

Introduction

- Screen media use is on the rise (Rideout & Robb, 2020)
 - 93% of toddlers use a screen media device every day
- Toddlers have difficulty learning from screens what they can easily learn from live interactions (Anderson & Pempek, 2005)
 - Difficulty diminishes with age
- Social contingency: interactions where individuals direct their social cues and respond contingently to one another
 - Facilitates learning (Roseberry et al., 2014)

Method

- 22 toddlers aged 2 to 3 ($M = 38$ months, 15 days) participated from their home computers

Teaching phase

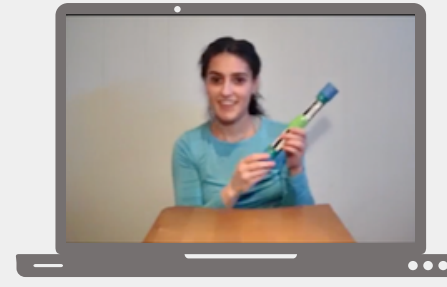
- Children are taught the actions of 4 new objects
- 2 named: "Wow, look at the [mimole/fopam]!"
- 2 unnamed: "Wow, look at this!"

Testing phase

- 3 objects shown at once
- Children asked to point to one of them: "[Mimole/Fopam], point to the [mimole/fopam]!"
- 17 month-olds map new words to objects, can be measured by their pointing (Mervis & Bertrand, 1994)

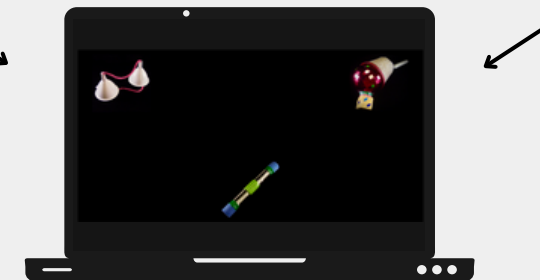
Child-directed

- social contingency with **child**
- through **video chat**



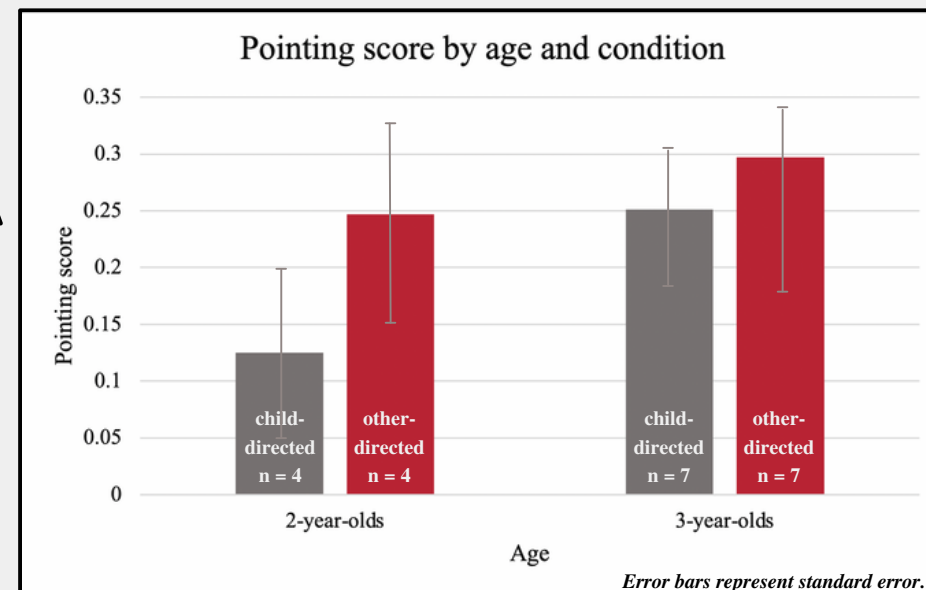
Other-directed

- social contingency with **other adult**
- through **pre-recorded video**



Results

- Pointing score = $\frac{\text{\# points to correct object}}{\text{\# points to any of the three objects}}$



- Children were more likely to point to the correct object in the **other-directed** condition than in the **child-directed** condition
 - This was especially true for **2-year-olds**

Summary and Conclusion

- On-screen, **observing others interacting** results in greater word learning than **being directly addressed**
 - Especially for **2-year-olds**
- Therefore, direction of social contingency may matter more for younger children than for older children
- Implications for educational screen media: pre-recorded video tended to result in greater word learning, and these are more easily produced and distributed than video chat

References

Anderson, D. R., & Pempek, T. A. (2005). Television and very young children. *American Behavioral Scientist*, 48(5), 505–522. <https://doi.org/10.1177/0002764204271506>

Mervis, C. B., & Bertrand, J. (1994). Acquisition of the Novel Name–Nameless Category (N3C) Principle. *Child Development*, 65(6), 1646–1662. <https://doi.org/10.1111/j.1467-8624.1994.tb00840.x>

Rideout, V. & Robb, M. B. (2020). The commonsense census: Media use by kids aged zero to eight. *Common Sense Media*. Retrieved July 2021, from https://www.commonsensemedia.org/sites/default/files/uploads/research/2020_zero_to_eight_census_final_web.pdf

Roseberry, S., Hirsh-Pasek, K., & Golinkoff, R. M. (2014). Skype Me! Socially contingent interactions help toddlers learn language. *Child Development*, 85(3), 956–970. <https://doi.org/10.1111/cdev.12166>

Our question

- Does the direction of social contingency matter on-screen?

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