

# Online Experiments for Language Scientists

Lecture 7: Priming and overspecification

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# Assessment 1 Q&A

- Due on Thursday
- **Final chance to ask questions**

# Loy & Smith (2021)

Loy, J. E., & Smith, K. (2021). Speakers Align With Their Partner's Overspecification During Interaction. *Cognitive Science*, 45, e13065.

5 confederate priming experiments

- Do people copy their partner's tendency to **overspecify**?



**Jia Loy**

*(now at Saarland University)*

# Structural priming

**Priming:** people repeat what they have recently heard or produced

**Structural priming:** people repeat abstract structures they have recently heard or produced

E.g. Bock, J. K. (1986). Syntactic persistence in language production. *Cognitive Psychology*, 18, 355-387.

## PRIMING SENTENCES

**ACTIVE:**

**ONE OF THE FANS  
PUNCHED THE  
REFEREE.**

**PREPOSITIONAL:**

**A ROCK STAR SOLD  
SOME COCAINE TO AN  
UNDERCOVER AGENT.**

**PASSIVE:**

**THE REFEREE WAS  
PUNCHED BY ONE  
OF THE FANS.**

**DOUBLE OBJECT:**

**A ROCK STAR SOLD  
AN UNDERCOVER AGENT  
SOME COCAINE.**

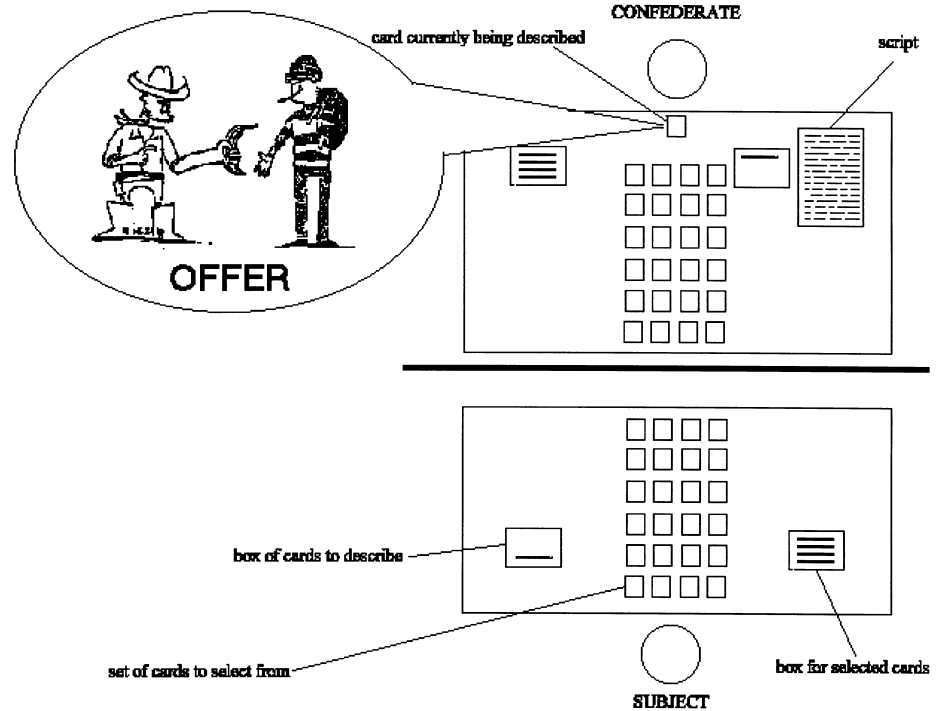
## TARGET PICTURES



# Confederate priming

Confederate: “a person one works with, especially in something secret or illegal; an accomplice”

Branigan, H. P., Pickering, M. J., & Cleland, A. A. (2000). Syntactic coordination in dialogue. *Cognition*, 75, B13-25.



# Gricean pragmatics (e.g. Grice, 1975)

Speakers are cooperative and choose their utterances to convey certain meanings

Listeners should assume this when interpreting the speaker's utterances

**The maxim of relation:** says things that are relevant

Person A: What time is it?

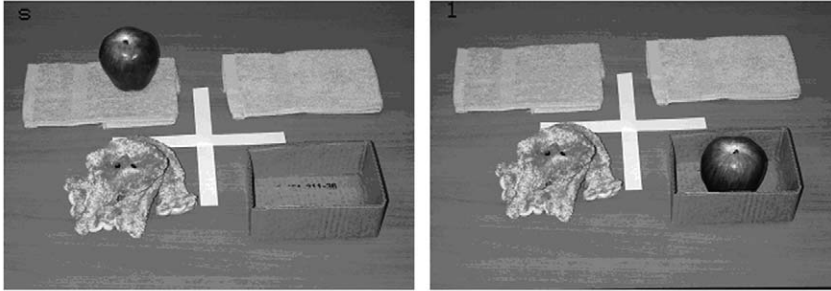
Person B: My phone is out of battery

**The maxim of manner:** try to be clear and brief, avoid obscurity and ambiguity

A: Where do they live?

B: Somewhere just outside of Edinburgh

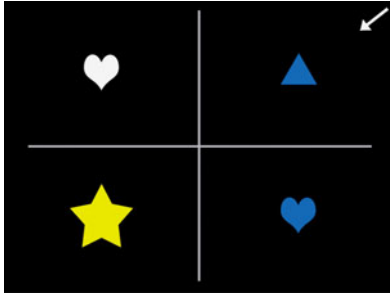
# Overspecification



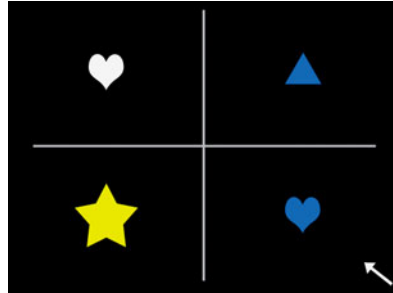
“Put the apple in the box”

“Put the apple that’s on the towel in the box”

A. No modifier required.



B. Modifier required.

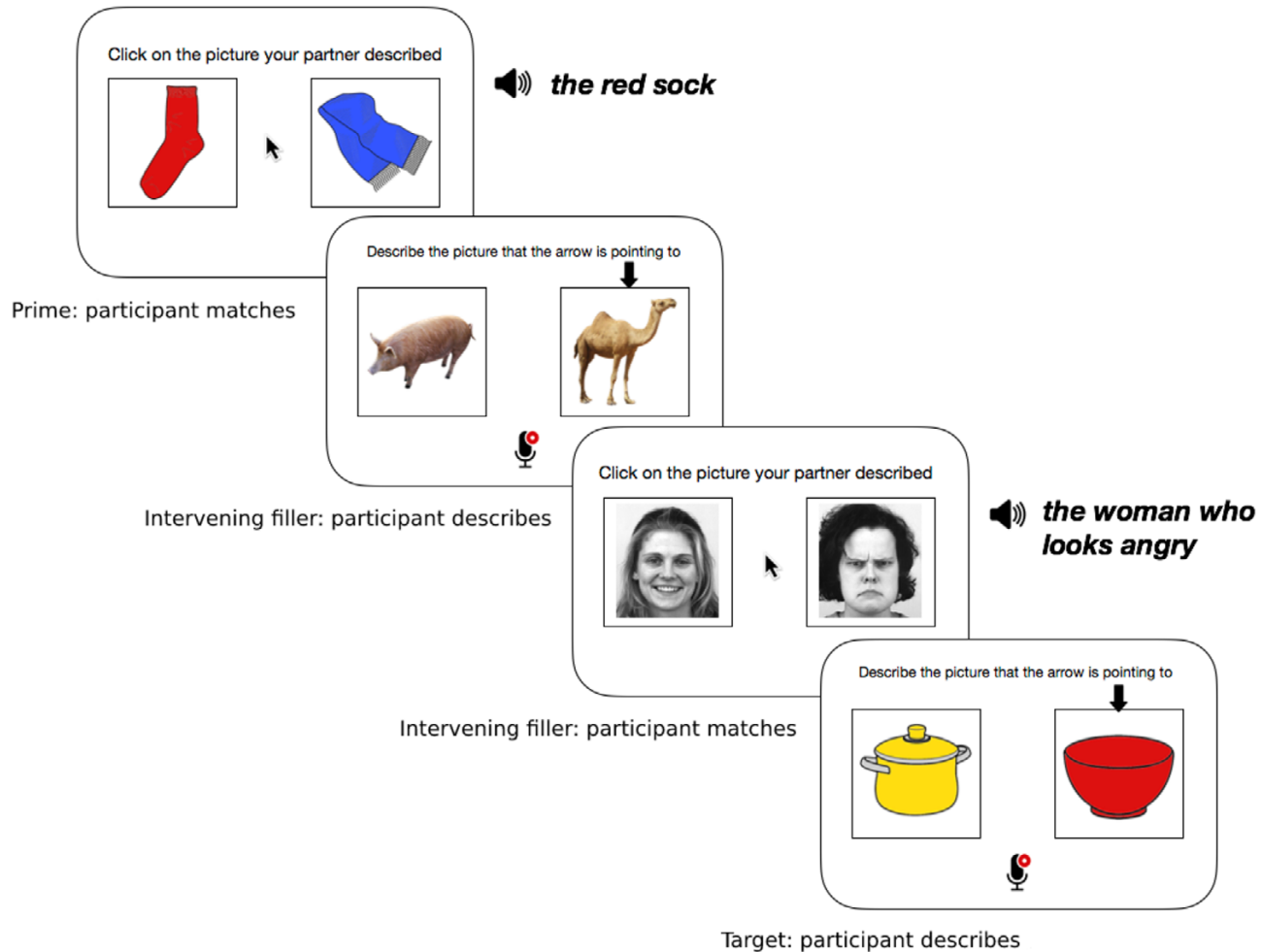


“The (blue) triangle”

“The (small) blue heart”

Engelhardt, P. E., Bailey, K. G. D., & Ferreira, F. (2006) Do speakers and listeners observe the Gricean Maxim of Quantity? *Journal of Memory and Language*, 54, 554-573.

Engelhardt, P. E., & Ferreira, F. (2014) Do speakers articulate over-described modifiers differently from modifiers that are required by context? Implications for models of reference production. *Language, Cognition and Neuroscience*, 29, 975-985





Demo using this week's practical code

# Loy & Smith: manipulating partner's tendency to overspecify

Exps 1, 2: colour, partner either consistently overspecifies (uses colour adjectives) or not (uses bare nouns)

Exp 3: size, partner either consistently overspecifies (uses size adjectives) or not (uses bare nouns)

Exp 4, 5: colour, partner switches behaviour mid-way through experiment

# Loy & Smith sample size etc

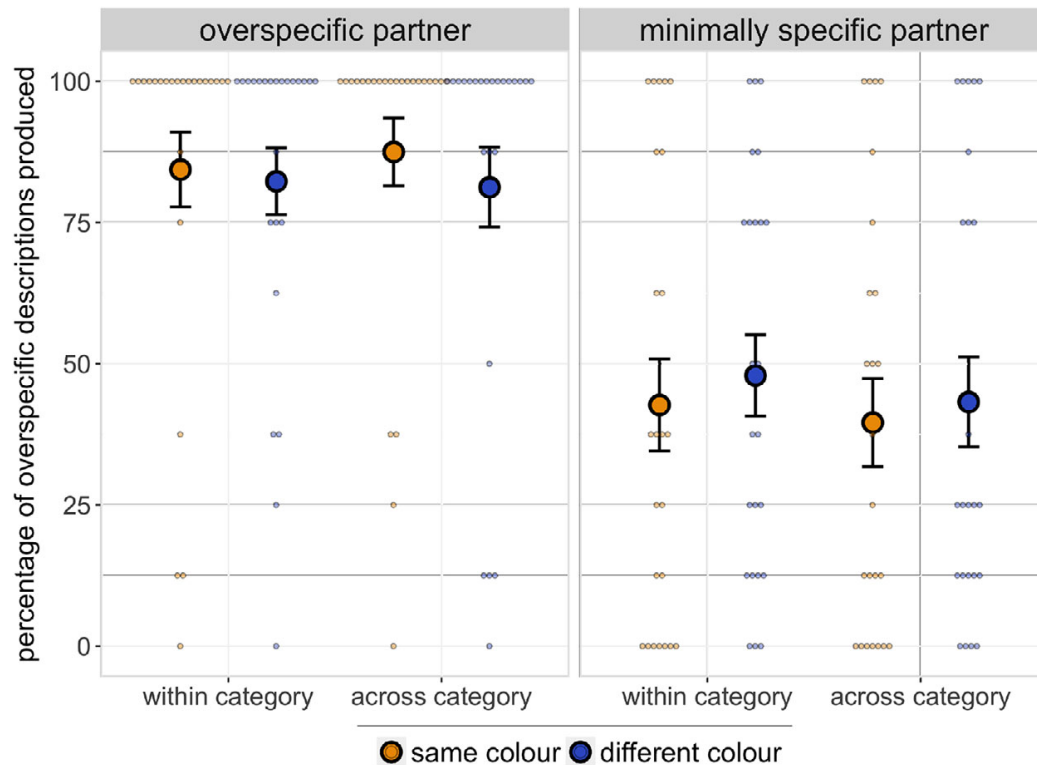
Exp 1: lab-based

- N=24 per condition after exclusions
- Paid £6

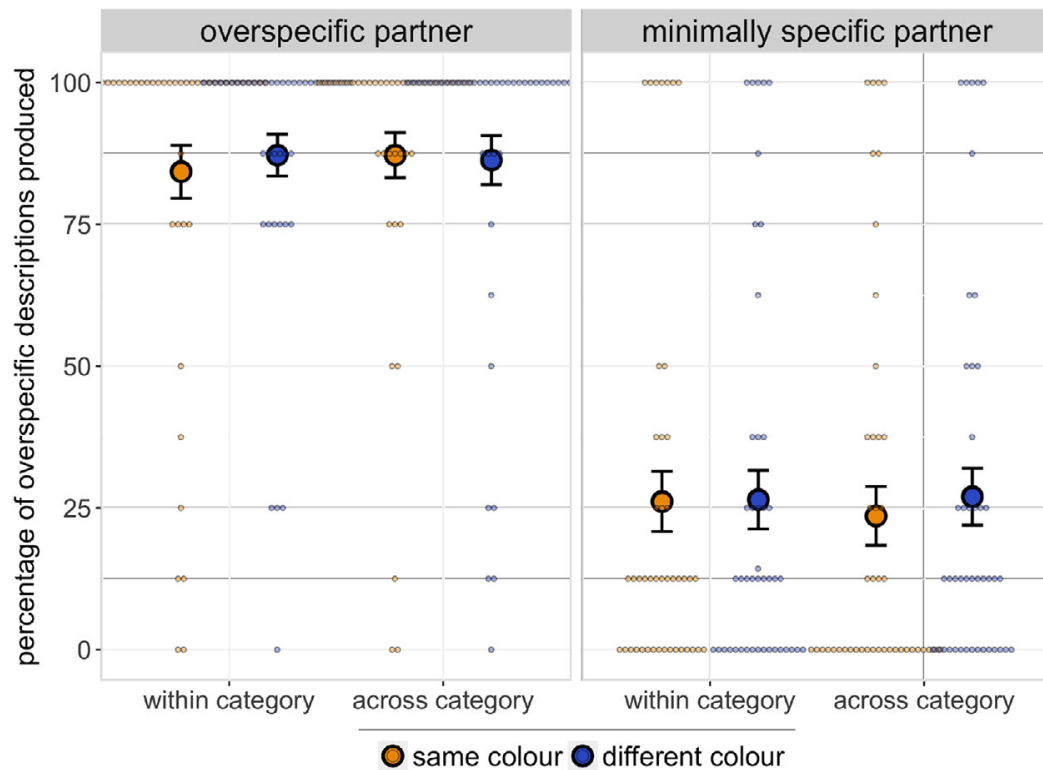
Exps 2-5: MTurk

- N≈50 per condition after exclusions
- Paid \$6

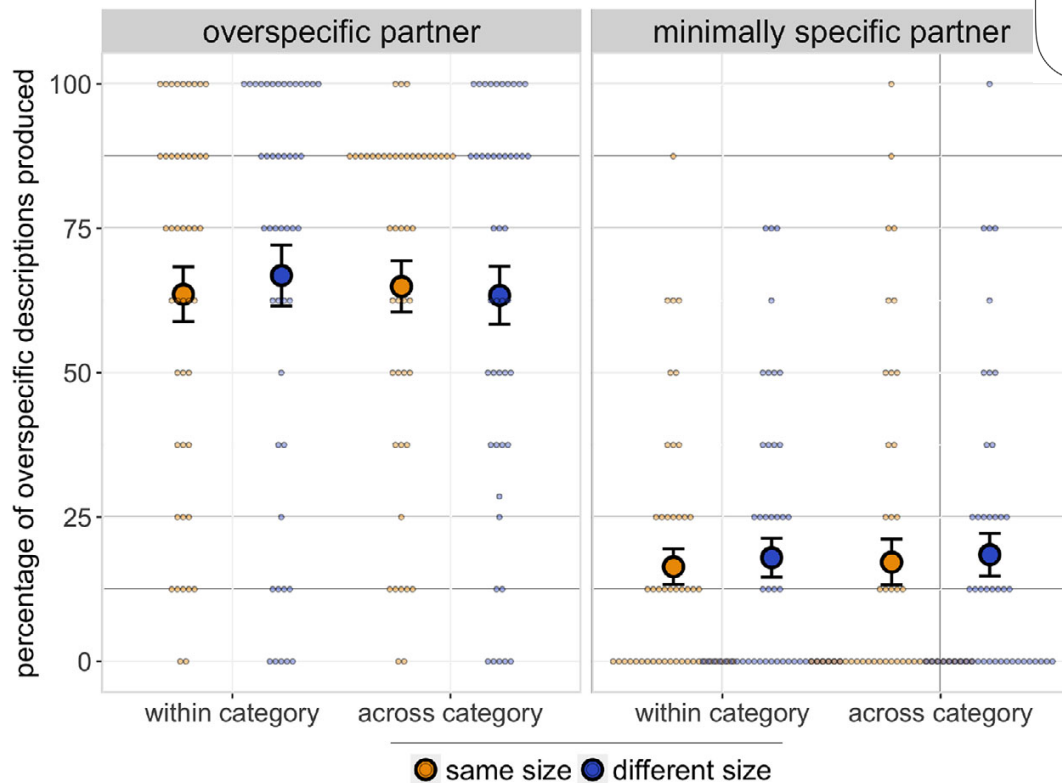
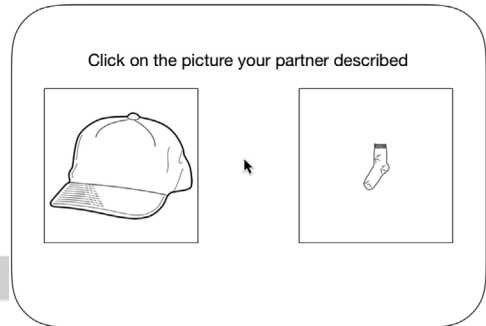
# Exp 1: lab, colour



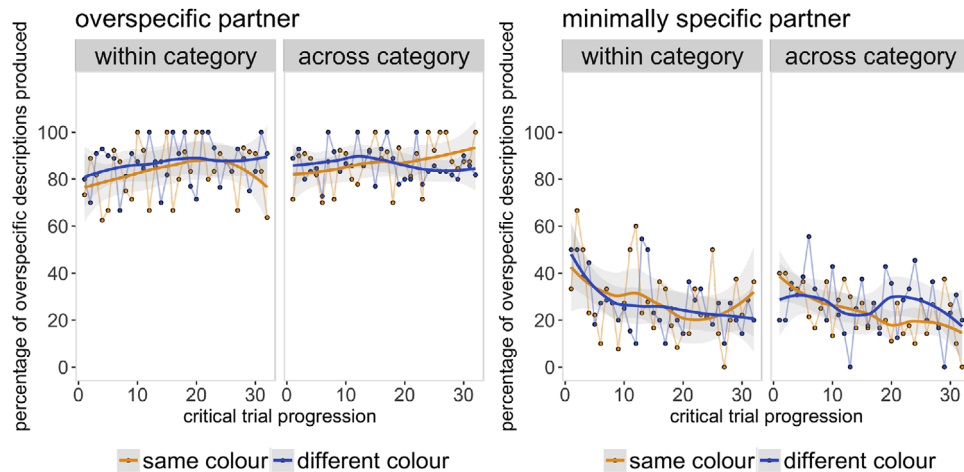
# Exp 2: online, colour



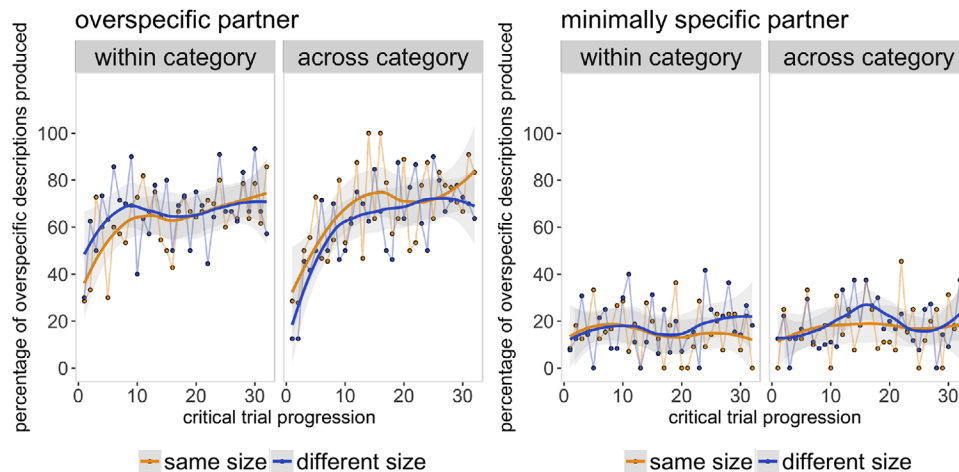
# Exp 3: online, size



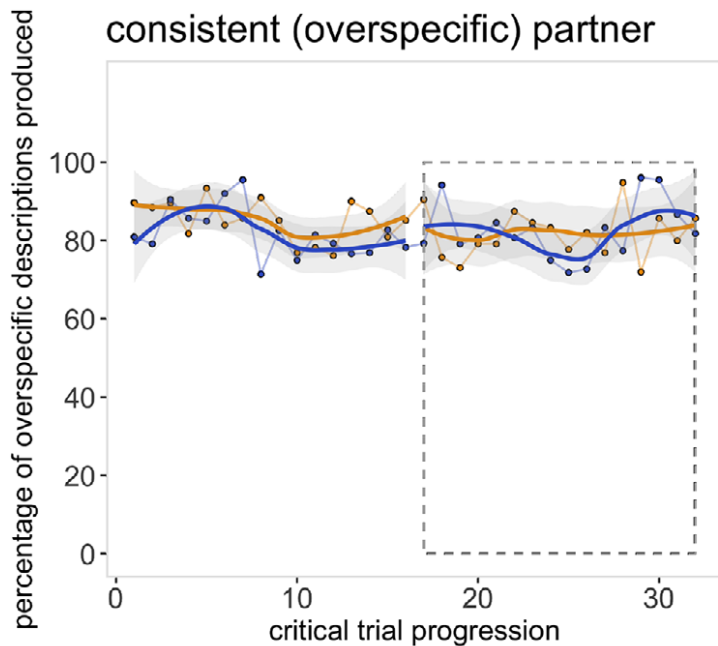
Colour



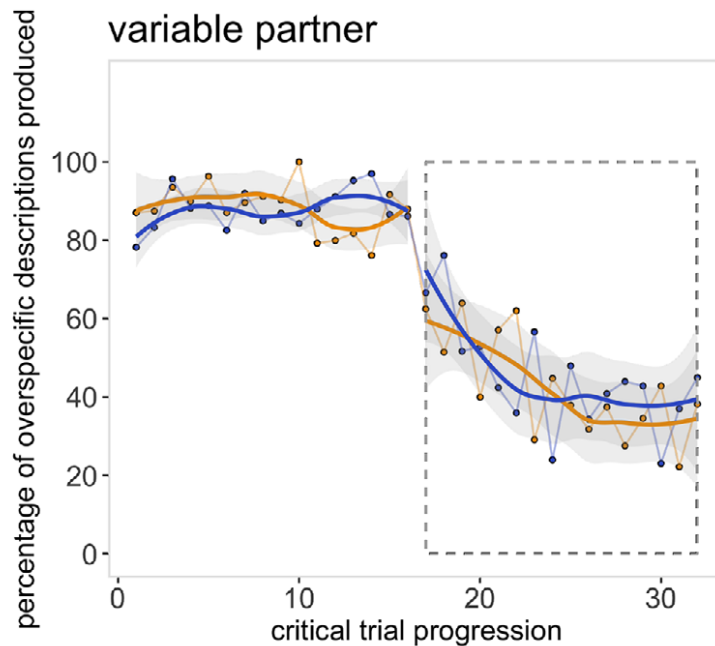
Size



# Exp 4: online, colour, partner **switches** from overspecific to minimally specific



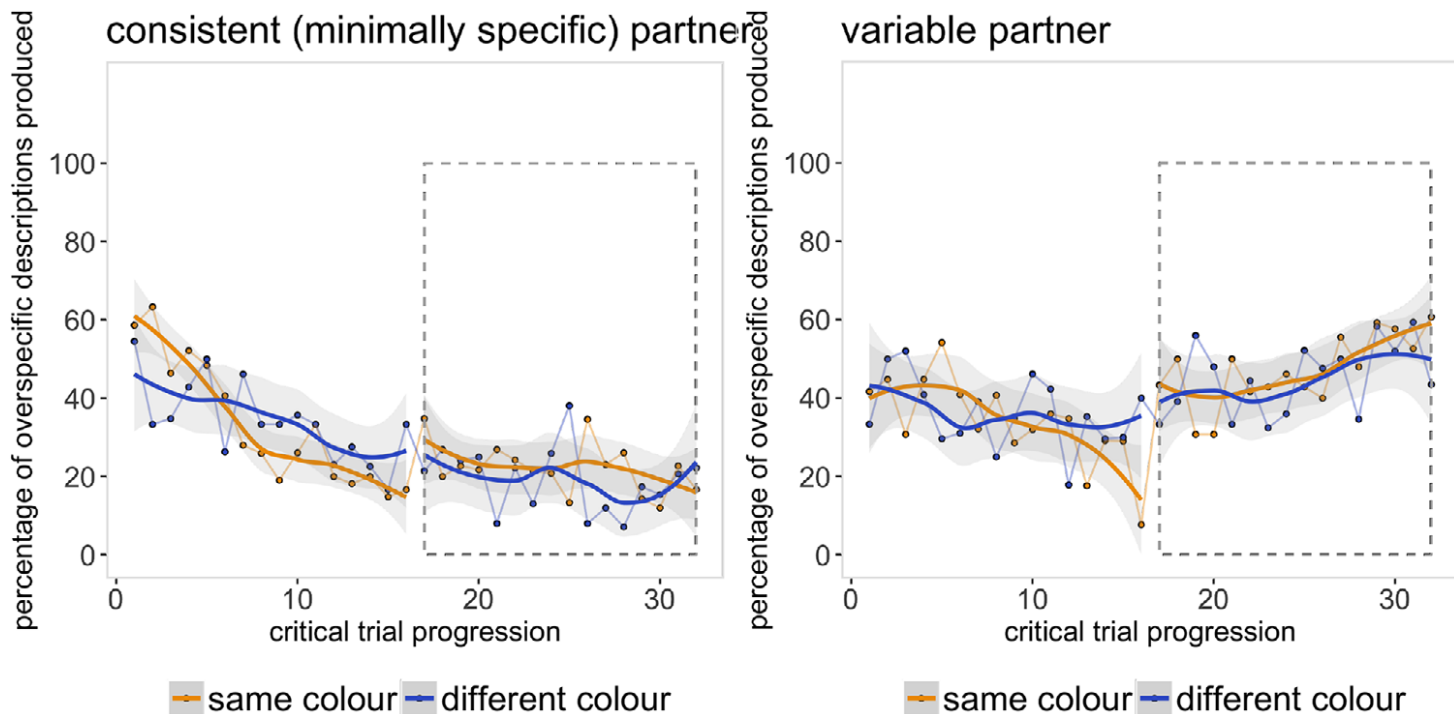
— same colour — different colour



— same colour — different colour



# Exp 5: online, colour, partner **switches** from minimally specific to overspecific



# Loy & Smith's conclusions

People follow their partner in overspecifying (or not)

- Including if their partner switches behaviour mid-way through the experiment

Social effects are a large constraint on people's tendency to behave in an optimally efficient manner in communication

Time for Q&A/discussion on this week's reading

# Next up

Wednesday, 9am: lab

- A confederate priming experiment, recording spoken responses

Next week:

- Language evolution by iterated learning