

# Who Notices Object Repeats?

## Individual Differences in Inner Experience Influence Repetition Priming

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### Language and Category Representations

Language helps us learn new categories quickly & accurately

(Balaban et al., 1997; Gelman & Markman, 1986; Nazzi & Gopnik, 2001; Waxman & Markow, 1995)

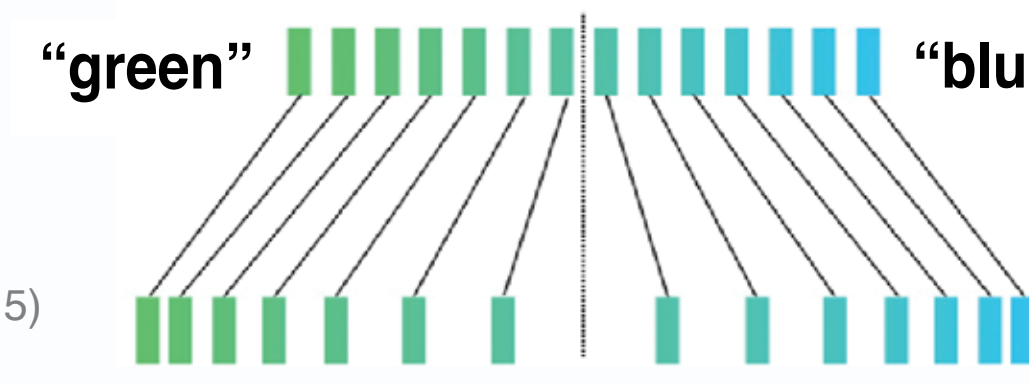


Cue to new category existence

Cue to between-category and within-category relationships.

Language makes our representations more “categorical”

(Forder & Lupyan, 2019; Boutonnet & Lupyan, 2015)



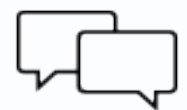
Continuous Representation

More Categorical Representation

### Internal Representations Questionnaire

(Roebuck & Lupyan, 2020)

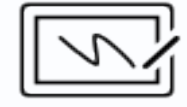
VERBAL



VISUAL



ORTHOGRAPHIC



MANIPULATION



“I think about problems in my mind in the form of a conversation with myself”

“I hear words in my ‘mind’s ear’ when I think”

“I rarely vocalize thoughts in my mind”

Greater inner speech propensity previously linked to:

- broader phonological + narrower semantic activation (Roebuck & Lupyan, 2020)
- better rhyme judgements of images
- better verbal working memory (Nedergaard & Lupyan, 2024)

### Measuring Repetition Priming

Baseline



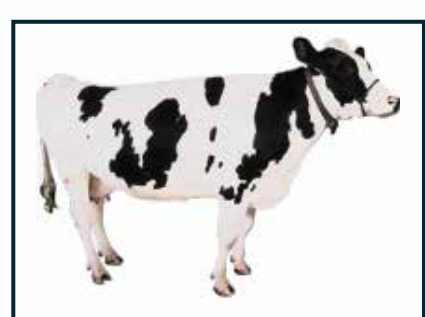
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Category Prime

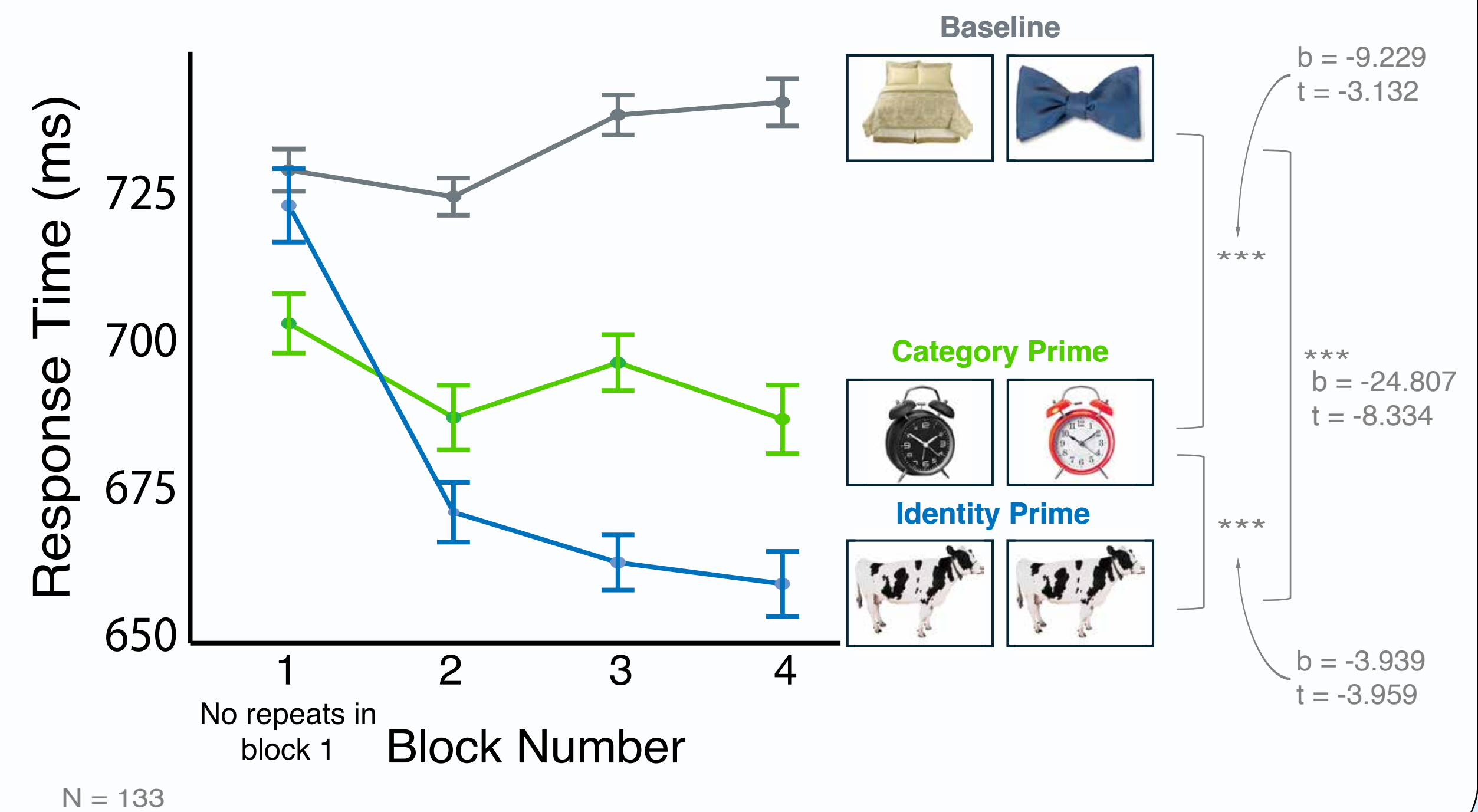


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Identity Prime



### Category Repetition Priming is Different From Identity Repetition Priming

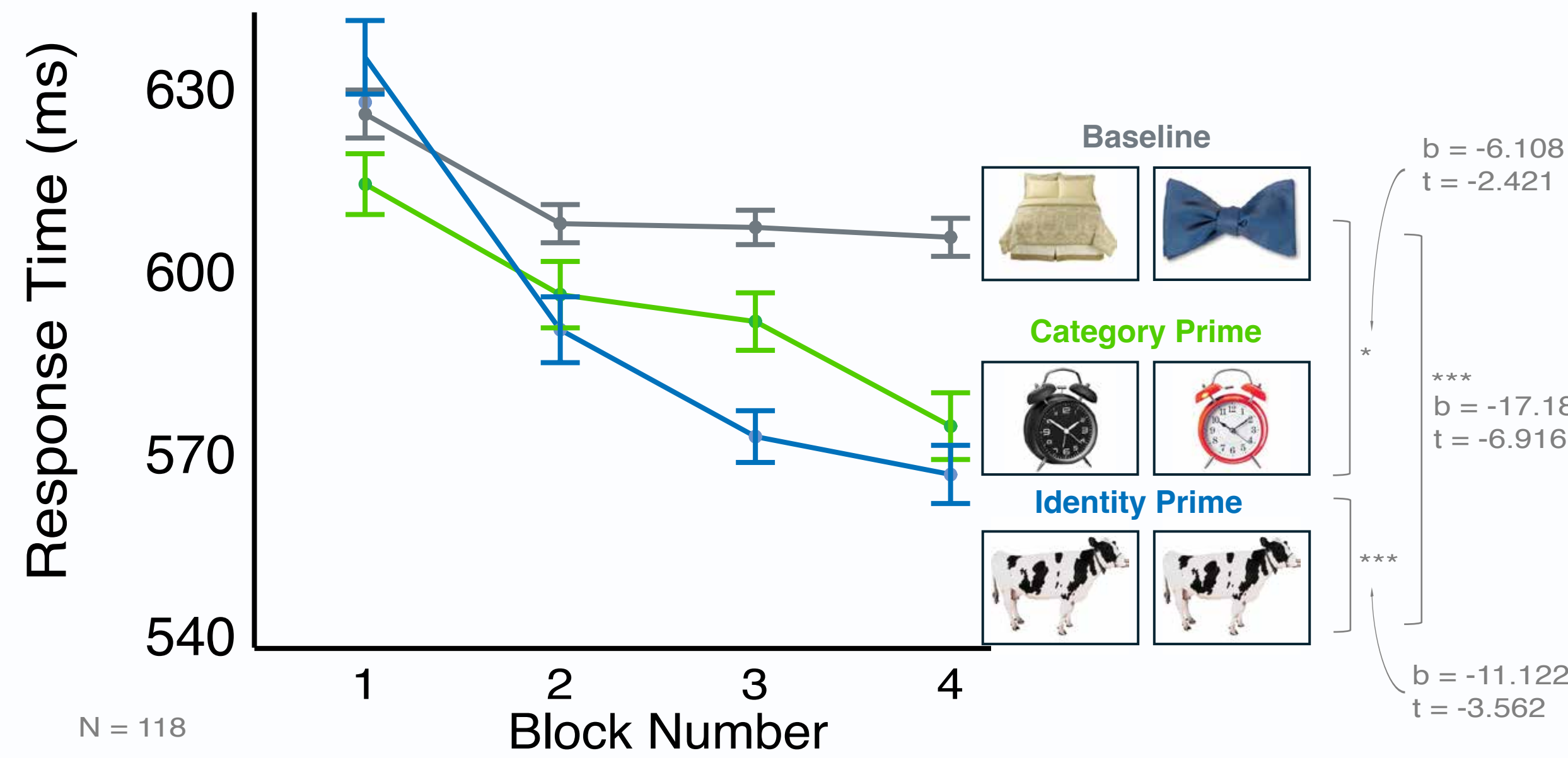


## How Do Inner Speech and Verbal Interference Influence Repetition Priming?

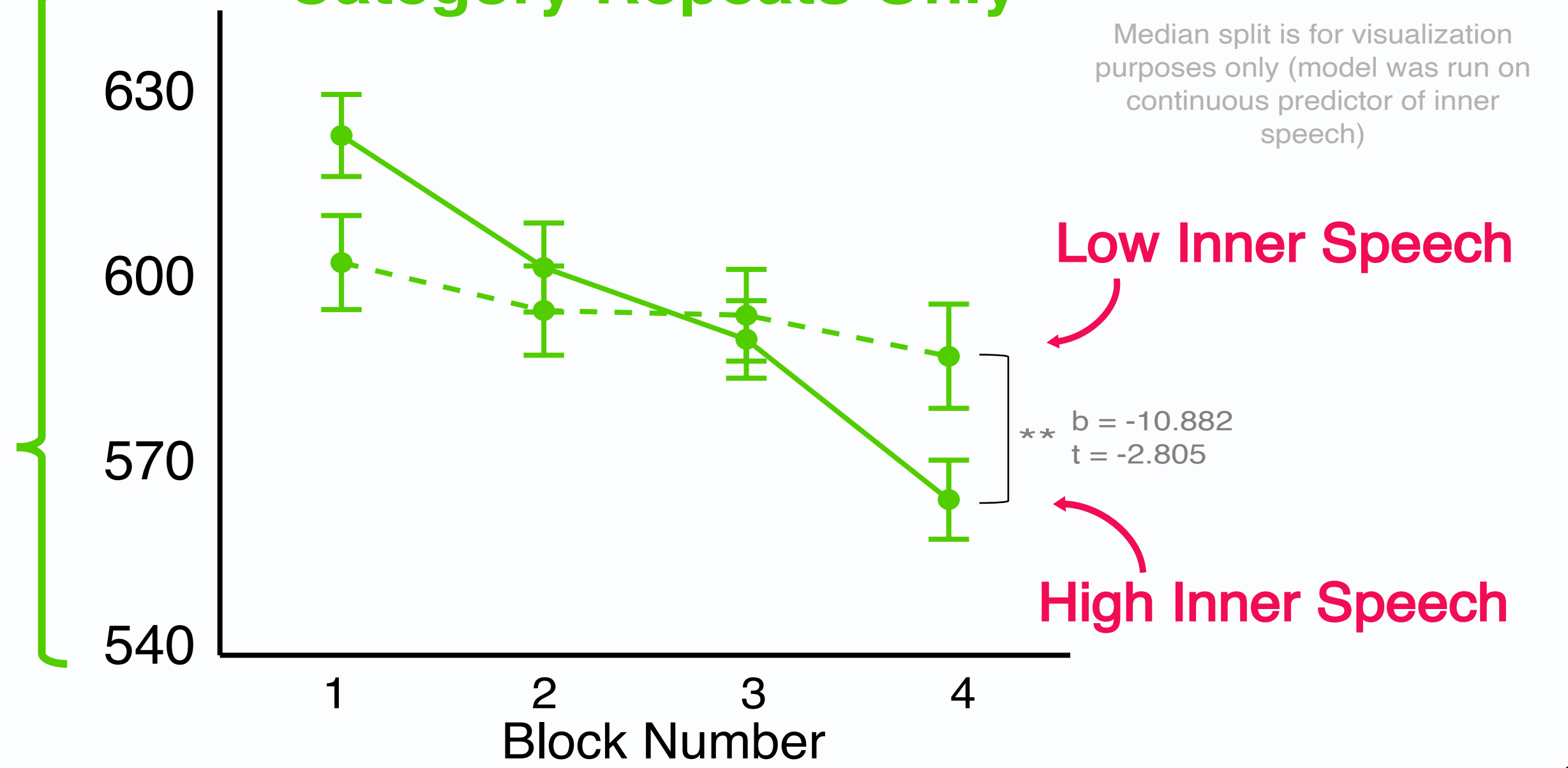
### More Inner Speech is Associated With Greater Category Repetition Priming

Verbal interference does not reduce repetition priming

Non-Interference Trials



Category Repeats Only

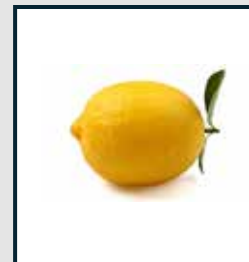


## How Does Inner Speech Interact with Object Typicality?

### Category Verification Based on Imagining Familiarized Objects

#### FAMILIARIZATION PHASE

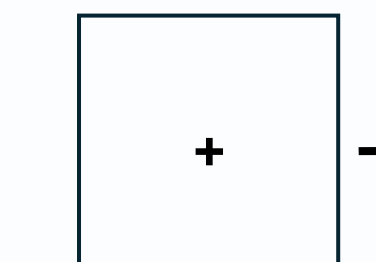
“Here is a lemon”



#### VERIFICATION PHASE

PROMPT

“Imagine a lemon”



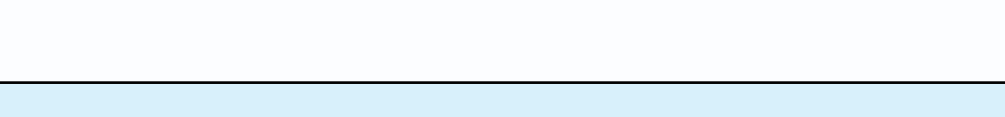
(participants take as long as needed)

OBJECT PRESENTATION OPTIONS

Typical - Familiarized



Typical - Novel



Atypical - Novel



Foil

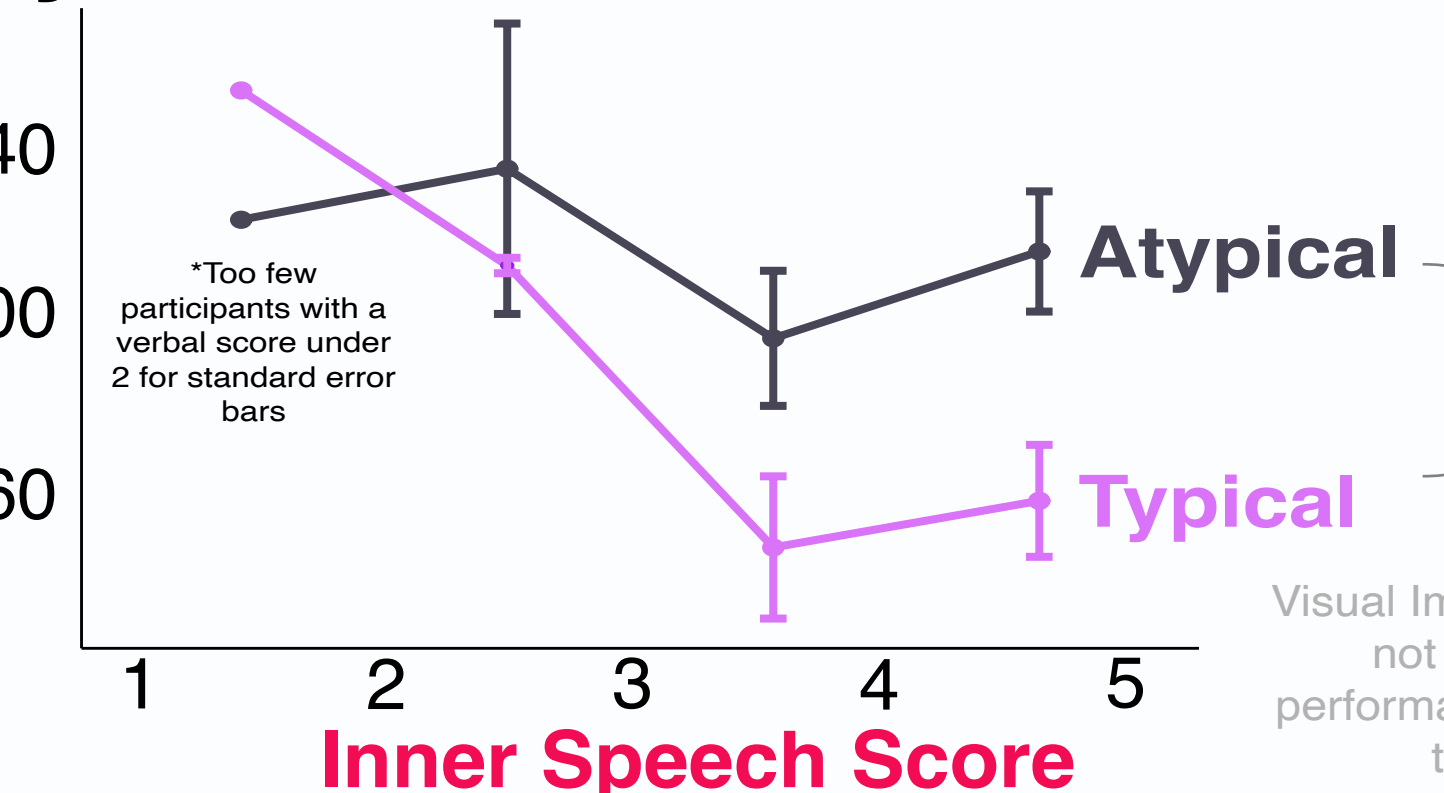
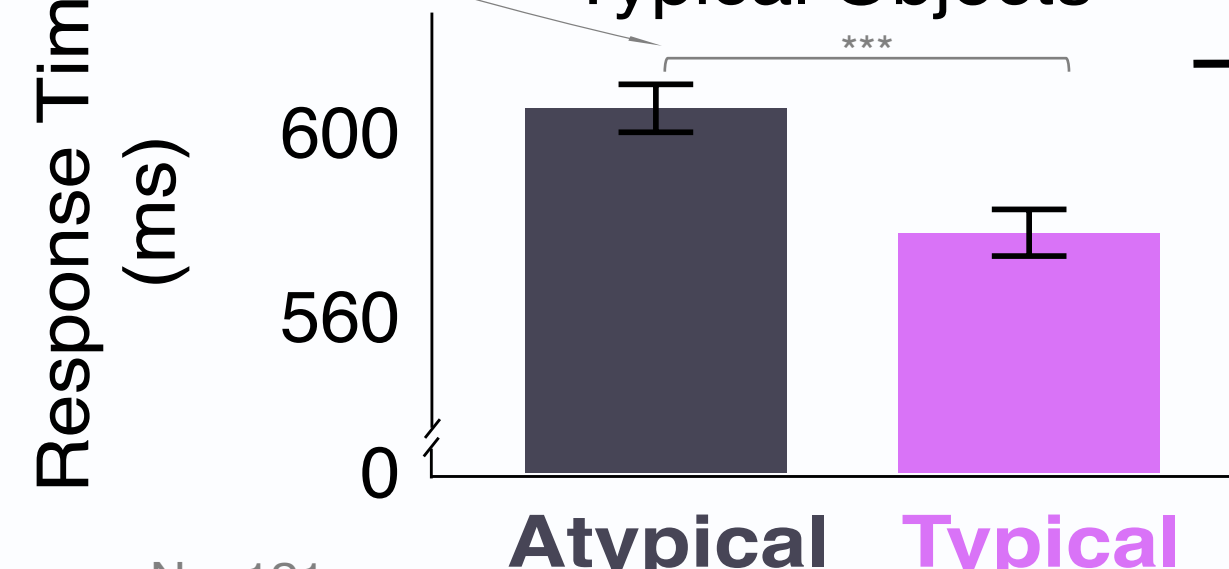


Press ‘z’ for match and ‘/’ for mismatch

### More Inner Speech is Associated with a Steeper Typicality Gradient

b = -68.742  
t = -12.812

People Respond Quicker to Typical Objects



Visual Imagery does not predict performance on this task.

## Inner speech is associated with more “categorical” representations

People with more inner speech show more category repetition priming  
People more inner speech show a bigger typicality effect in category verification

### References

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