

# Curiosity and action imitation in 18-month-old toddlers

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Lancaster Conference on Infant and Early Child Development, August 2023

## Curiosity for objects

We investigated whether children are more likely to imitate actions if they are presented using objects they prefer.

### Objects



**Parental Report:** (1) Does your child prefer playing toy animals or toy cars? And (2) On a scale of 1-7, rate how much does your child like to play with stuffed animals and toy cars?



**Child's preference:** Children's behavioural preference for an exemplar of each category indicated by their (1) *first touch* and (2) *proportion of time played*.

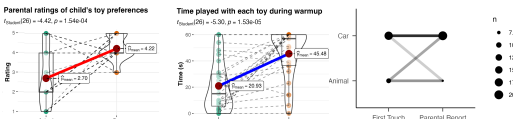


*Children (18m) prefer toy cars over stuffed animals and imitate sliding with cars*

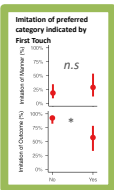
### Participants

17-19 month olds (N=27, 13F, 14M)

## Results



Manner   Outcome ~ Curiosity Score * Object Type * Manner Presented + 1   VP	Par	AIC Manner	AIC Outcome
<b>Null Model</b> (no Curiosity Score)	5	199.93	194.68
<b>Parental Report Score</b> (S(Animal)-S(Car))	9	206.22	198.99
<b>Parental Report Preference</b> (Animal = 1, Car = -1)	9	204.86	198.32
<b>First Touch</b> (Animal = 1, Car = -1)	9	204.62	191.58
<b>Play Time</b> (S(Animal)-T(Car))	9	205.72	194.18



Overall, children preferred toy cars over the stuffed animals in all measures. We did not find any evidence that their toy preferences predicted the subsequent manner imitation, but found evidence that the toy they first touched showed reduced outcome imitation.

### Trials and Conditions

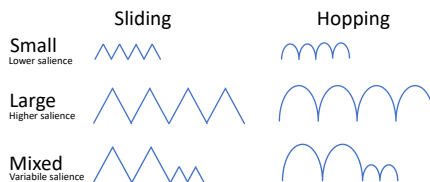
- Movements were either small, large or mixed (between)
- Each child completed 8 actions:
  - 4 Hop, 4 Slide (within)
  - 4 Animals, 4 Cars (within)

Children are active learners and chose what they want to learn about. Parents also appear to engage in curiosity-engaging behaviours when playing with children, and adjust their action presentations by increasing their salience and variation using “motionese” to make them more interesting (Brand et al., 2002, Meyer et al., 2021). We investigated whether children (a) preferentially imitate actions that belong to categories they are interested in, and (b) whether they prefer to imitate visually more salient movements, or movements that are more variable. We investigated these aspects of curiosity-driven learning in 18m-olds, who, when shown toy animals hopping or sliding into a house, tend to imitate the action's outcome, but not its manner (Carpenter et al., 2005, Southgate et al., 2009,

## Curiosity for movements

We investigated whether increasing the salience or variability in the movement manner makes children more likely to imitate it

### Manner

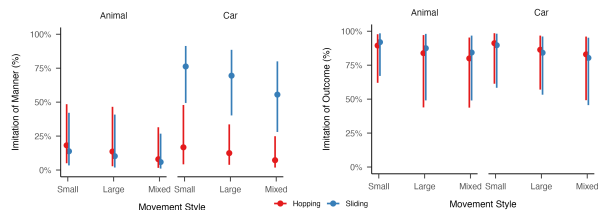


### Outcome



We modified the salience of manner movements (hopping or sliding) in three distinct ways between subjects: (1) small, (2) large and visually more salient and (3) mixture of large and small movements, resembled motionese.

## Results



We did not find any evidence that increasing movement salience or variation affected children's subsequent imitation of manner and outcome. We were able to replicate high rates of outcome imitation, and lower rates of manner imitation. Unlike previous studies, we did not find higher imitation of the hopping manner; children only showed high imitation of the sliding action with the car.