



Nate Robinson



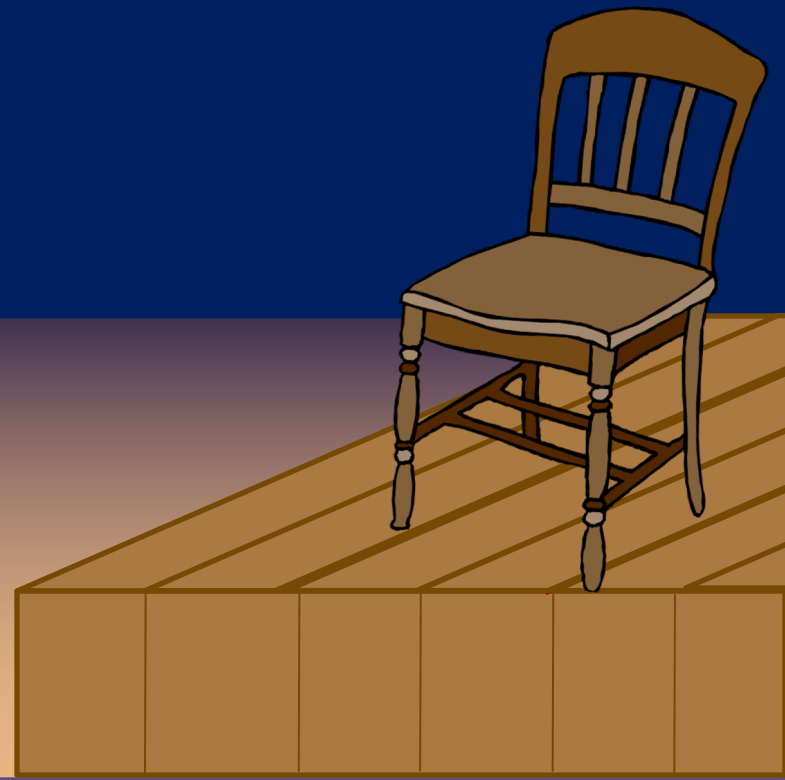
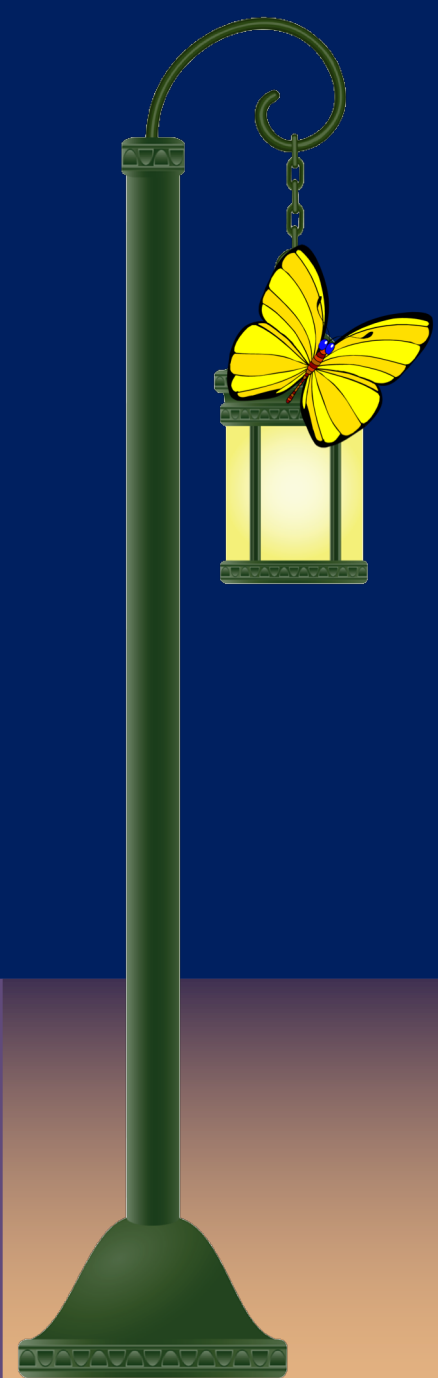
Victor Gomes

# Discourse Effects on the Source-Goal Asymmetry

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**Source:  
Starting  
point of  
motion**

**Figure:  
Object in  
Motion**

**Goal:  
End  
point of  
motion**

# Picking and Choosing


- The butterfly flew.
- The butterfly flew from the lamppost.
- The butterfly flew to the chair. 
- The butterfly flew from the lamppost to the chair.
- The butterfly flew to the chair from the lamppost.

# The Goal Bias in Language

- In language, there is a strong and very consistent goal bias
  - **Cross-linguistically:** Found across a number of typologically different languages<sup>[1]</sup>
  - **Across age span:** Found for adults & children<sup>[2]</sup>
  - **Fairly resilient to changes in the event itself:** Found for events involving animates and inanimates<sup>[3]</sup>

[1] Regier & Zheng, 2007; Ihara & Fujita, 2000 [2] Lakusta & Landau, 2005; Lakusta & Landau, 2012; Papafragou, 2010 [3] Lakusta & Landau, 2012, Lakusta et al., 2017

# Picking and Choosing

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**Why are speakers biased to mention the goal of the motion event over the source of motion events?**

# The Goal Bias in Cognition

- **Possible: The goal bias in language comes from more basic goal bias in cognition**
- The goal-bias also surfaces when no linguistic act is involved
  - **Linguistic exposure doesn't matter:** Evidence of the goal-bias as young as 12 mos. and in congenitally deaf children<sup>[1]</sup>
  - **Non-linguistic memory tasks:** Goals are remembered more accurately than sources<sup>[2]</sup>

[1] Lakusta et al., 2007; Zheng & Goldin-Meadow, 2002

[2] Lakusta & Landau, 2005; Lakusta & Landau, 2012; Papafragou, 2010

# Challenges for a cognitive account

- **The goal bias in language is much more robust than in non-linguistic cognition**<sup>[1]</sup>
  - **Consistency:** Goal bias in memory is sometimes absent, even when present in language
  - **Strength:** The goal bias in memory *much* smaller than in language

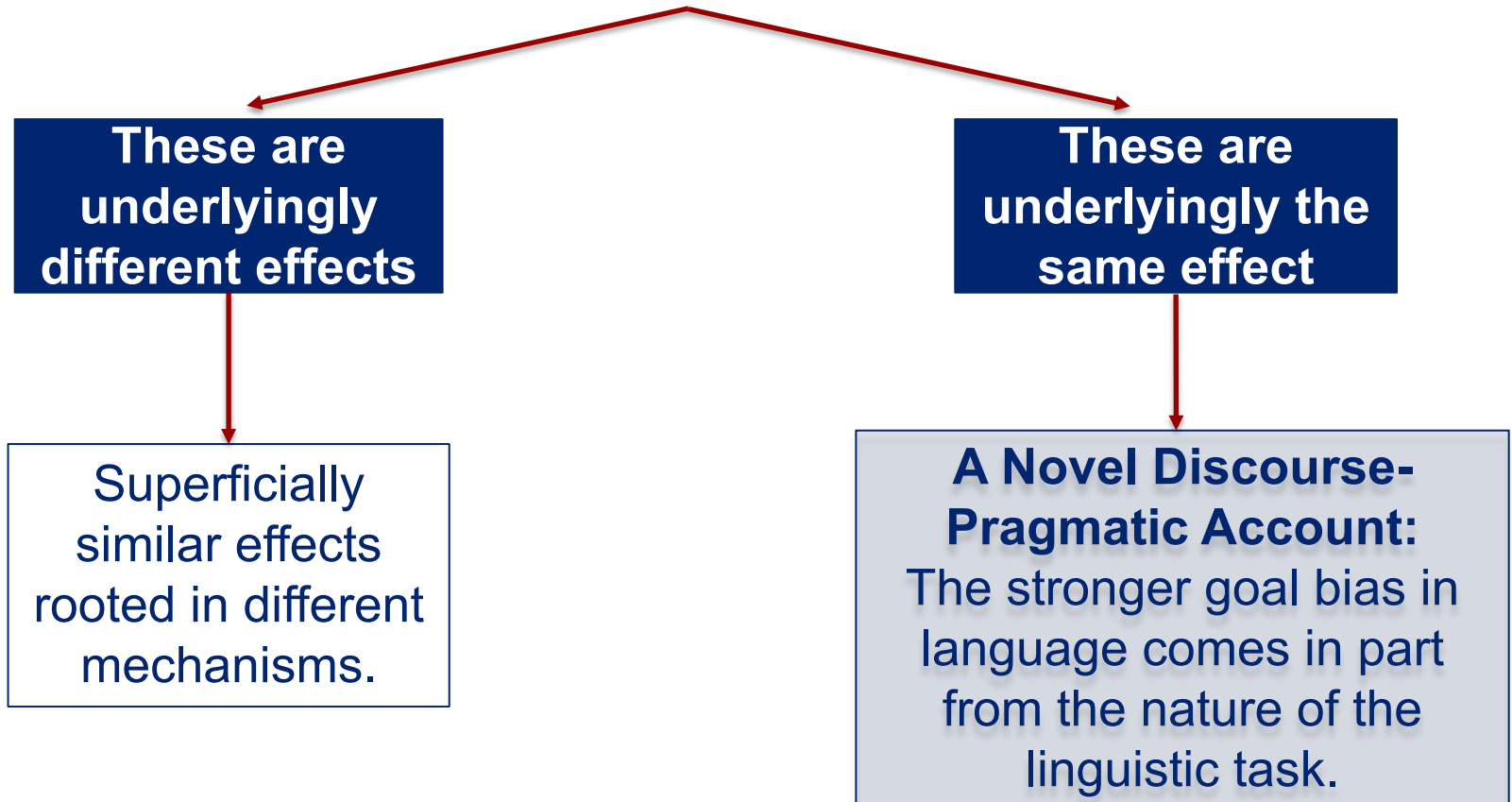
[1] Papafragou, 2010; Lakusta & Landau, 2012; Lakusta & Landau, 2005



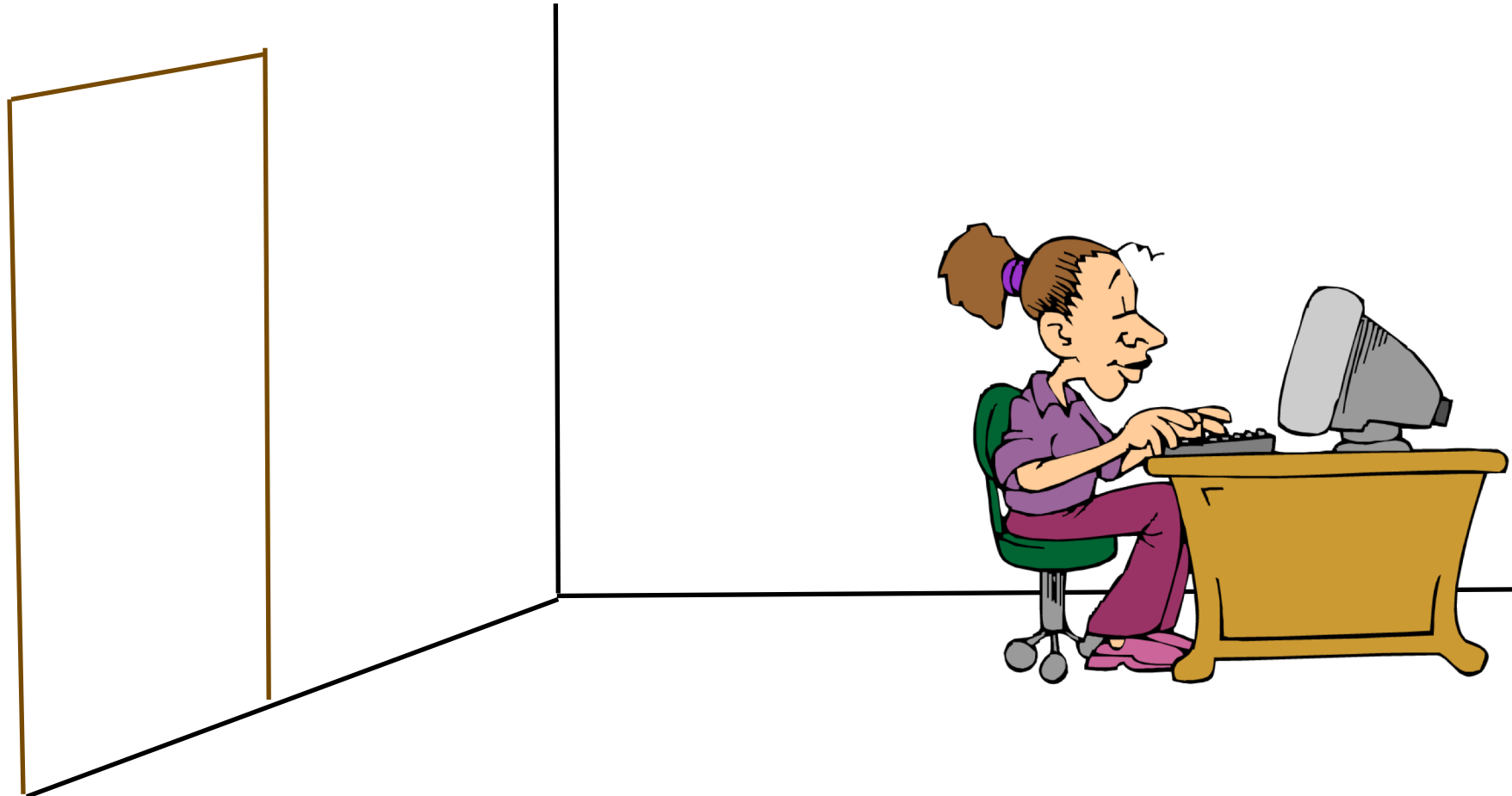
# The Current Questions

- **Why does the goal bias in language look so different from the bias in non-linguistic cognition (i.e., memory)?**
  - Complicates the argument for a completely homologous goal bias in language and cognition
  - Could the goal bias be driven by communicative factors?
- **What is the relationship between language and cognition?**

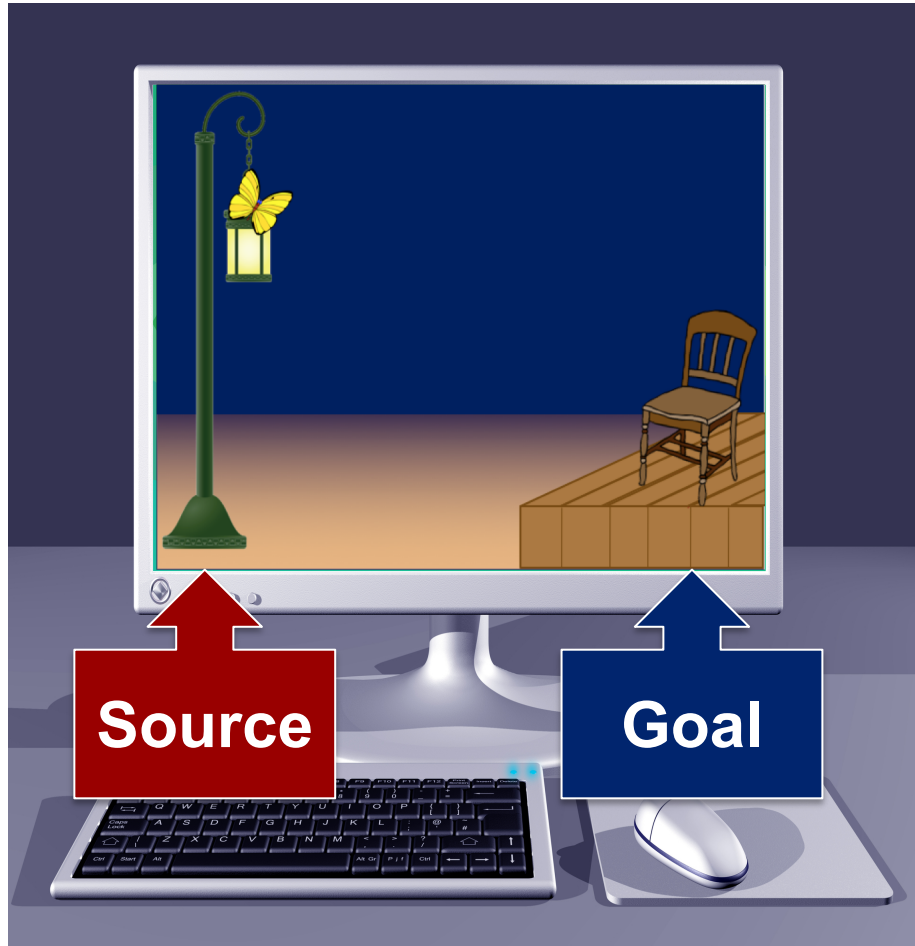
# Why does the goal bias in language look so different from the bias in non-linguistic cognition?



# A Closer Look at the Linguistic Task



# A Closer Look at the Linguistic Task



- For the participant observing the event:
  - **Sources are given information** known as soon as participants see the scene
  - **Goals are new and unknown** until after the scene unfolds

## Discourse-Pragmatic Account:

The preference to mention goals over sources in prior work may come in part from the discourse status of goals in the linguistic task.



When sources are made discourse-new, the goal bias should be dramatically reduced (or disappear).

# Design

Common Ground	No Common Ground
---------------	------------------



<b>Source</b>	<b>Given (Known)</b>	<b>New</b>
<b>Goal</b>	<b>New</b>	<b>New</b>



The goal bias in language should be comparable to prior work



The goal bias in language should be reduced relative to prior work / the common ground condition

# Materials & Methods

## (1) Description Task

- 2 groups of participants
  - Common Ground (n=36)
  - No Common Ground (n=36)
- **Watched and described** 18 clips to engaged, confederate addressee
- Addressees “answered” questions based on speaker’s descriptions

## (2) Memory Task

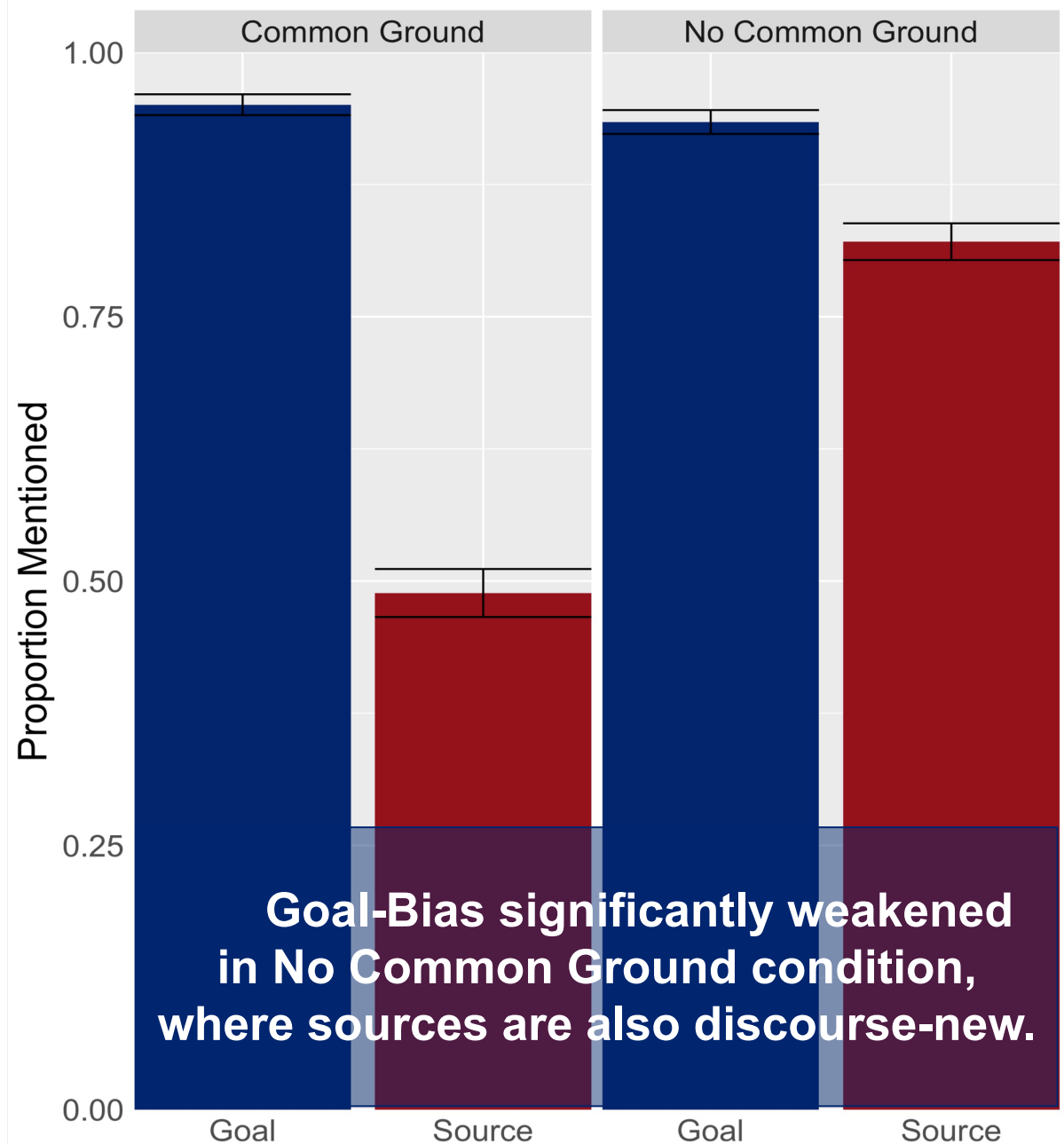
- **Does memory for sources improve when sources are discourse-new?**
- After all descriptions completed
- **Change Detection paradigm:** Judged if a second set of clips matched the clips they described
- 3 change conditions (**Source** vs **Goal** vs **No Change**)

# Results: Description Task

## *The Goal-Bias in Language*

■ Goal  
■ Source

Error bars show +/- 1 SE  
Sig. Effect of Mention Type  
Sig. Effect of Ground Type  
Sig. Ground X Mention  
Interaction



Goal-Bias significantly weakened  
in No Common Ground condition,  
where sources are also discourse-new.

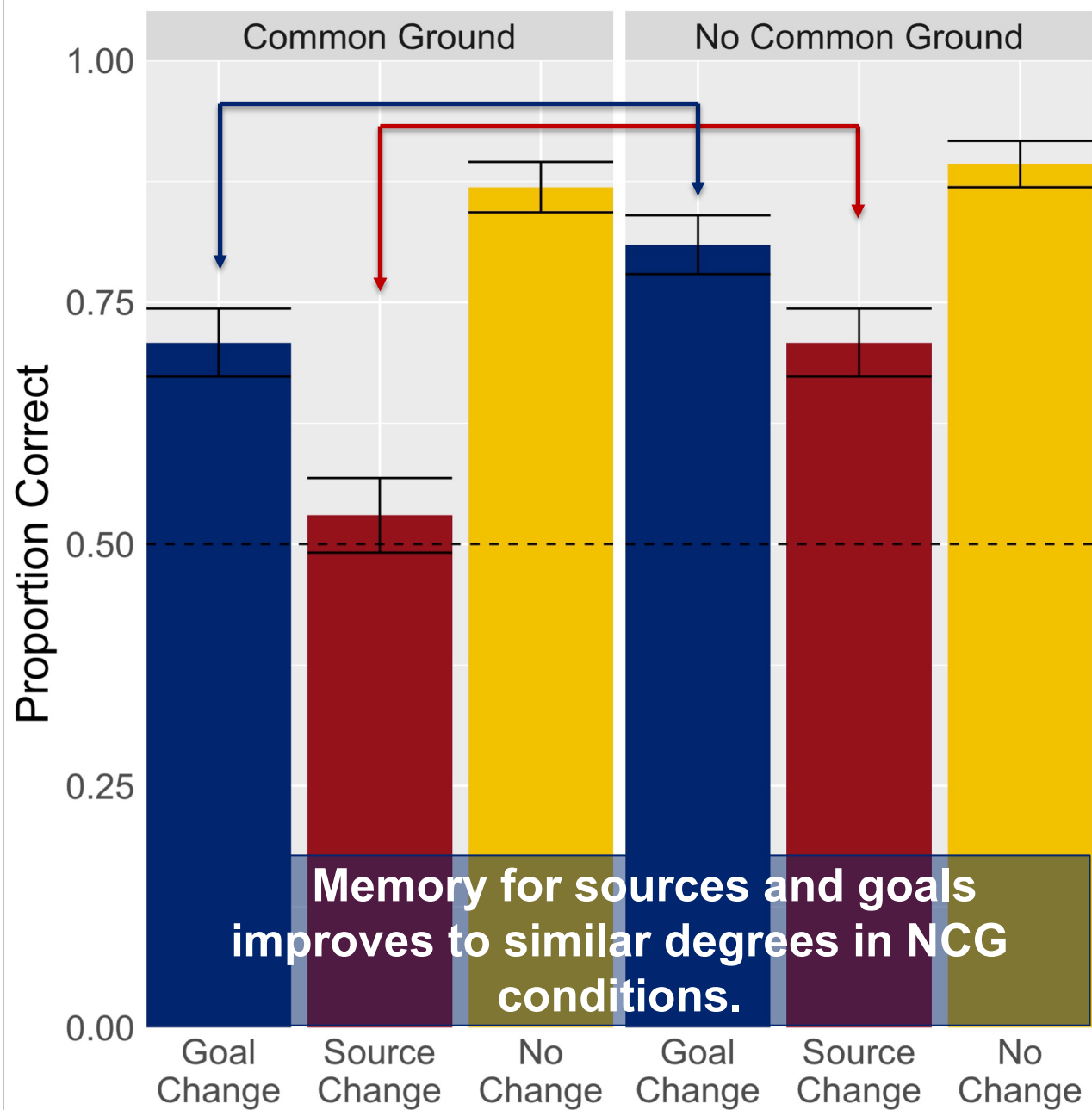


# Results: Memory Task

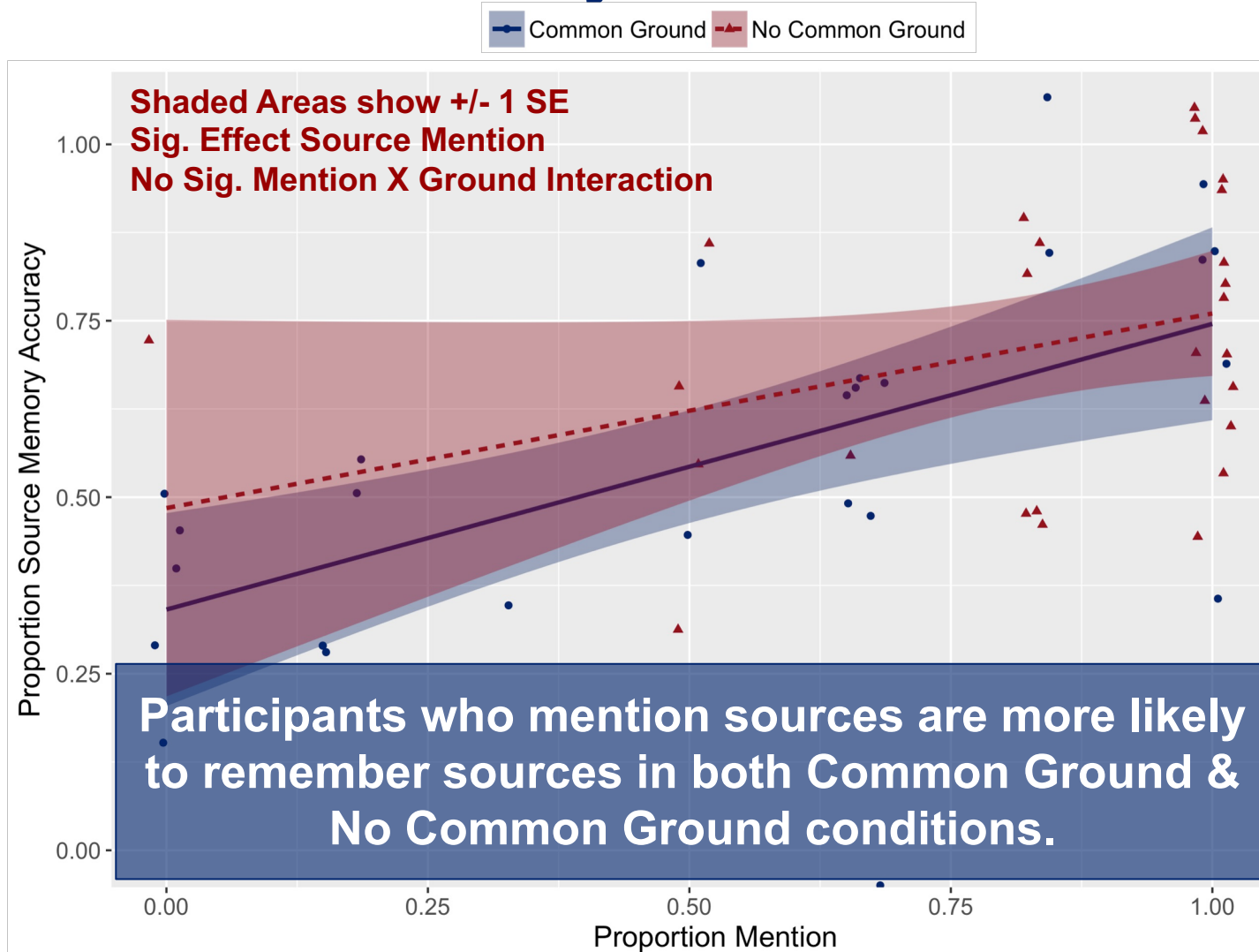
## *The Goal-Bias in Memory*

■ Goal Change  
■ Source Change  
■ No Change

Error bars show +/- 1 SE  
Sig. Effect of Mention Type  
Sig. Effect of Ground Type  
No Sig. Ground X Mention  
Interaction



# Does mentioning the **source** help your memory for **sources**?

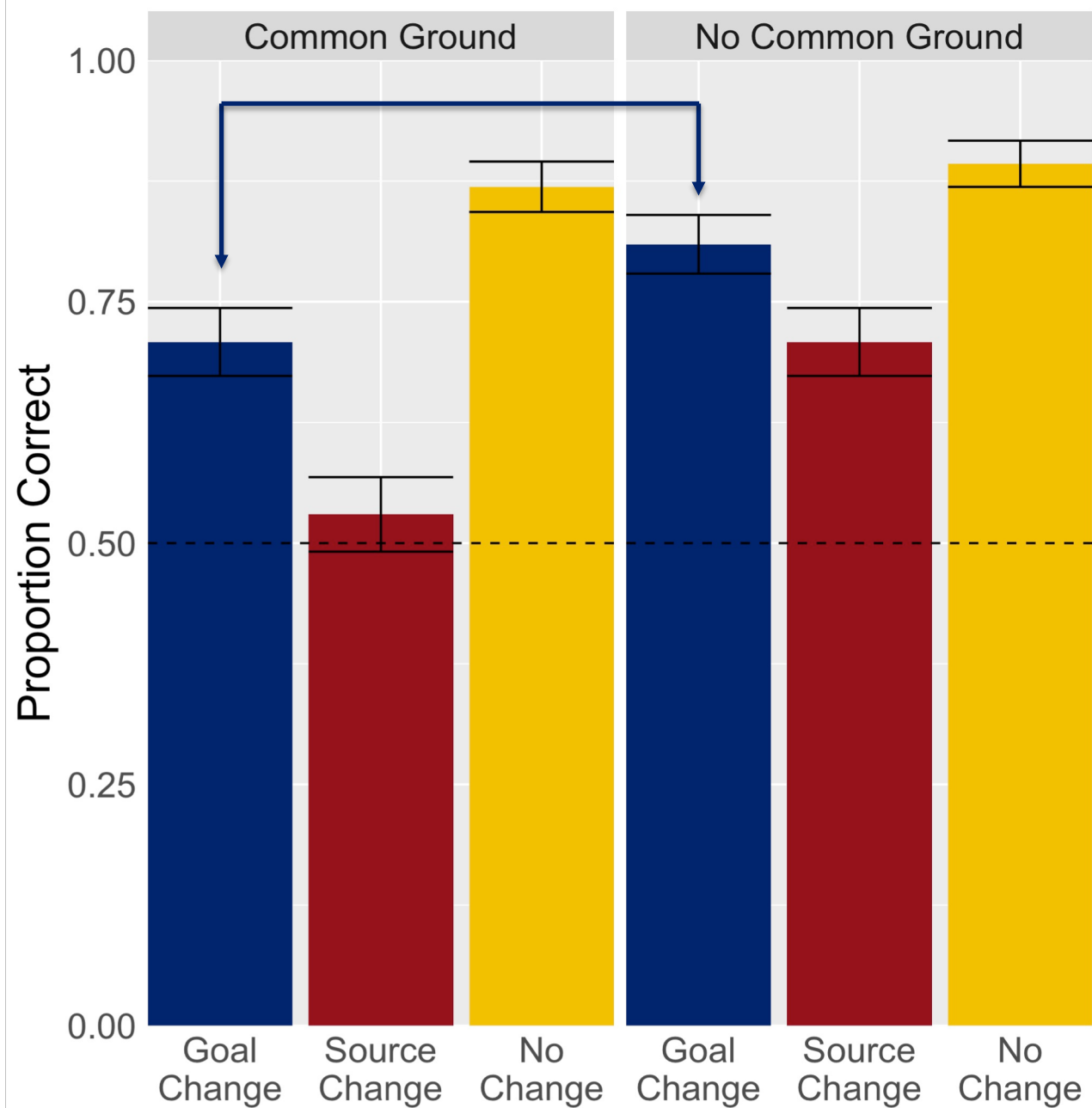


# Results: Memory Task

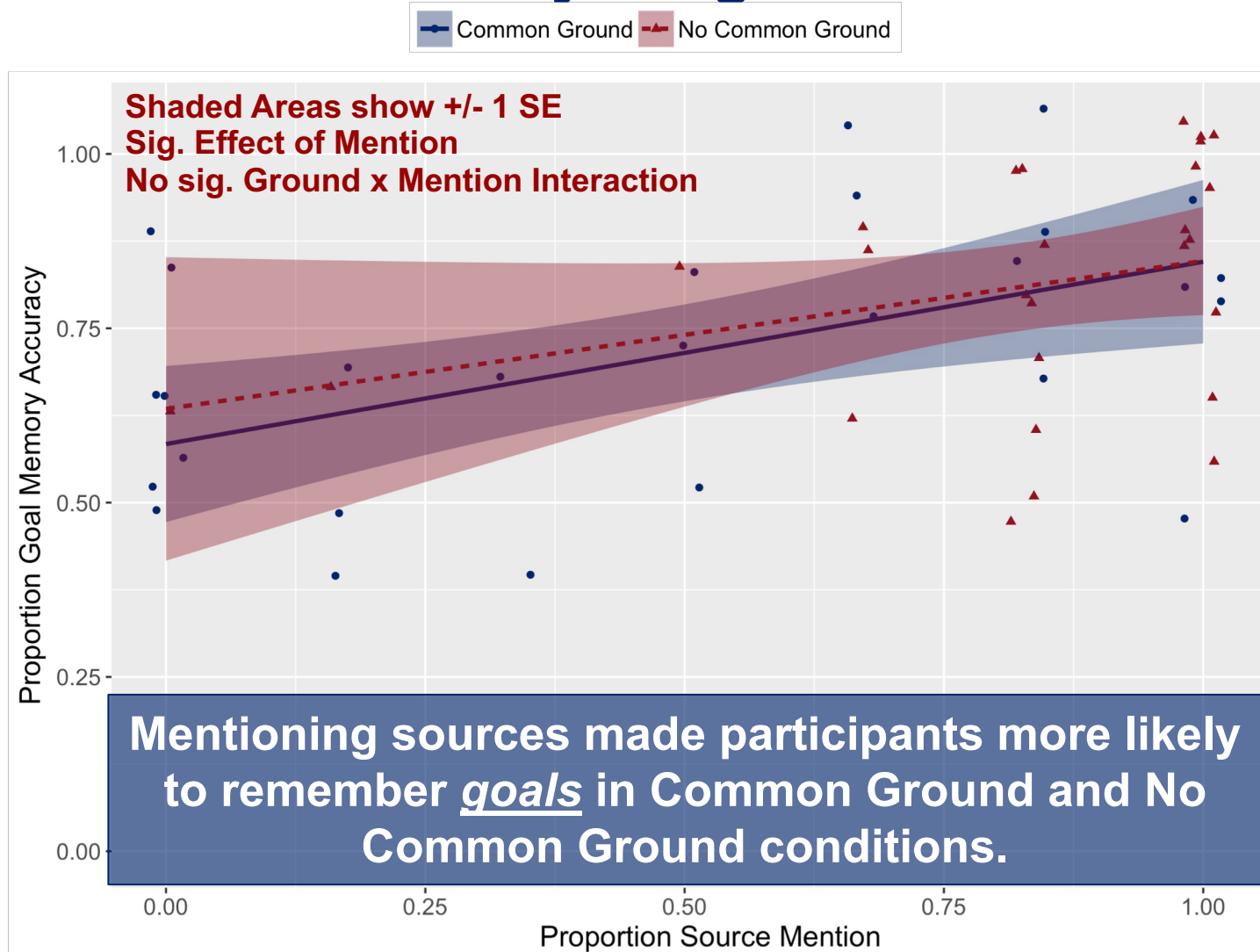
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# Does mentioning the **source** help your memory for goals?

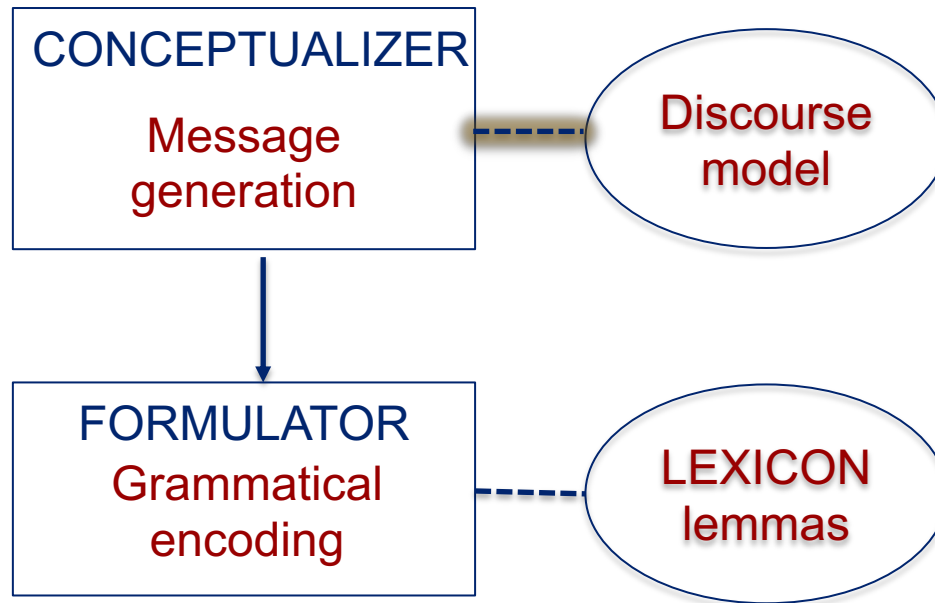


# Conclusions

- **Why does the goal bias in language look so different from the bias in non-linguistic cognition (i.e., memory)?**
  - Discourse pragmatic effects in language operate **over and above** the goal bias in cognition
  - Discourse pragmatic factors may also have an indirect effect on event cognition. Mentioning more elements of an event may have provided a more coherent representation of the event in memory.

# Bridging Language & Cognition

- **What is the relationship between language and cognition?**
  - The parts of cognitive representations that we choose to encode into linguistic ones are modulated by discourse pragmatic factors



- Asymmetries in language are multi-factorial – partly rooted in discourse, partly in cognition



🐱 **Thanks!** 🐱

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