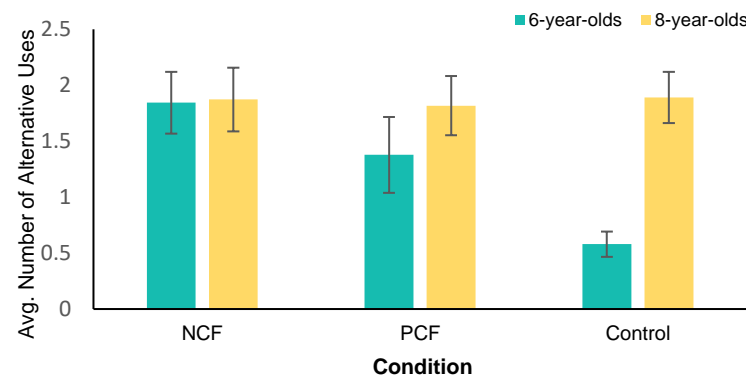
Can you think of other *new* things you can do with a pencil?

Functional Fixedness Task



What should Mr. Bear do to get to the honeycomb?

Alternative Uses Results



Note: Error bars represent standard error of the mean (SEM), n= 61, 28 x 6-year-olds & 22 x 8-year-olds

Main effect of Condition: $Wald X^2(2) = 8.323 p = .016$

- More uses in CF conditions > Control

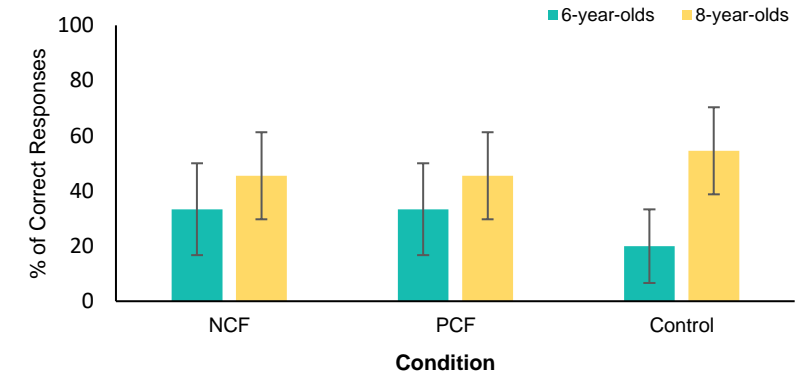
Main effect of Age: $Wald X^2(1) = 8.633, p = .003$

- 8-year-olds > 6-year-olds

Condition x Age Interaction: $Wald X^2(2) = 9.333, p = .009$

- 6-year-olds more uses in CF conditions > Control

Functional Fixedness Results



Note: Error bars represent standard error of the mean (SEM), n= 61, 28 x 6-year-olds & 22 x 8-year-olds

No significant main effects or interactions (p 's > .11)

- 6-year-olds are generating correct responses *slightly* more in the CF conditions
- 8-year-olds performing similarly across conditions

General Discussion

Potential priming effect observed in 6-year-olds: More uses & slightly more correct responses in CF conditions.

No priming effect among 8-year-olds. Comparable performance across conditions, with better performance than 6-year-olds

- Possible developmental shift in priming effect from early to middle childhood or lack of task sensitivity for 8-year-olds.

No impact of emotional valence on simulation mindset; NCF and PCF conditions showed no significant difference.

Findings will provide insights into incorporating CF reasoning as a tool in interventions to enhance children's problem-solving skills.

References

- [1] Epstein, K., & Roese, N. J. (2008). The functional theory of counterfactual thinking. *Personality and social psychology review*, 12(2), 168-192.
- [2] Kahneman, D., & Tversky, A. (1981). *The simulation heuristic*. Stanford Univ CA Dept of Psychology.
- [3] Galinsky, A. D., & Moskowitz, G. B. (2000). Counterfactuals as behavioral primes: Priming the simulation heuristic and consideration of alternatives. *Journal of Experimental Social Psychology*, 36(4), 384-409.