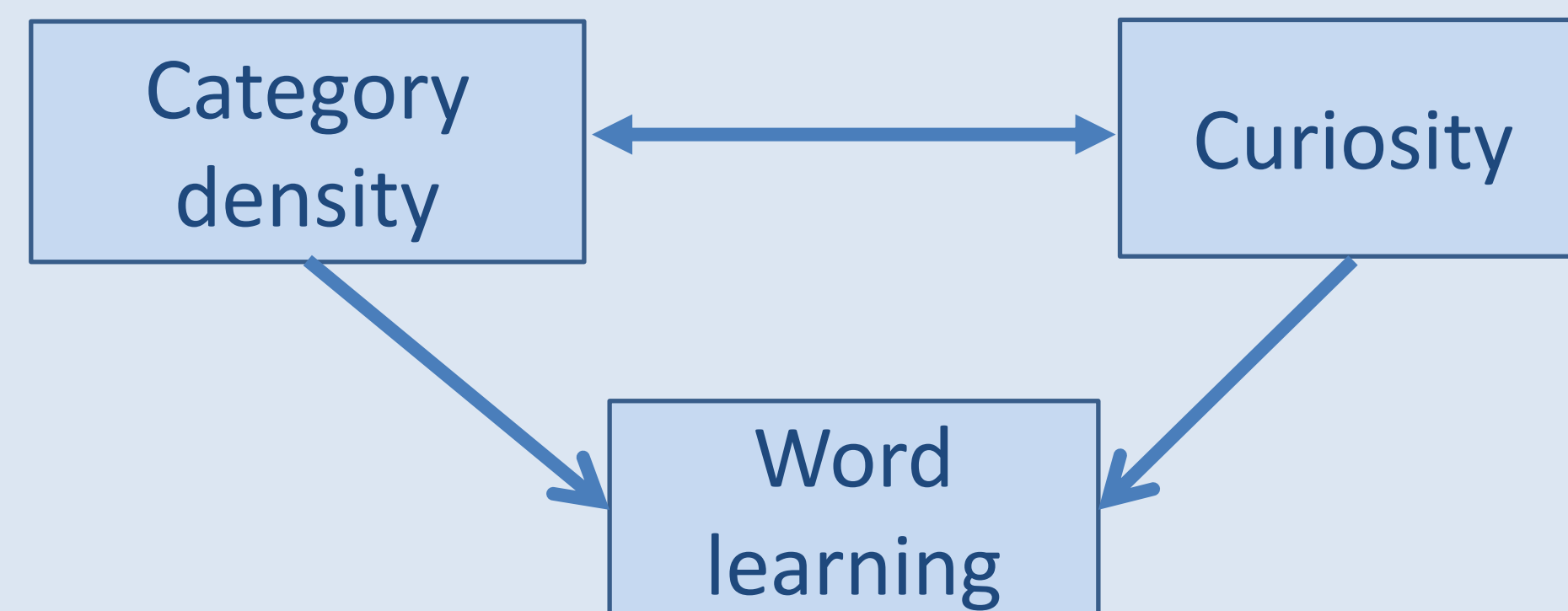


## Introduction

- We find considerable individual differences in early vocabularies – but why?
- Input shapes what a child will learn, but it alone cannot account for the variance we observe
- Recent approaches to word learning place the child in a more active role, highlighting the role of her curiosity towards objects in her environment [1]
- Epistemic curiosity – the desire to acquire new information – plays an important role in learning [2]
- Increased pupil dilation has been linked to curiosity in adults [2]

## Research Questions

- How do category density (semantic knowledge) and individual curiosity interact in early word learning?
- We hypothesize that curiosity towards a category facilitates the acquisition of new word-object-associations (WOAs) from this category
- Previous research [3] has shown that children more readily learn new WOAs from densely structured semantic domains, i.e. broad categories



## Eyetracking Study

### Participants

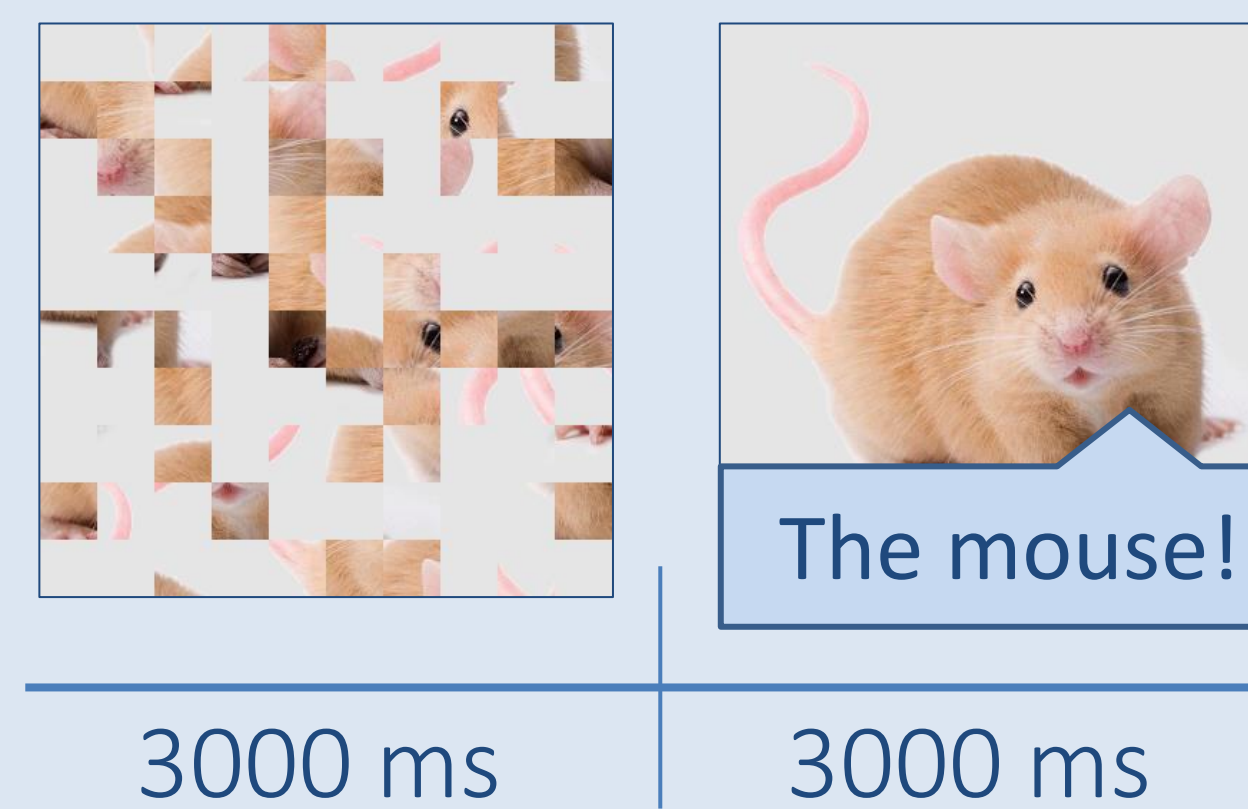
30-months-old German-learning infants (n = 40,  $M_{age} = 29$  m 18 d, 22 f)

### Stimuli

- 16 familiar objects from two narrow and two broad categories
- 4 novel objects, one from each category

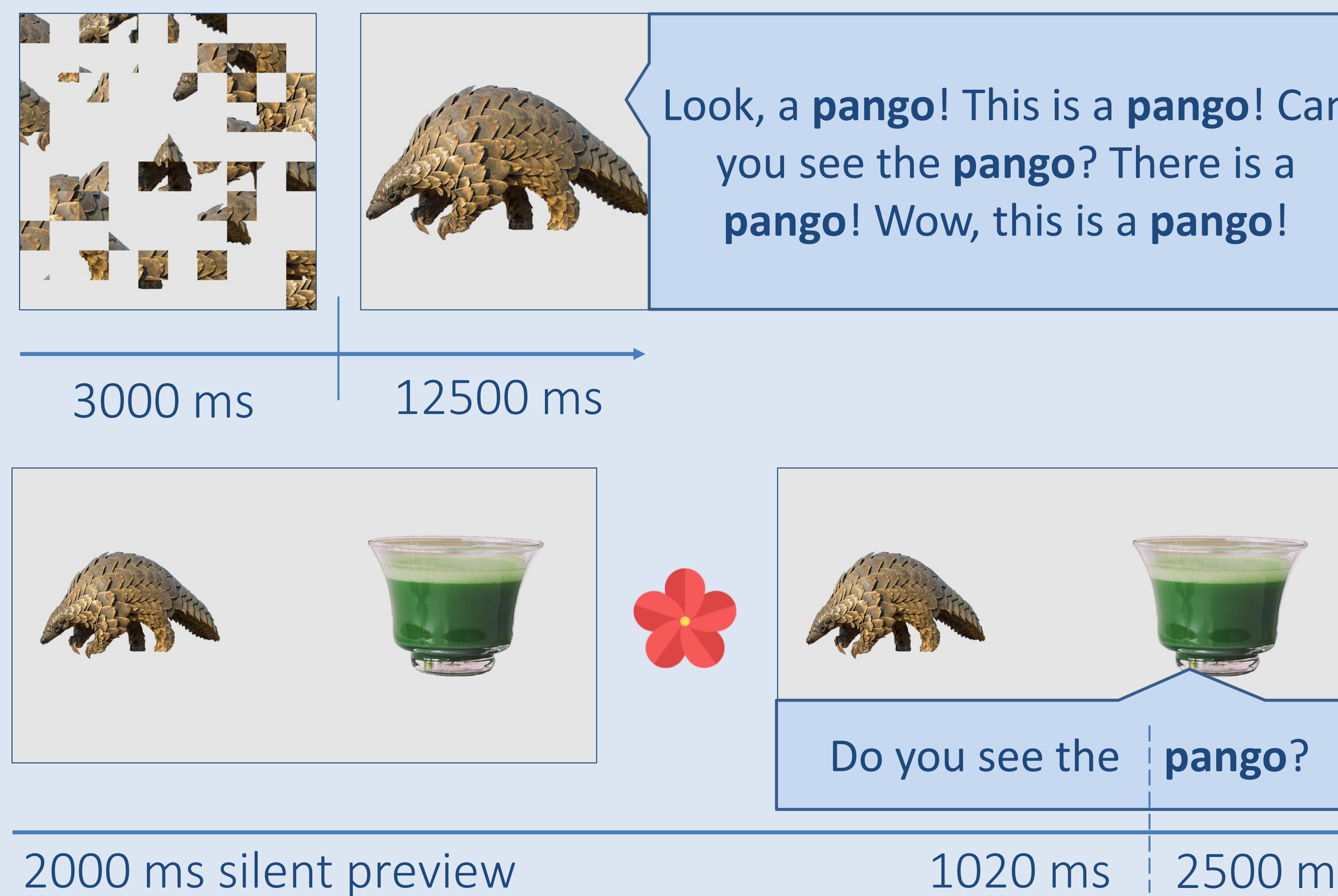
### Object presentation phase

- Blockwise presentation of 16 familiar objects and their labels
- Change in pupil dilation from scrambled to unscrambled image is measured as an index of curiosity [2]



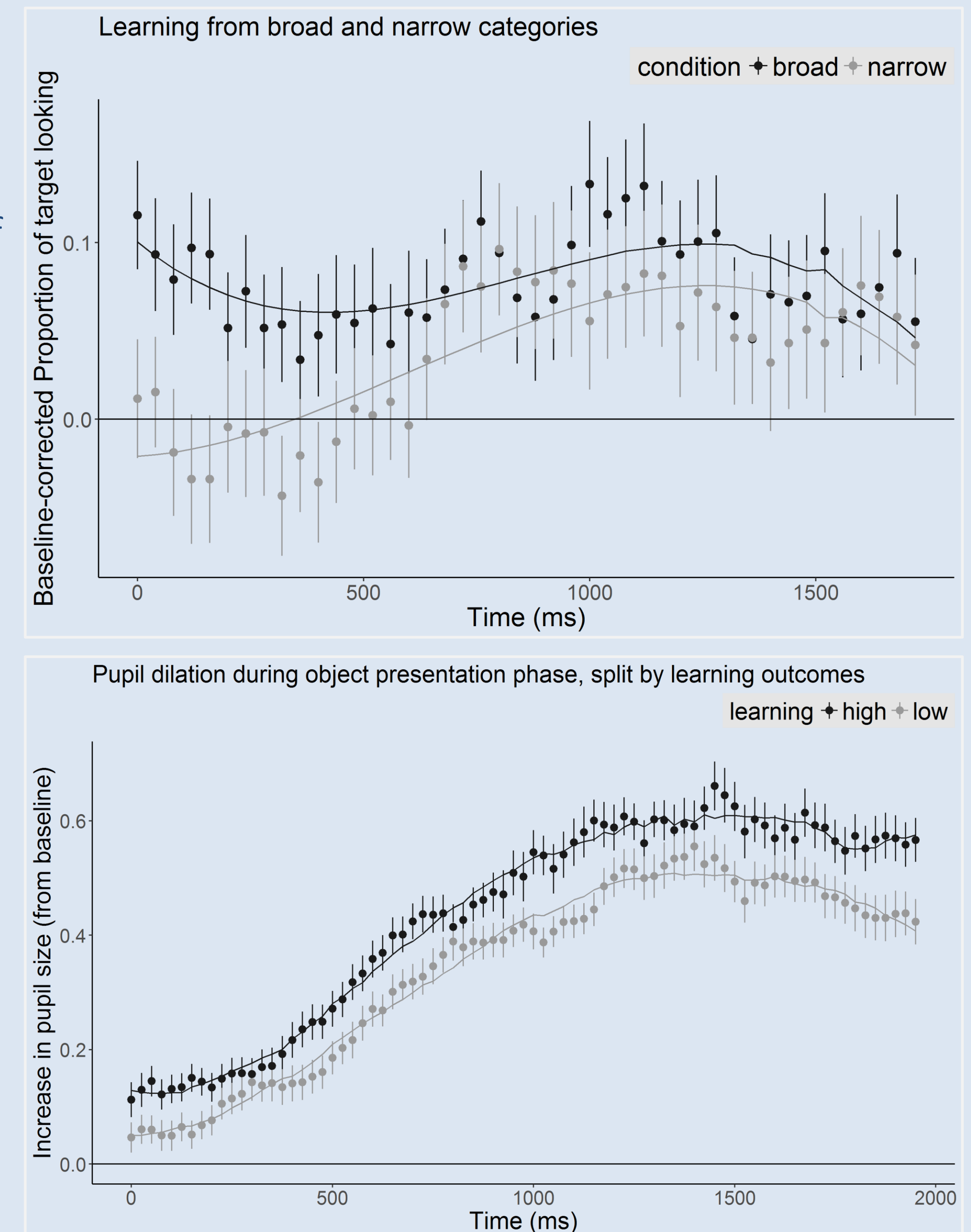
### Learning and test phase

- Presentation of 2x2 novel objects (10 naming events per object)
- Followed by 8 word recognition trials (4 familiar, 4 novel)



## Results

- Growth curve analysis [4] was used to analyze proportion of target looking as a function of time
- Best model considers both condition (broad vs. narrow) and interest in a category during object presentation phase
- Data was split in two to show change in pupil dilation for high and low learning outcomes
- Children learn new WOAs more readily from categories they are interested in



## Discussion

- Category density has been shown to play a role in what words will enter a child's vocabulary next [3], but it is not the only predictor
- Instead, interest in a category seems to be the driving force behind acquiring new WOAs
- If a child is more interested in a category, she is more likely to already know the names of many category members → Category density and curiosity interact in the early lexicon and facilitate the acquisition of new WOAs
- Follow-up study: Gaze-contingent paradigm to examine the role of the child's preference and active choice

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## Contact & Materials

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📁 Materials on OSF

