

# PSY 254: Precept 3

## Motor & perceptual learning

AI/Preceptor: Kennedy (she/her)

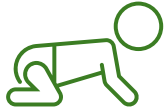
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# Today's Agenda



Baby photo presentations



Adolph lab



Key term definitions



Smith lab



App/toy/book assignment

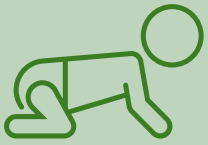


Preparation for next time



# Baby photo presentations

[Sign up sheet](#)



# Adolph lab

How do crawling infants behave when encountering a slope?

When do they change this behavior? Why?

Do infants develop strategies of caution?

What happens when walking starts?





Science & Society

THE  
MACROSCOPE:  
**BABIES**  
ON THE  
**BRINK**





# Key term definitions

Affordances

Neurogenesis

Sensitive (periods)

Dynamic (systems)

Myelination

Synaptic pruning

Experience-expectant (plasticity)

Nutrition

Heritability

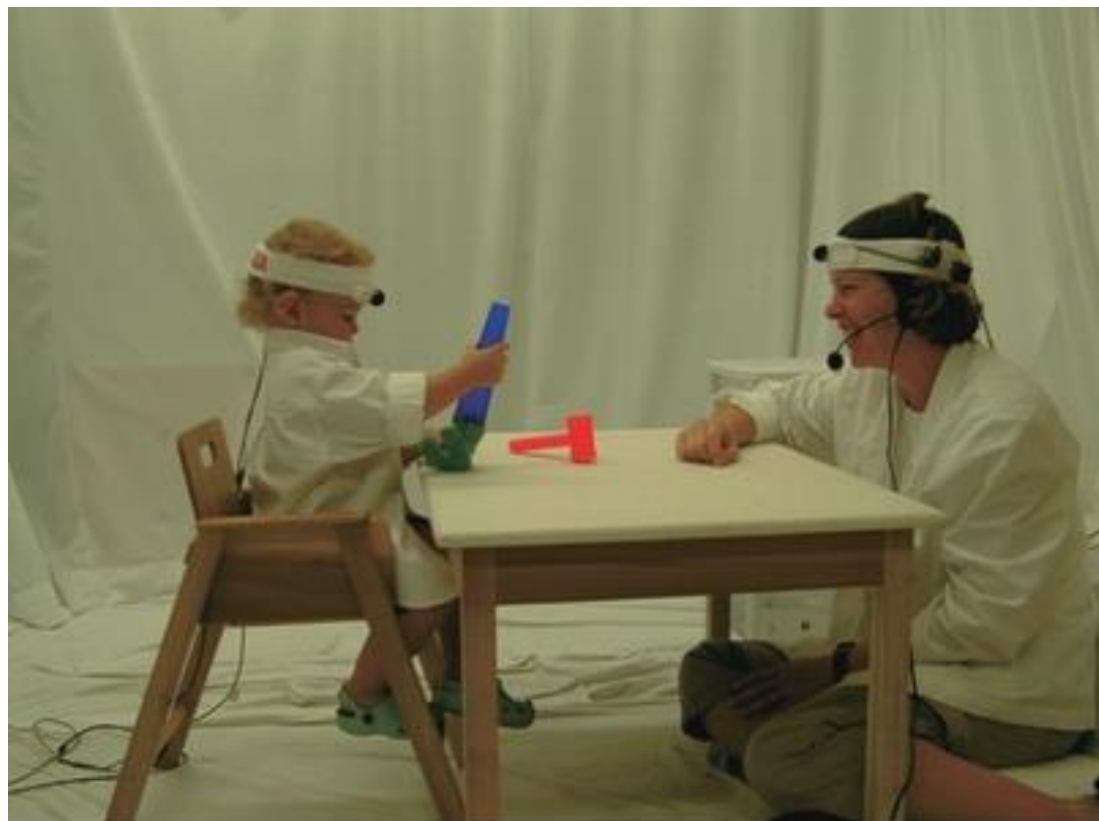
Breastfeeding

Reflexes

Plasticity



# Smith et al. (2011)





# Smith et al. (2011)

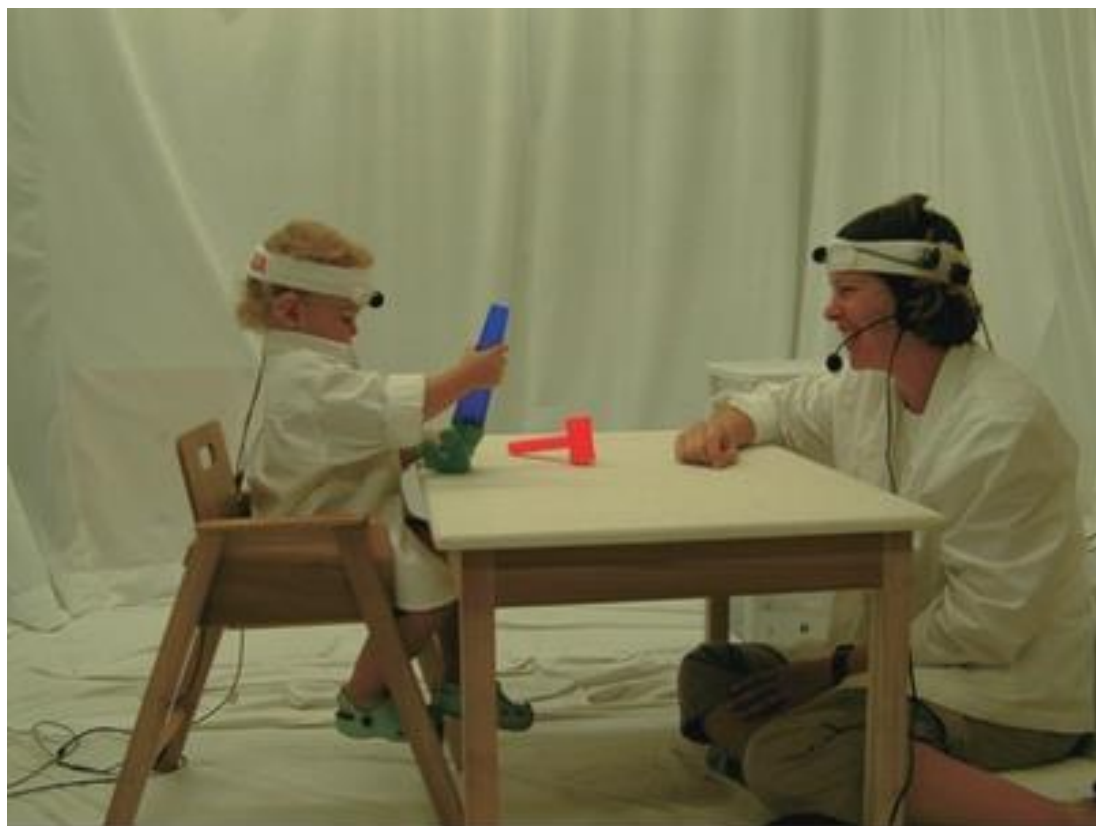
1. What is the big limitation in the existing studies on children's learning?
2. What is the main question in this study?
3. Why were head-mounted cameras the method chosen to answer that question?
4. What were the independent and dependent measures?
5. Was there a hypothesis put forward in this paper?
6. What's the big takeaway about toddlers' learning in this study?
7. The authors point out three main limitations. What are they?

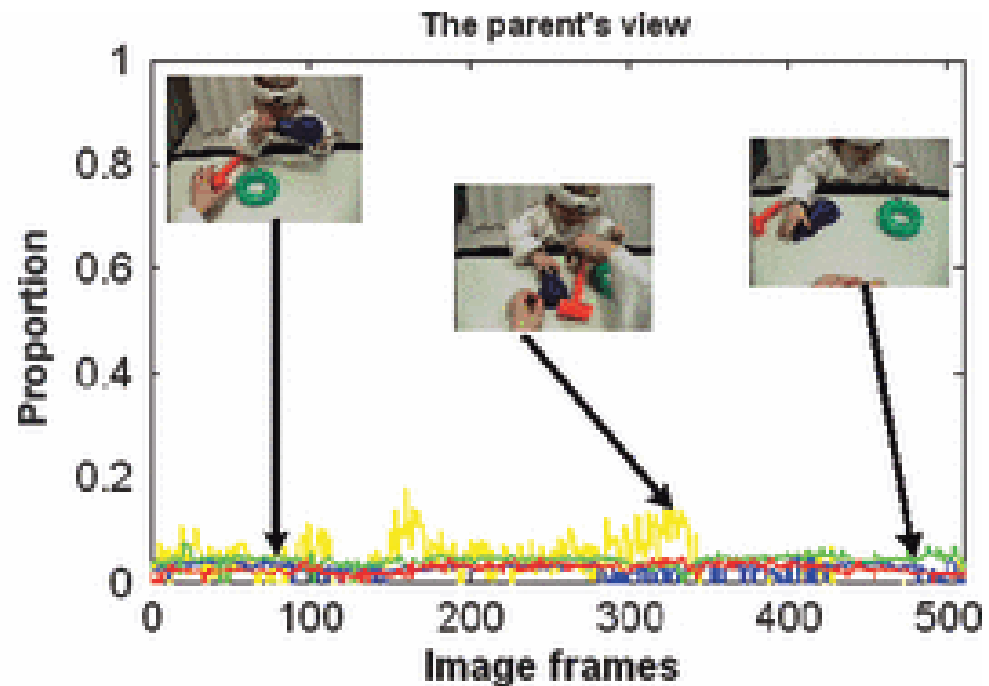
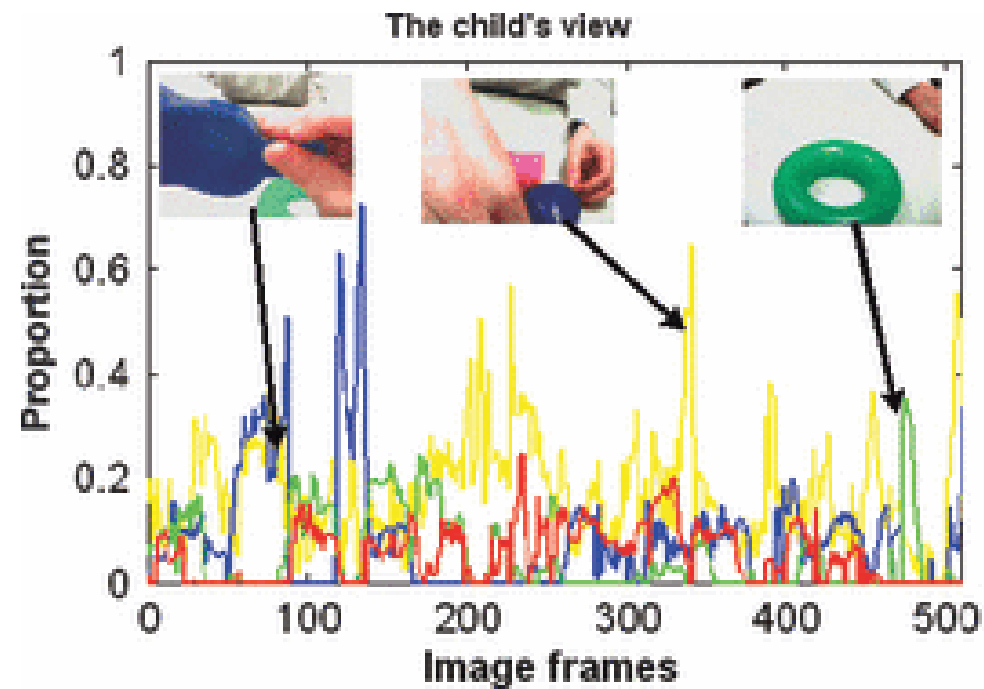




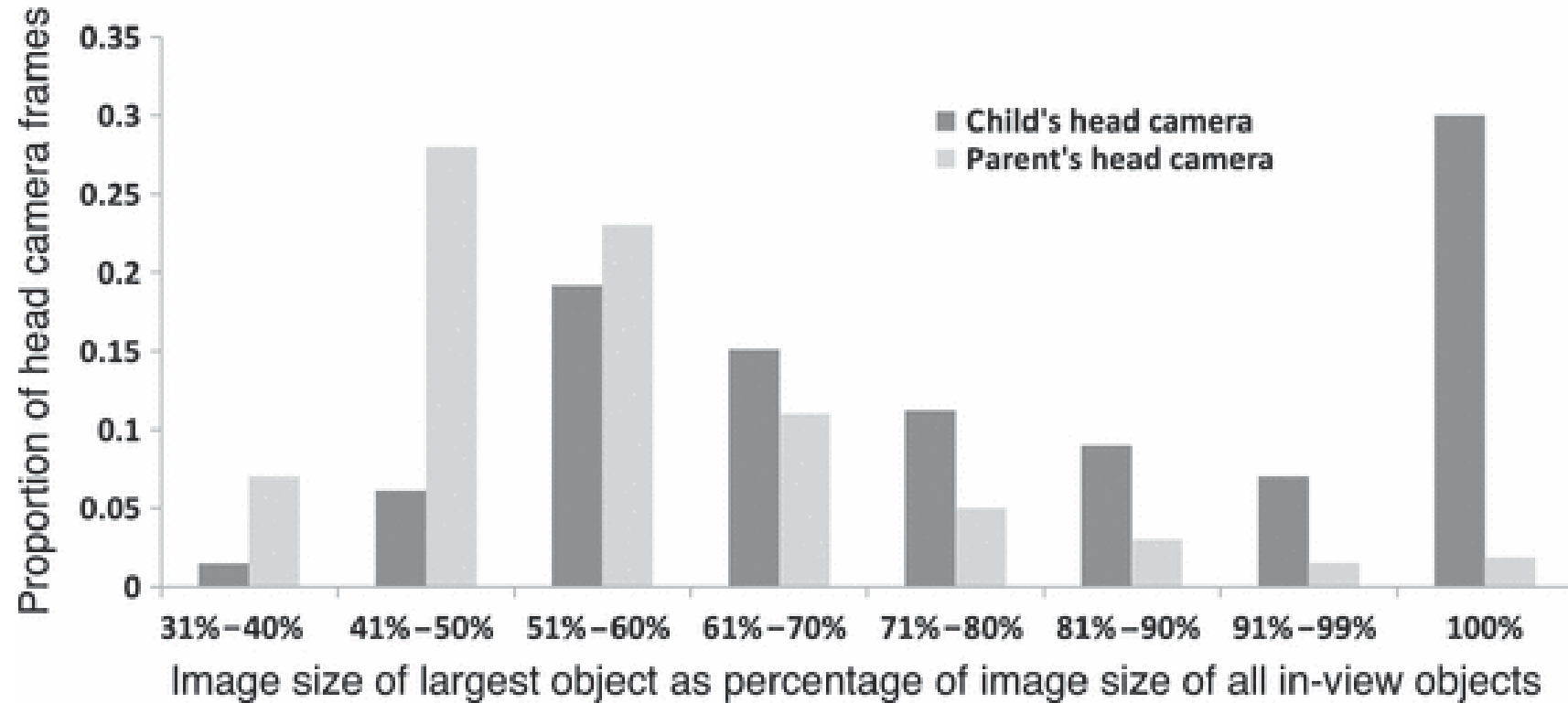
# Smith et al. (2011)

Advantages and disadvantages of this method?





“The toddler view is one in which, at any one moment, one toy is much larger than the other toys in the image and the largest object in the image changes often. In contrast, the parent view is broad, stably containing all three objects, with each taking up a fairly constant and small portion of the head camera field.”



“The adult view includes and is equal distance from all of the objects on the table top; but in marked contrast, the child’s view often contains one dominating object that is closer to the head and eye and thus often blocks the view of the other objects.”



## More from Linda Smith's Lab

### Infants' self-generated visual statistics support object and category learning

A packet of data (one object)



Robust Recognition



"cups"



Generalization



"cups"

**Hypothesized path.** Packets of toddler generated visual data from a single object teaches the visual system how to recognize the object across variable and challenging contexts. This learning generalizes, leading to robust recognition of shape, similar objects and category recognition.



# More from Linda Smith's Lab

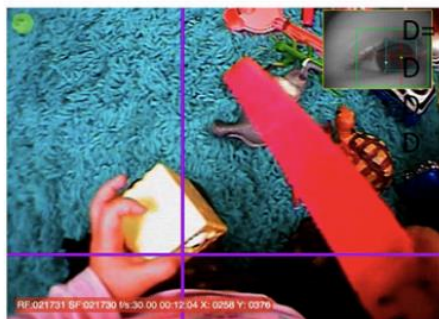
## The infant's view redefines the problem of referential uncertainty in early word learning

**A** Parent-child free toy play



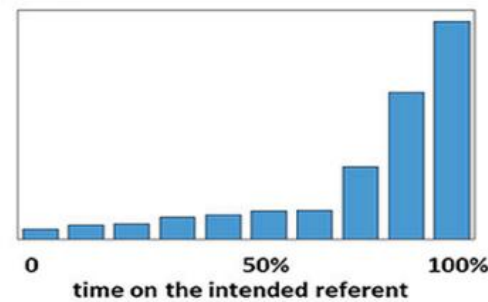
Interaction time: Total = 224 min  
M=6.42 min; SD = 2.58 min

**B** An infant's view when the parent names an object

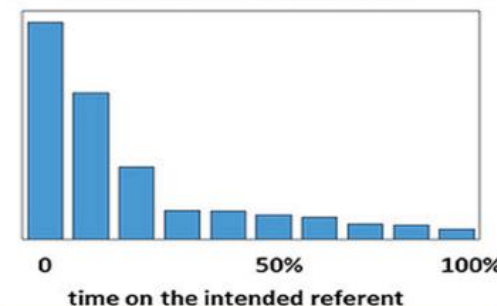


Number of naming events: 1024

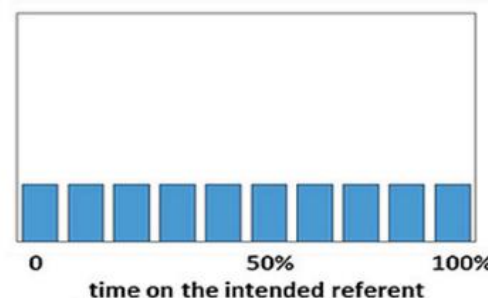
**A** Right-Skewed distribution



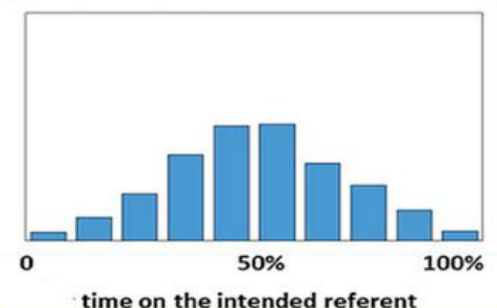
**B** Left-Skewed distribution



**C** Uniform distribution



**D** Normal distribution







# More from Linda Smith's Lab

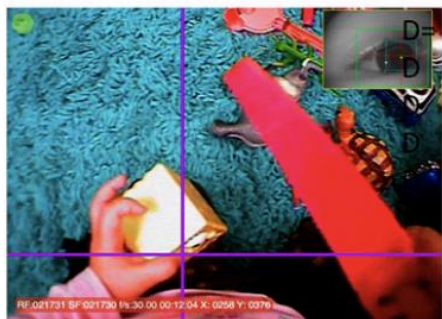
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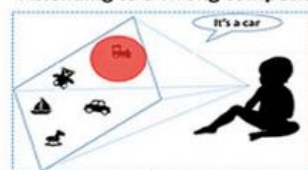
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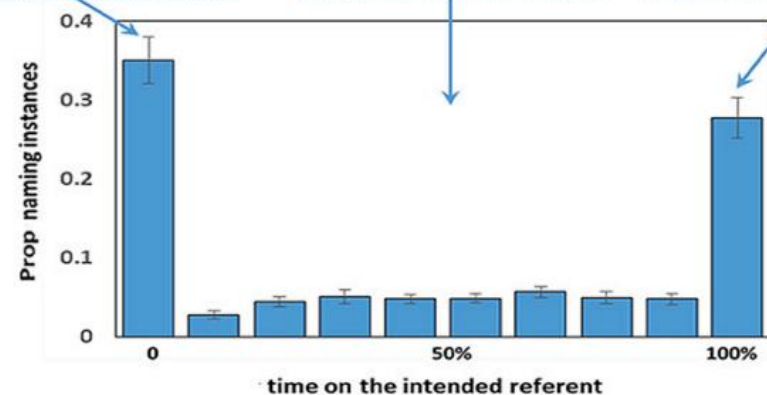
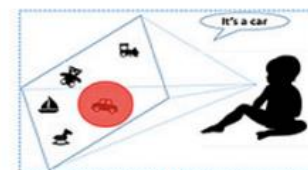
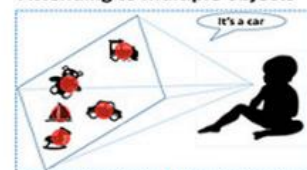
Number of naming events: 1024

**E** Bimodal Distribution

Attending to a wrong competitor



Attending to multiple objects





# App/toy/book evaluation assignment

Full guidelines available on Canvas under Assignments

**Due November 13<sup>th</sup> at 5pm**

What is the age of children likely to engage with the product?

What are two features of this product that appear to assist with:

- Perceptual/motor development
- Cognitive development (which dimensions)
- Language acquisition
- Social-emotional development
- Moral development
- Identity development

What are children learning when playing with toys? (educational value?)

Would you recommend the toy? Why or why not?



# Preparation for next time

## Homework:

Read two papers (Pascalis et al., 2002; Vogel et al., 2012)

Submit one mock exam question (multiple choice) on Canvas before precept (indicate the correct answer)

Email me your baby photos by 11am on Tuesday if you're presenting next week

## Office hours:

Wednesdays 10:30-11:30am in PSH 217

Email me ([kcasey@princeton.edu](mailto:kcasey@princeton.edu)) with questions or to schedule alternate meeting time