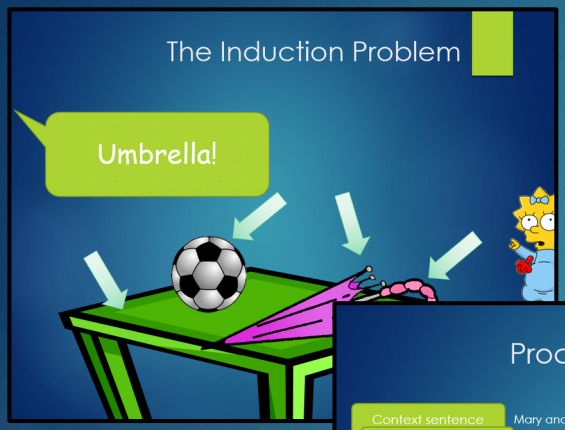
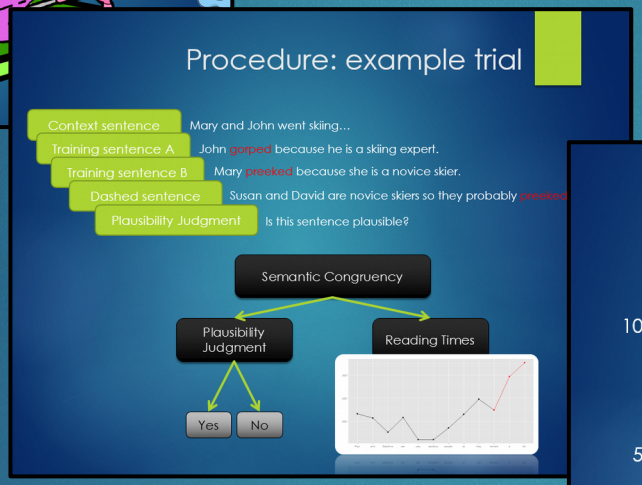
Till Poppels
Hannah Rohde, PhD
Patrick Sturt, PhD

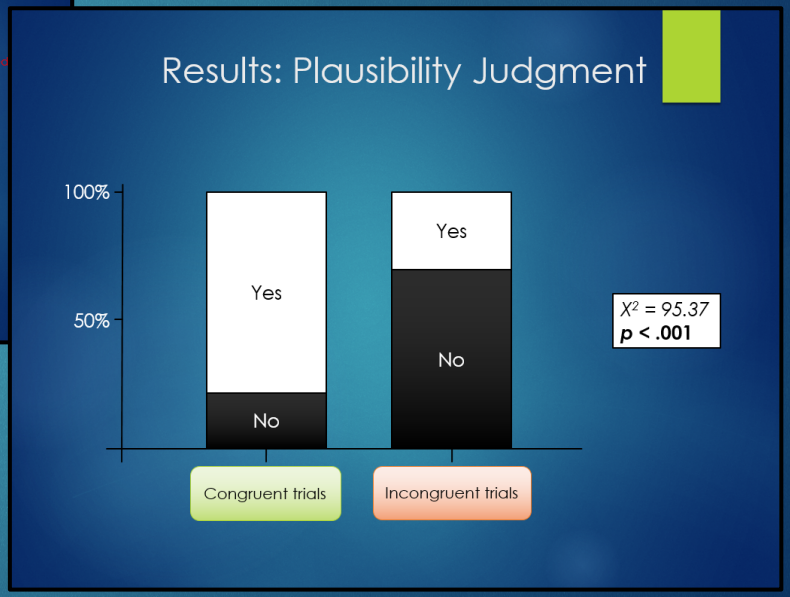
Why did Mary *gorp*?

Inferring word meanings from the semantic context

Overview / This Talk







Word-object mapping

The Induction Problem

Learning abstract meanings

Did you see the *debate* last night?

Whole-object bias?

Mutual Exclusivity?

Gestures?

Children's first words tend to be concrete object words (Bergelson & Swingley, 2012, 2013)

But: Adult vocabularies are dominated by abstract words, like *debate* or *ironic* (Murphy, 2001).

The power of the semantic context

(1) Mary laughed; the sun was shining.

(2) Mary laughed *because* the sun was shining.

(3) Mary GORPED *because* the sun was shining.

(4) Mary GORPED *even though* the sun was shining.

Procedure: example trial

Context sentence	Mary and John went skiing…
Training sentence A	John gorped because he is a skiing expert.
Training sentence B	Mary preeked because she is a novice skier.
Dashed sentence	Susan and David are novice skiers so they probably preeked as well.
Plausibility Judgment	Is this sentence plausible?

Um… example please?

Procedure: example trial

Ready?

Procedure: example trial

Rock climbing is a dangerous sport.

Procedure: example trial

Jack tromed because he is an extremely cautious person.

Procedure: example trial

Is rock climbing dangerous?

Yes

No

Procedure: example trial

Jana slalted because she tends to be rather reckless.

Procedure: example trial

Is Jana reckless?

Yes

No

Procedure: example trial

Paul and Delphine are very cautious people so they slalted a lot .

Procedure: example trial

Paul and Delphine are very cautious people so they slalted a lot .

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Paul and Delphine are very cautious people so they slalted a lot .

Procedure: example trial

Is this sentence plausible?

Yes

No

Procedure: example trial

Context sentence	Mary and John went skiing…
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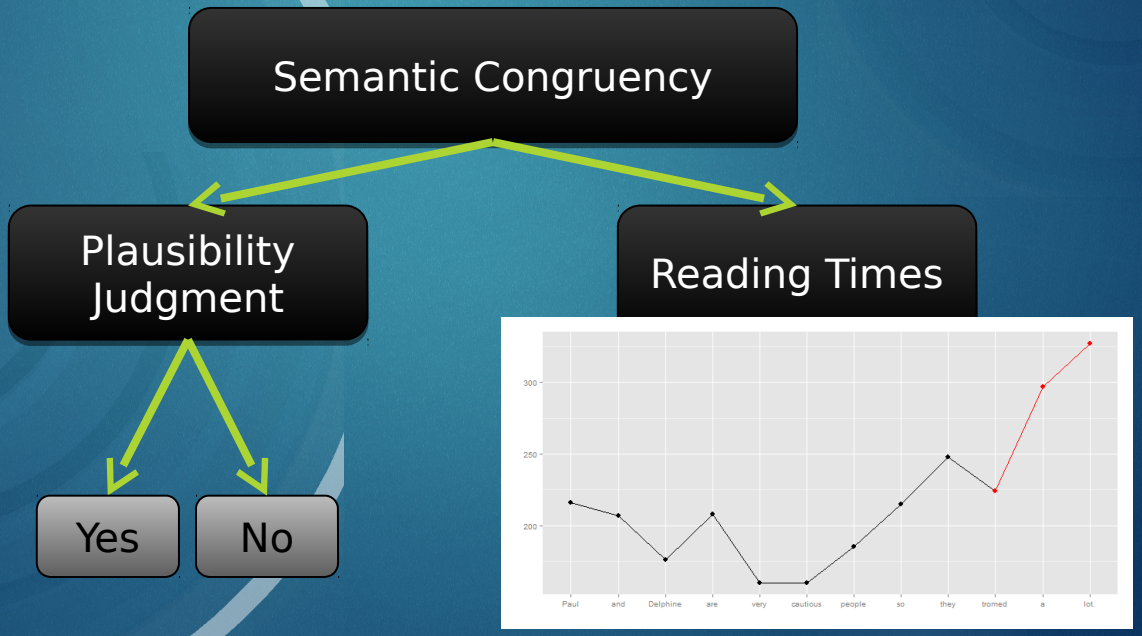
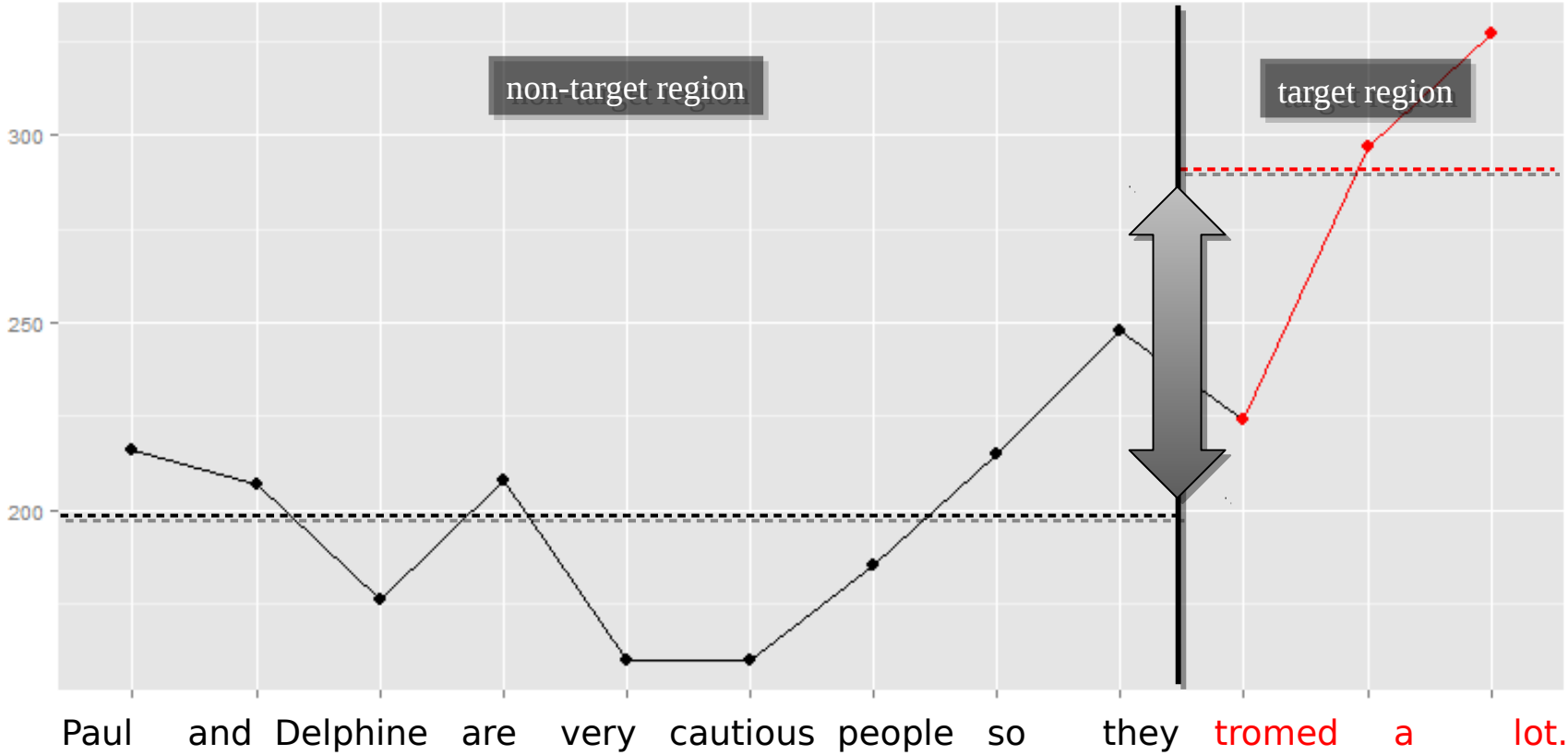


Reading times



The Hypotheses

Congruent trials

Incongruent trials

Plausibility Judgment

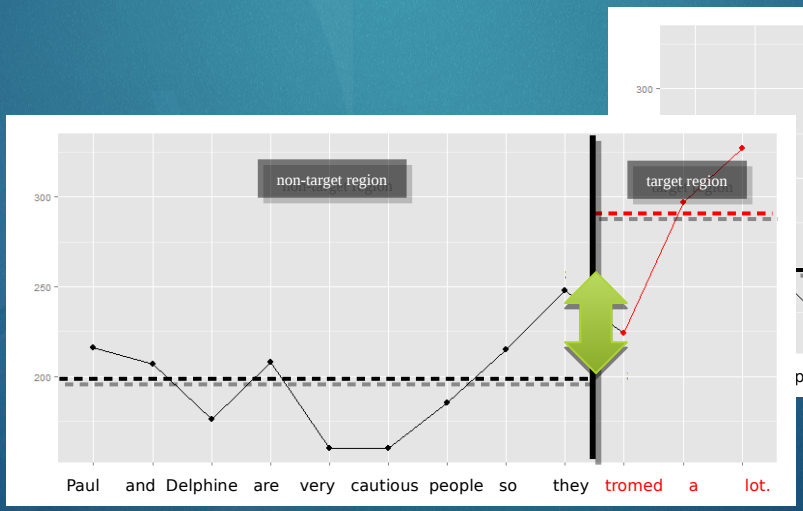
Yes

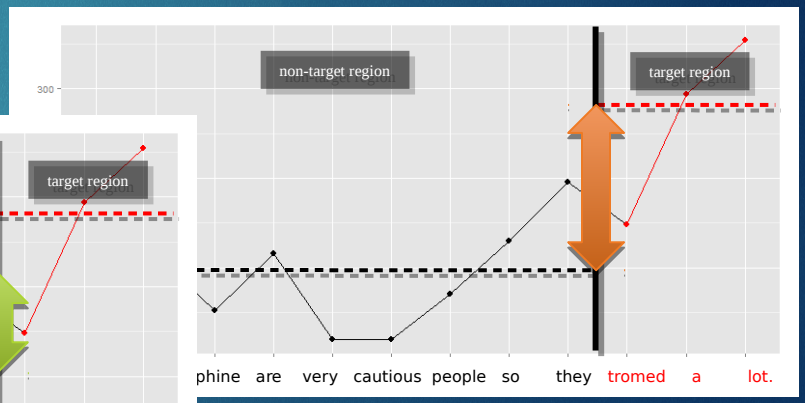
No

Yes

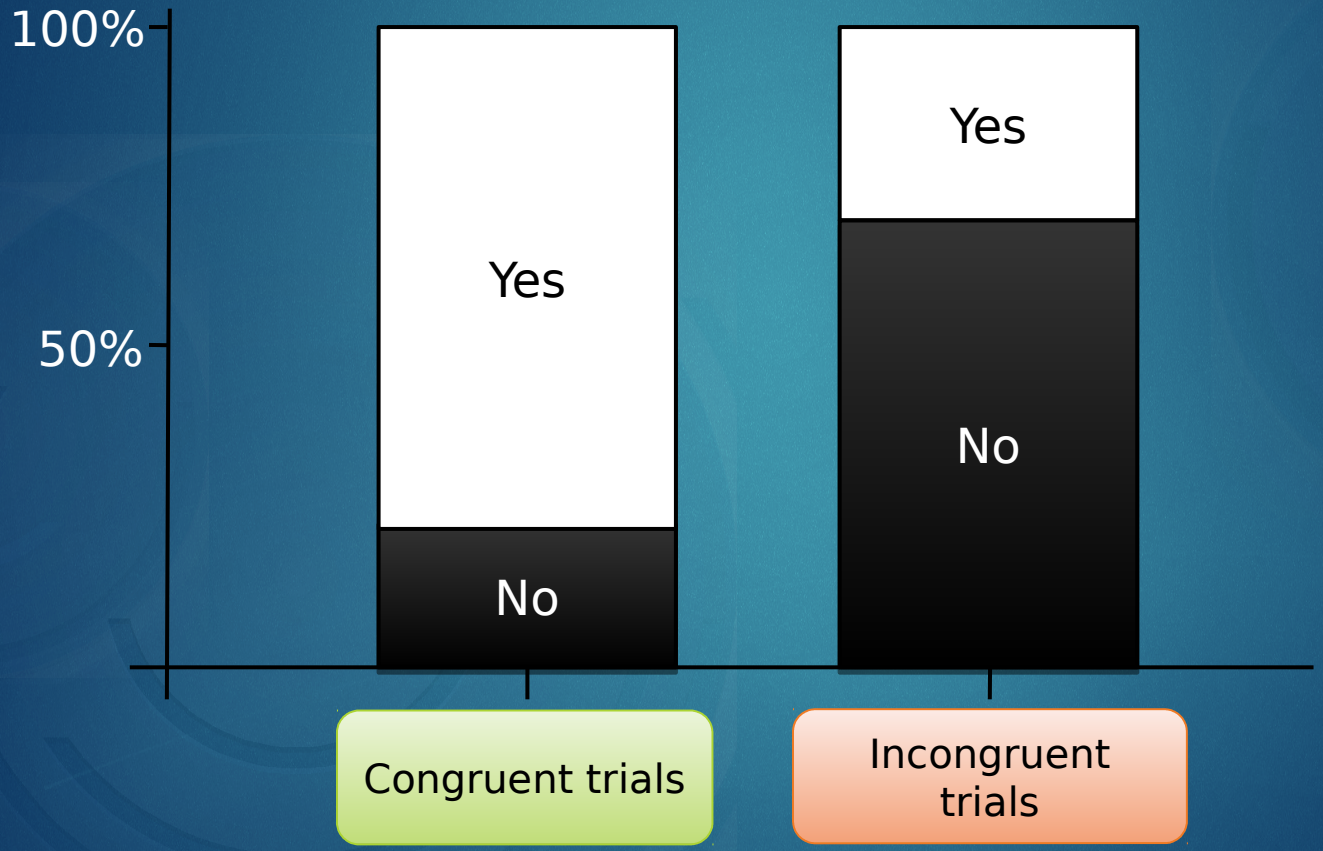
No

Reading Times



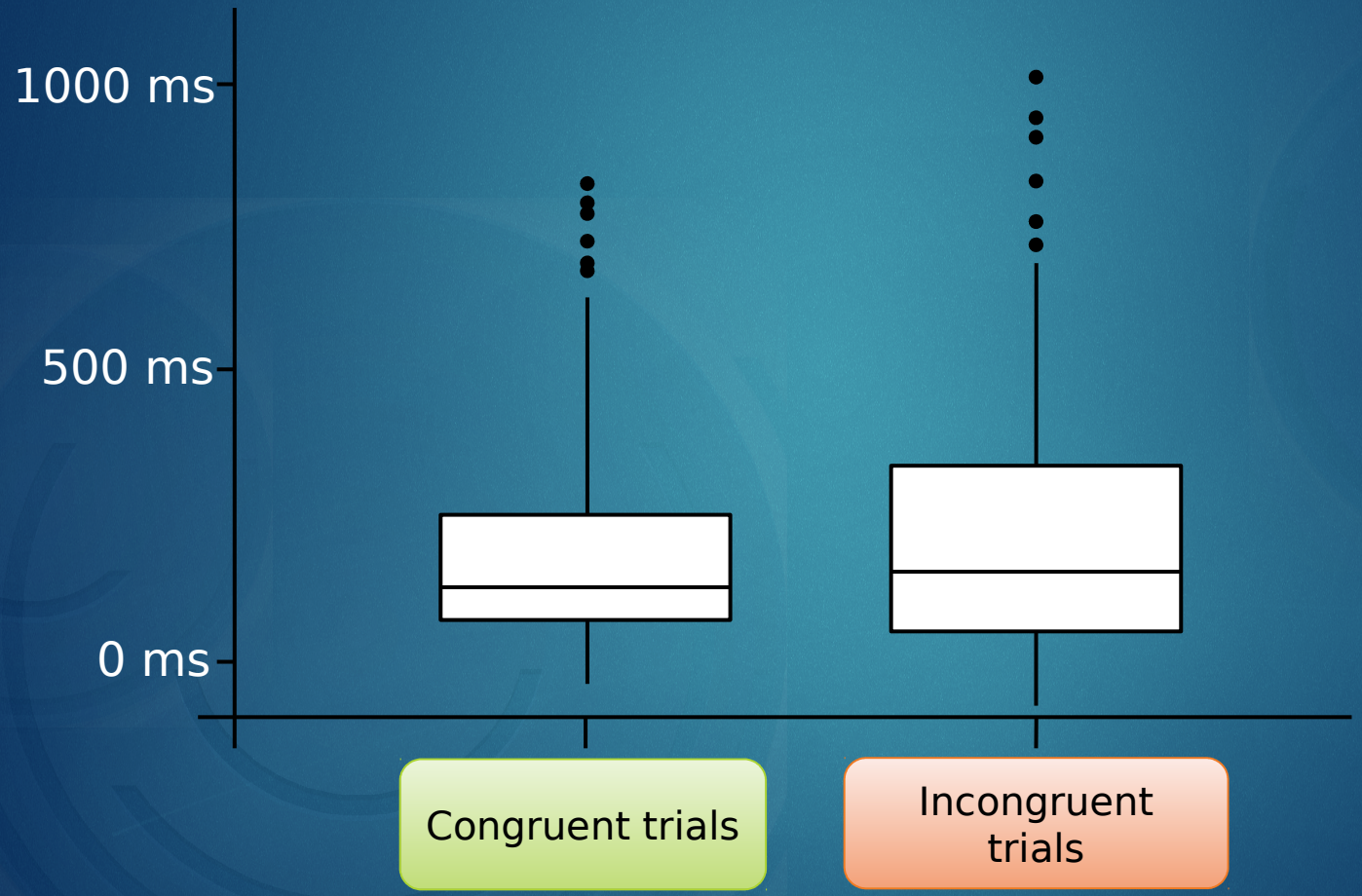


Results: Plausibility Judgment



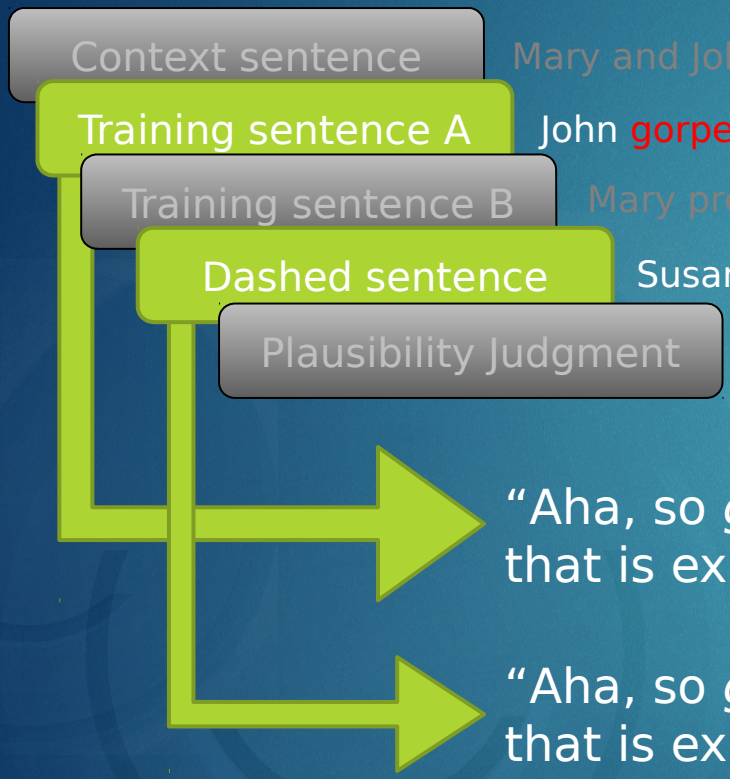
$X^2 = 95.37$
$\mathbf{p < .001}$

Results: Reading Times



t = -1.28
p = .2

‘Converging evidence’ interpretation



Mary and John went skiing…

John gorped because he is a skiing expert.

Mary preeked because she is a novice skier.

Susan and David are novice skiers so they probably gorped as well.

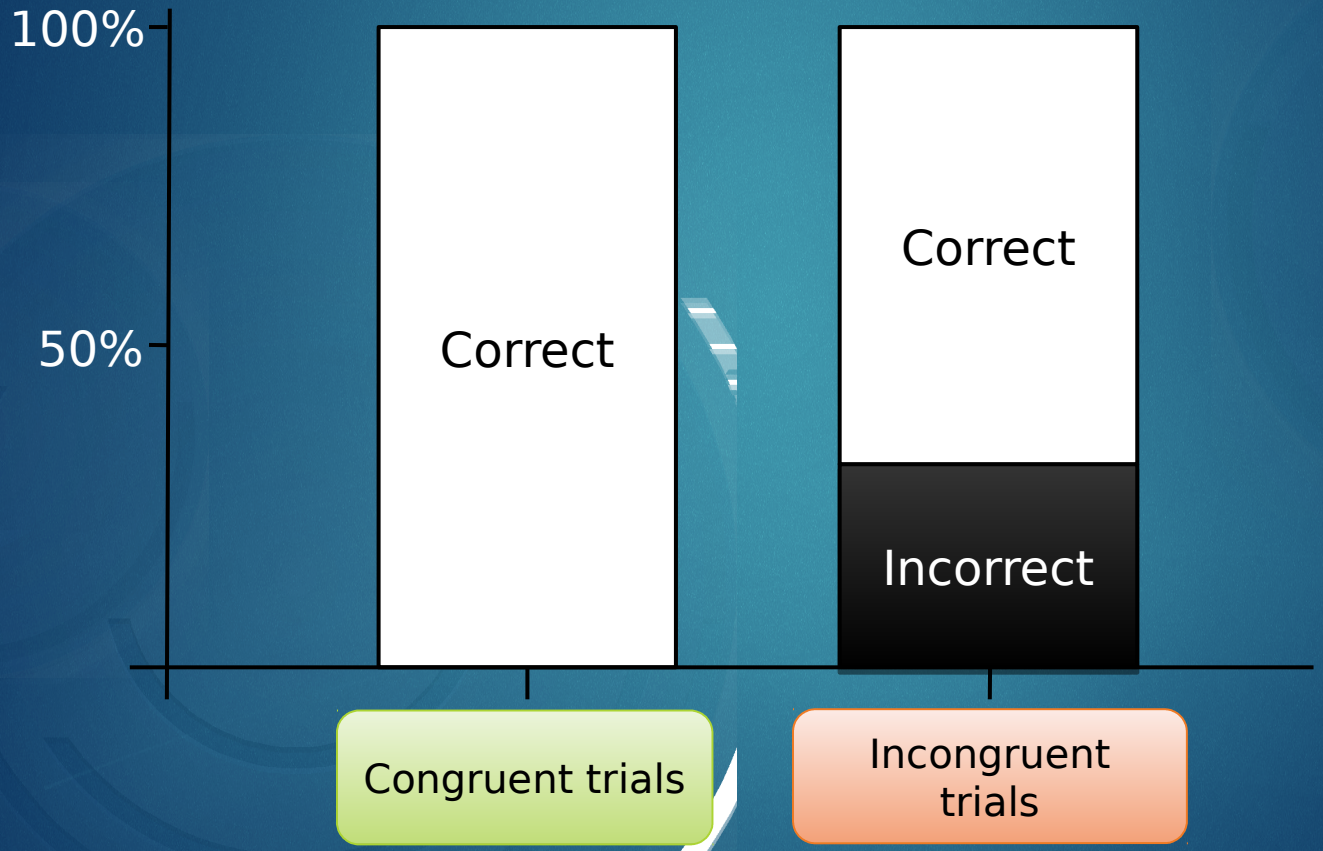
Is this sentence plausible?

“Aha, so *gorping* is something that is expected of skiing pros.”

“Aha, so *gorping* is something that is expected of skiing beginners.”

Wait – what?!

Plausibility Judgments - again



$X^2 = 73.55$
$\boldsymbol{p < .001}$

Where to go from here…

- More exposure per word: contextual word learning is known to be incremental (Maratsos, 2001; Murphy, 2001) and more exposure may produce a bigger effect
- Test other aspects of the semantic context: e.g., selectional properties of verbs (e.g. Bowerman, 2005) or subtle distinctions between abstract nouns (Scott, 2001)

Thanks for listening!