

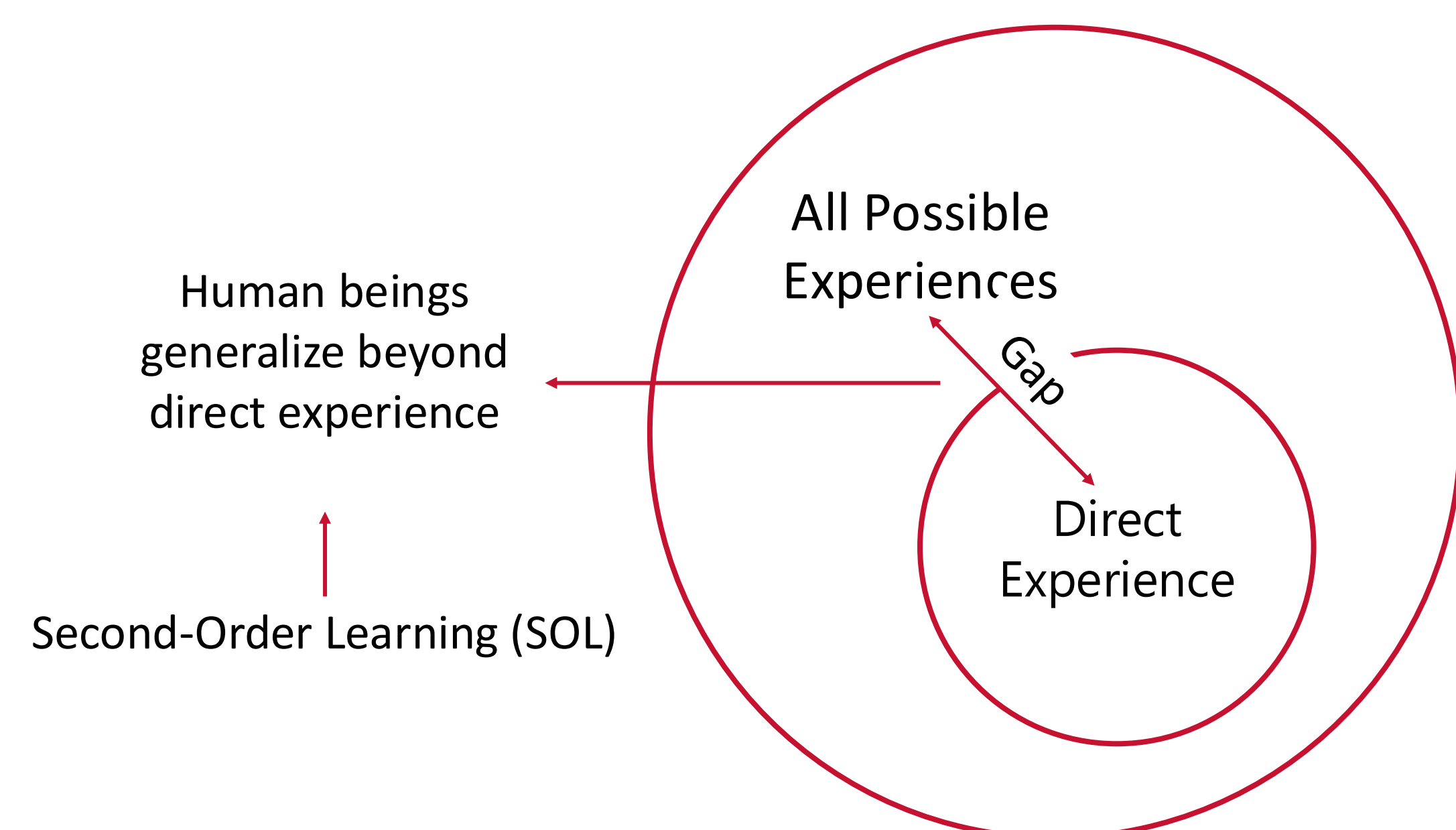
# First Contact: Children's Emerging Sensitivity to Causality in Second-Order Learning

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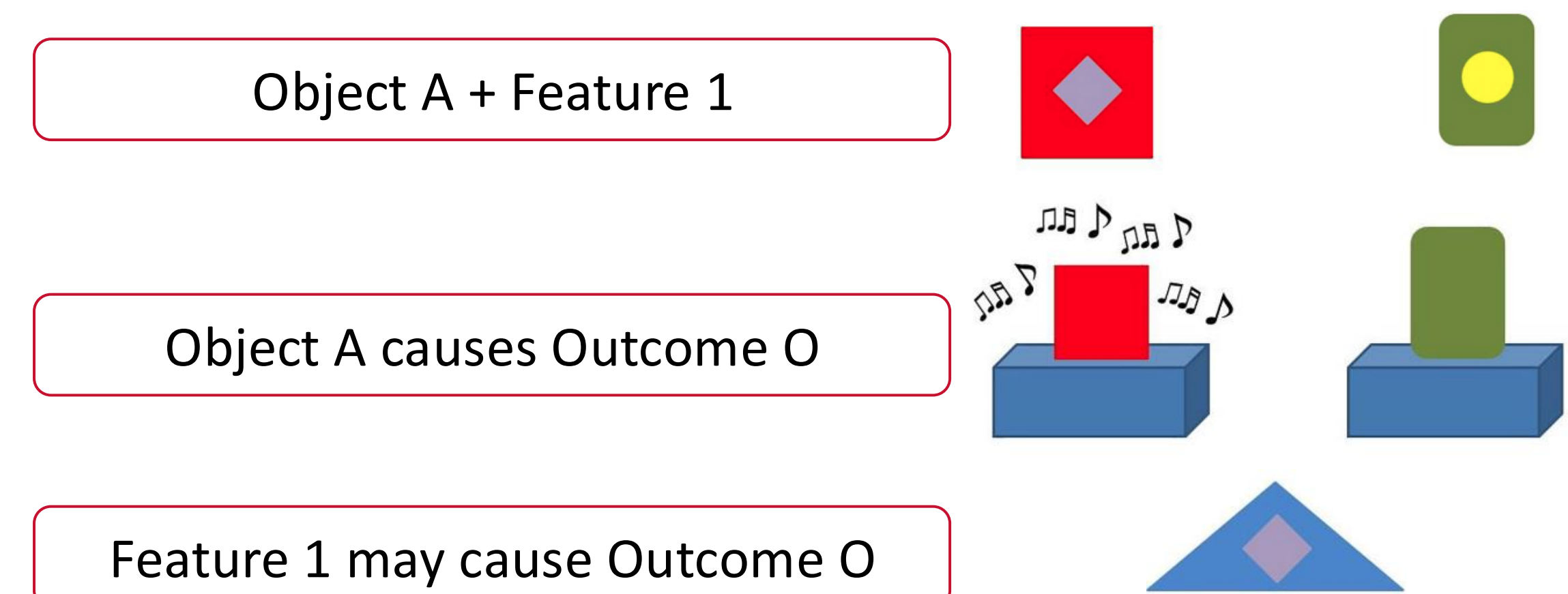
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How do human beings build a representation of the world that supports novel generalizations?



Second-Order Learning (SOL)<sup>1, 2</sup> supports structure-building by stacking associations through shared elements



1. Can young children engage in second-order learning to generalize across different causal events (Blicket detector<sup>3</sup> and Michottian launching<sup>4</sup>)?
2. Does spatial contiguity (contact vs. gap) influence children's inductions?
3. How do these effects vary by age?

Reach out!

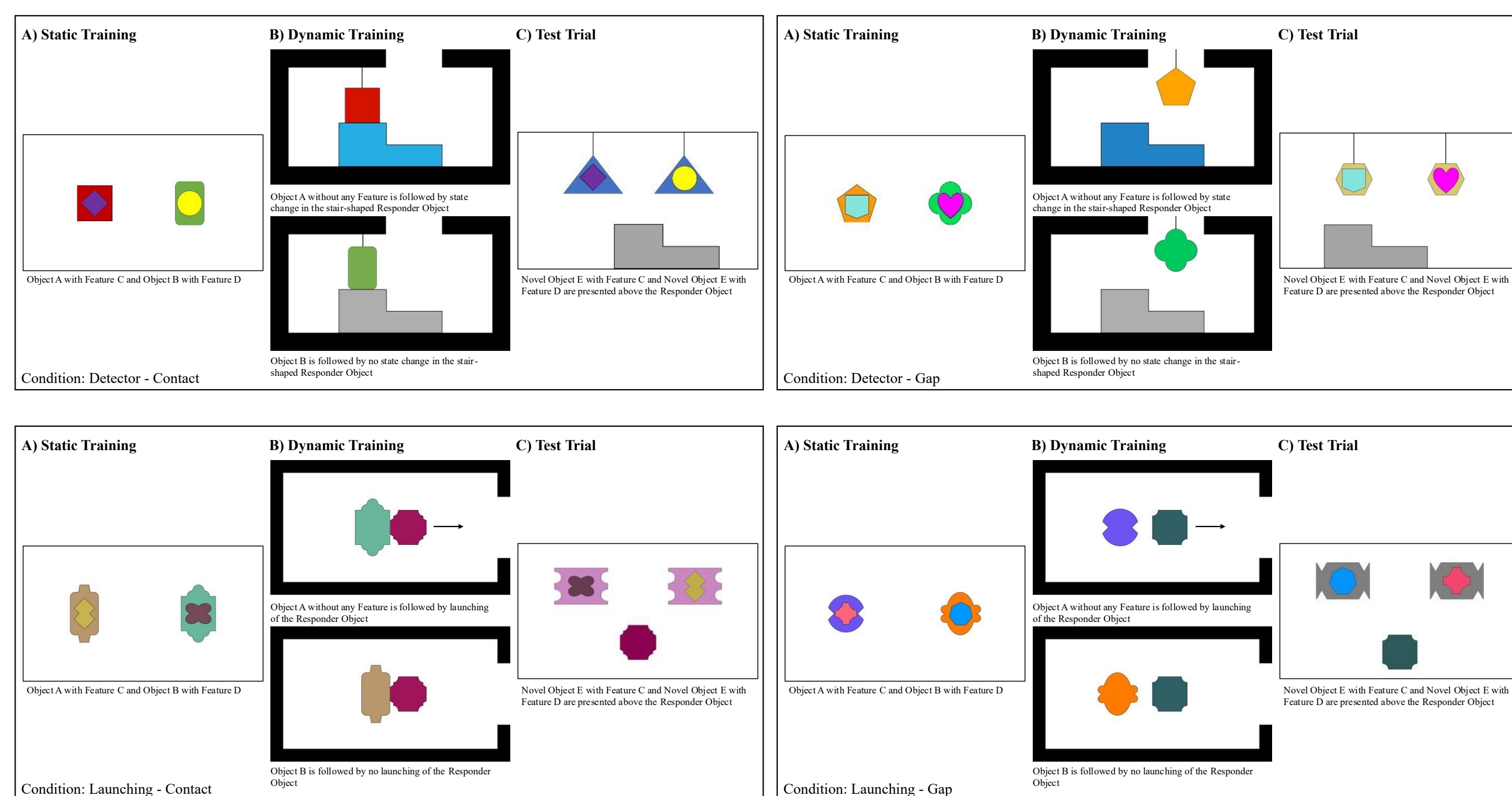
Email: [wonjoonc@andrew.cmu.edu](mailto:wonjoonc@andrew.cmu.edu)



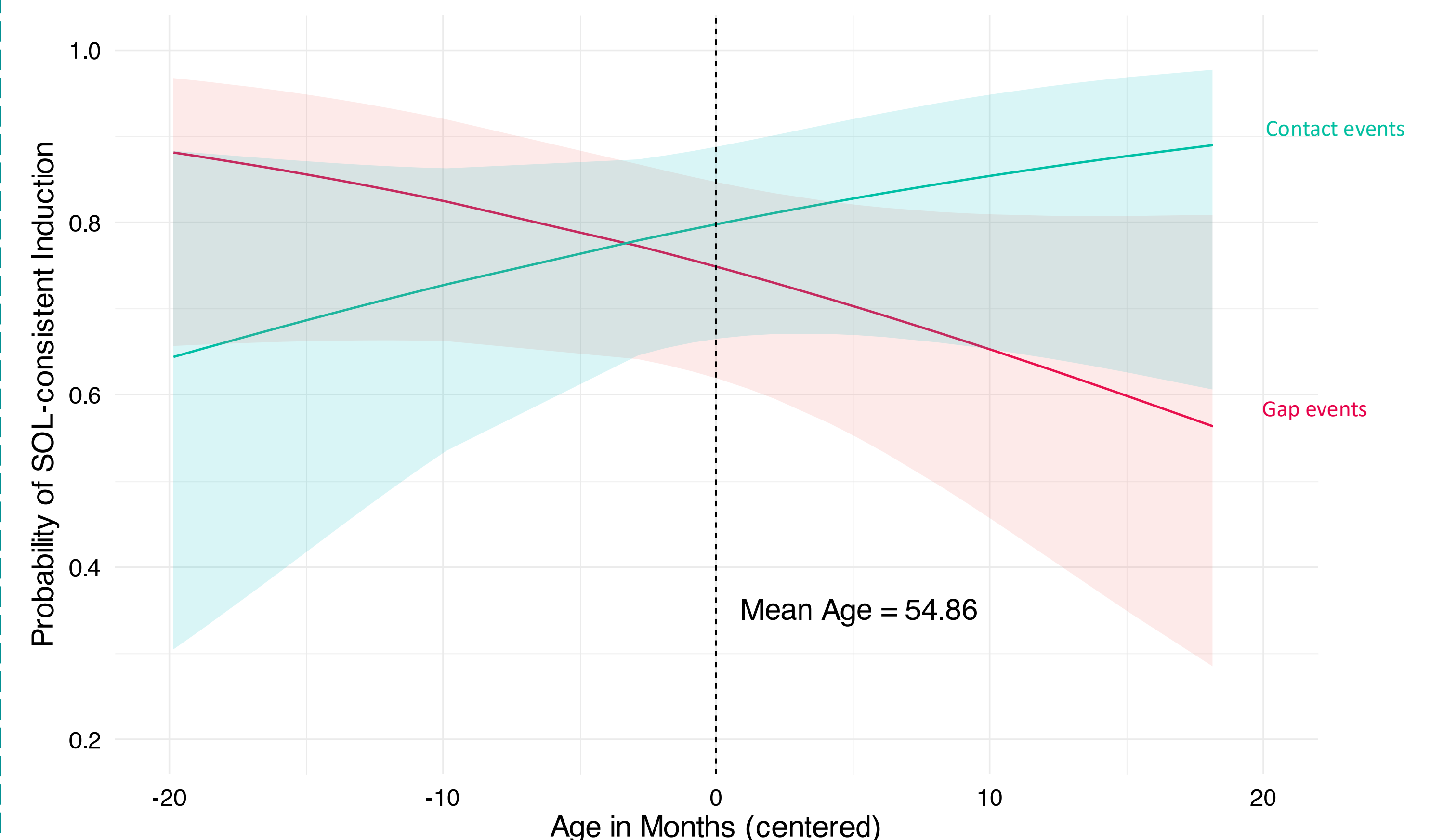
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## Methods

N = 51 3- to 6-year-old ( $M_{age} = 54.86$  m,  $SD = 11.34$  m, range = 35 – 76)



## Results



Summary: Children successfully engaged in second-order learning across causal events, with younger children learning better from non-contact (gap) events and older children showing enhanced learning when events involved contact.

## Discussion

- Children's generalizations become increasingly guided by contact as a causal cue over development
- Event representations may emerge from associative domain-general learning that becomes increasingly tuned to causal events
- Event-specific representations may follow distinct developmental trajectories

## Future Directions

- Can second-order learning support categorical generalizations beyond individual exemplars?
- Do children's sensitivities to other cues like temporal priority and covariation strength develop similarly to that of spatial contiguity?

## Acknowledgements

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## References

1. Yermolayeva & Rakison, 2016 (Cognition)
2. Benton, Rakison, & Sobel, 2021 (JIECP)
3. Gopnik & Sobel, 2000 (Child Development)
4. Michotte, 1963