

Online Experiments for Language Scientists

Lecture 7: Priming and overspecification

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Final assessment Q&A (for both undergrads and postgrads!)

- Due on 7th December
- Read the assignment brief and FAQ
 - <https://kennysmithed.github.io/oels2023/assessment/UGAssignmentBrief2023.pdf>
 - <https://kennysmithed.github.io/oels2023/assessment/PGAssignmentBrief2023.pdf>
- **Happy to answer questions now, or in next week's lecture**
- We can help with basic coding stuff in week 9-10 labs, or in extra drop-in labs (see times on github course page)
- No questions after 10am on Monday 4th December (other than in drop-ins)

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)

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.**

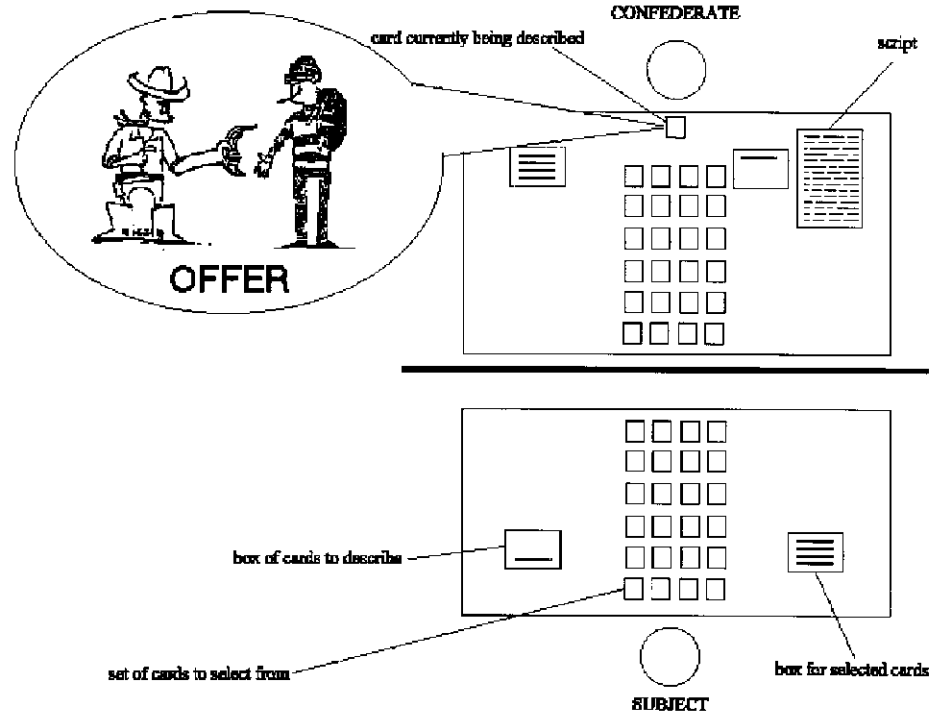
TARGET PICTURES



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?

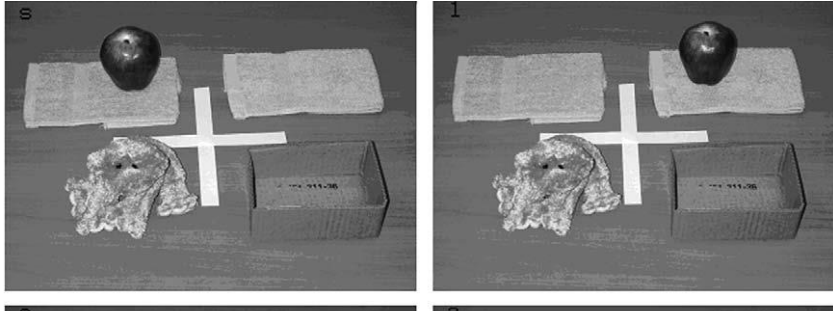
Person B: My phone is out of battery

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

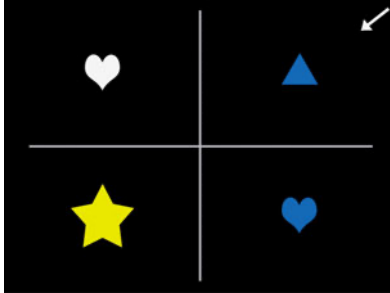
Overspecification



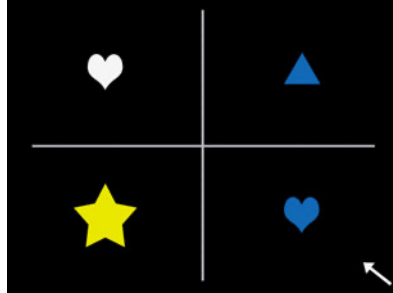
“Put the apple in the box”

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

A. No modifier required.



B. Modifier required.

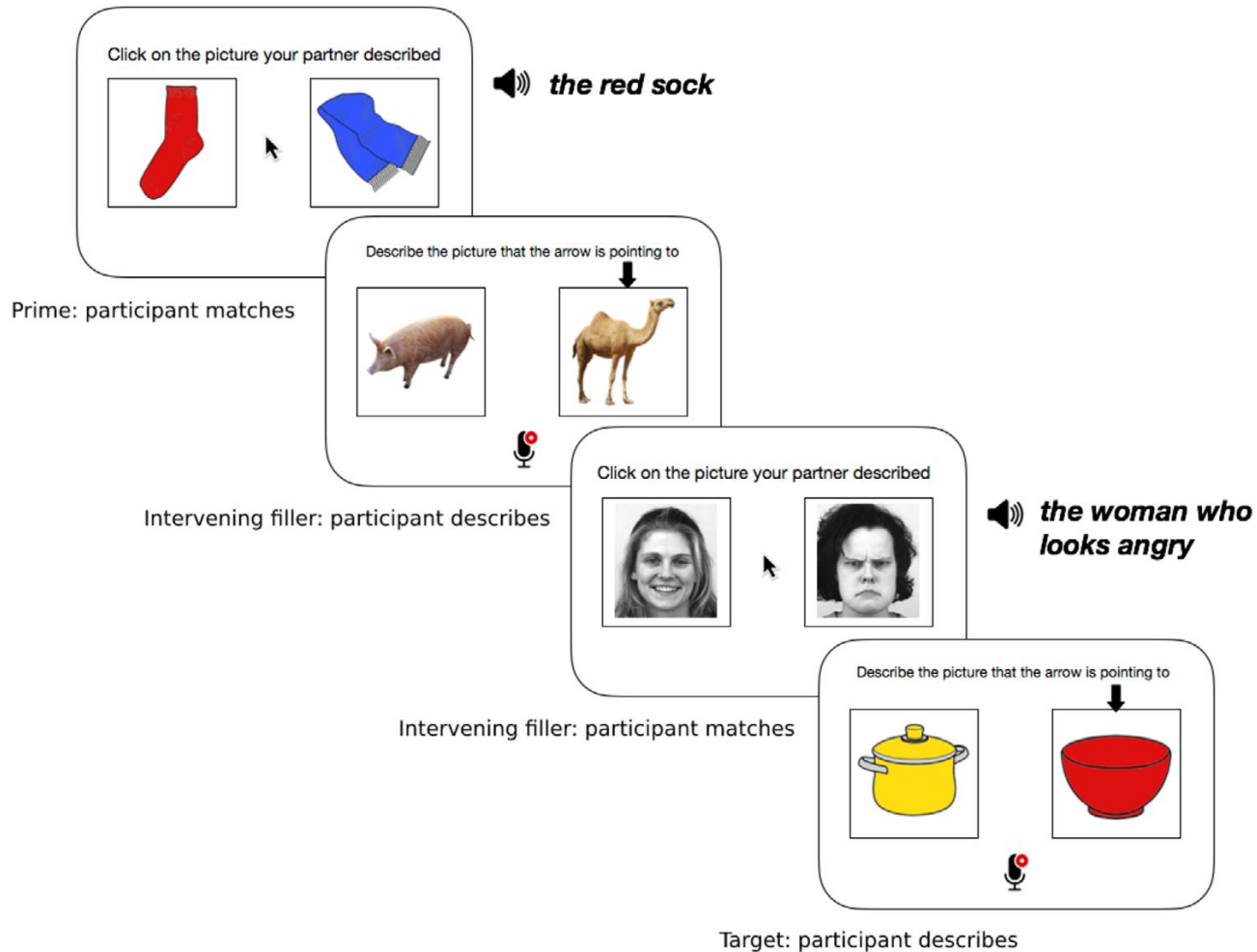


“The (blue) triangle”

“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



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

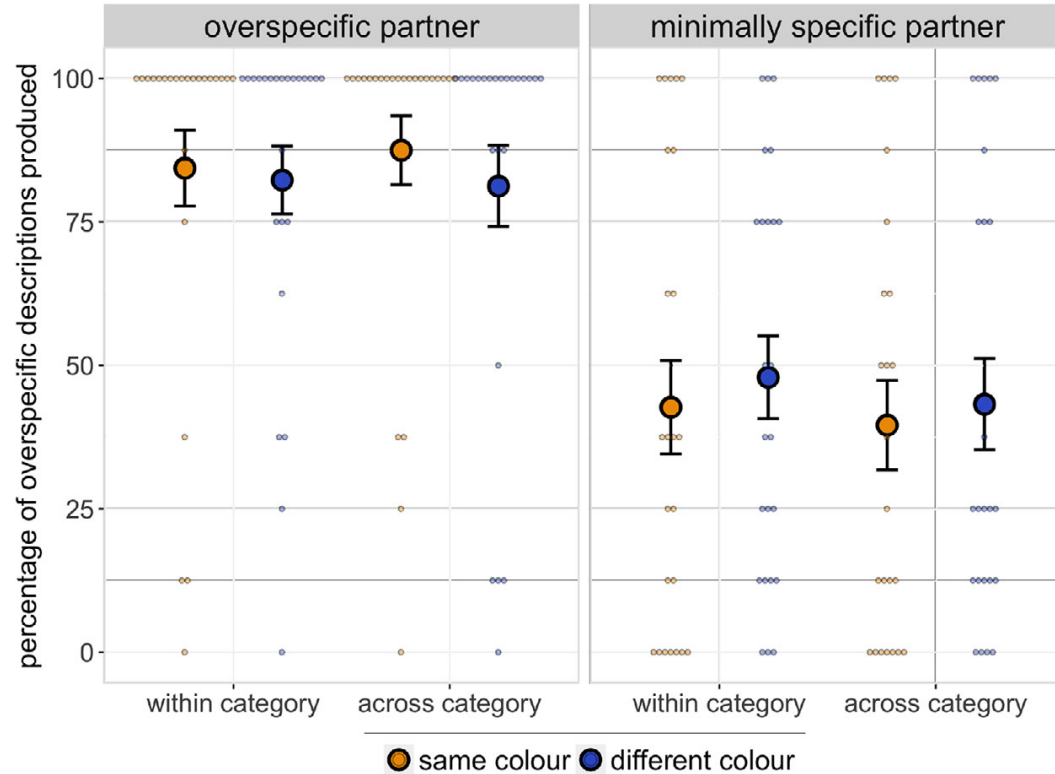
Exp 1: lab-based

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

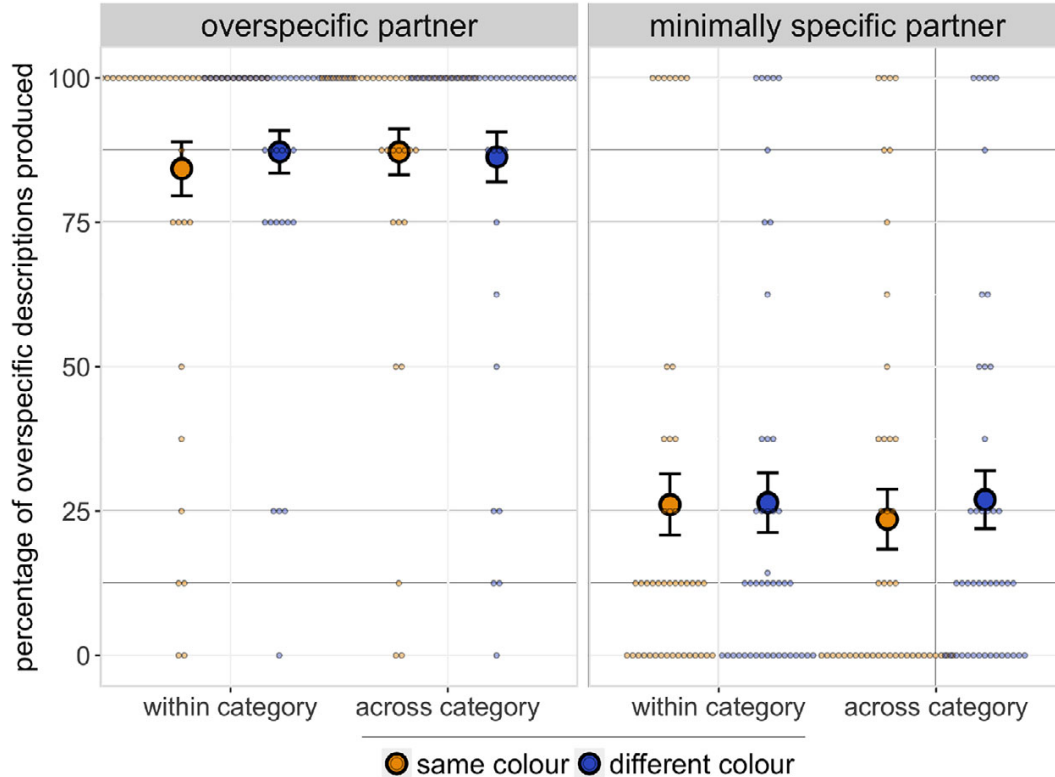
Exps 2-5: MTurk

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

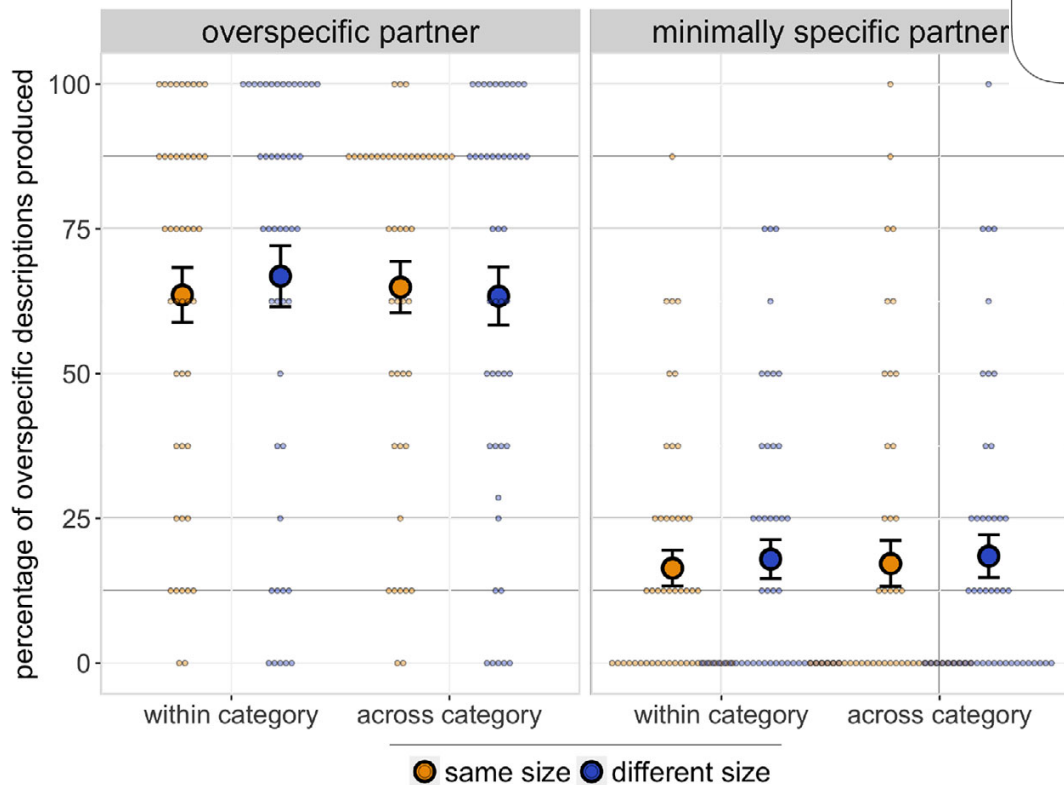
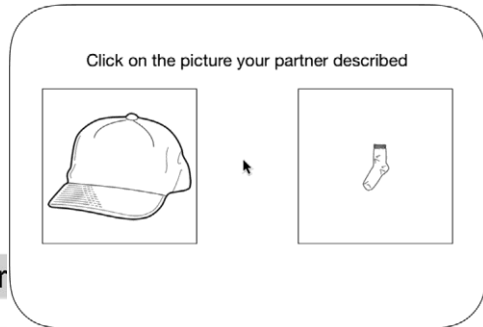
Exp 1: lab, colour



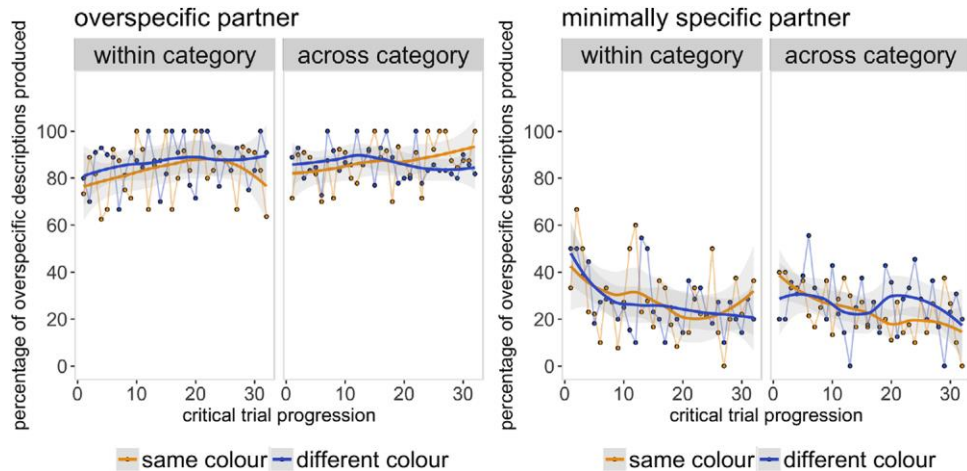
Exp 2: online, colour



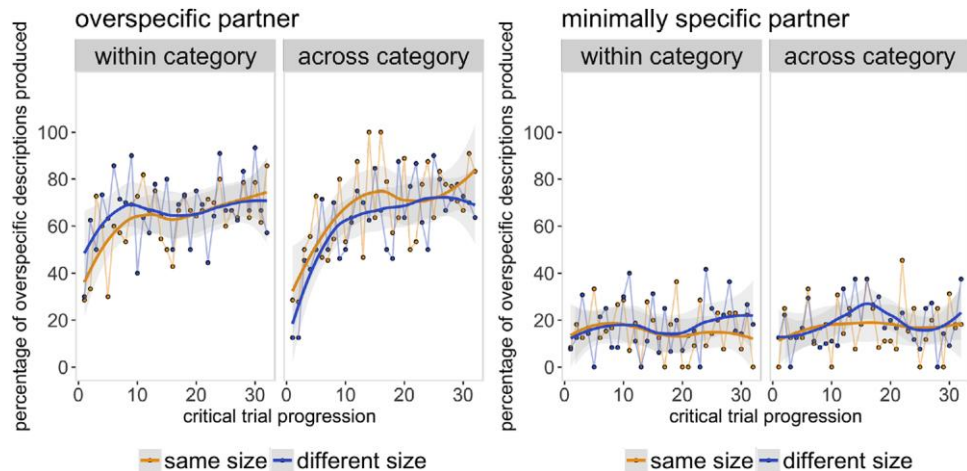
Exp 3: online, size



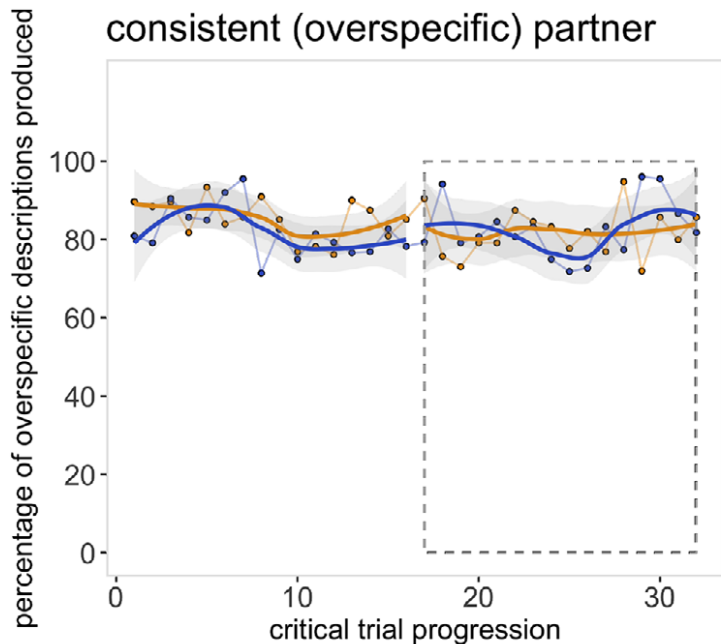
Colour



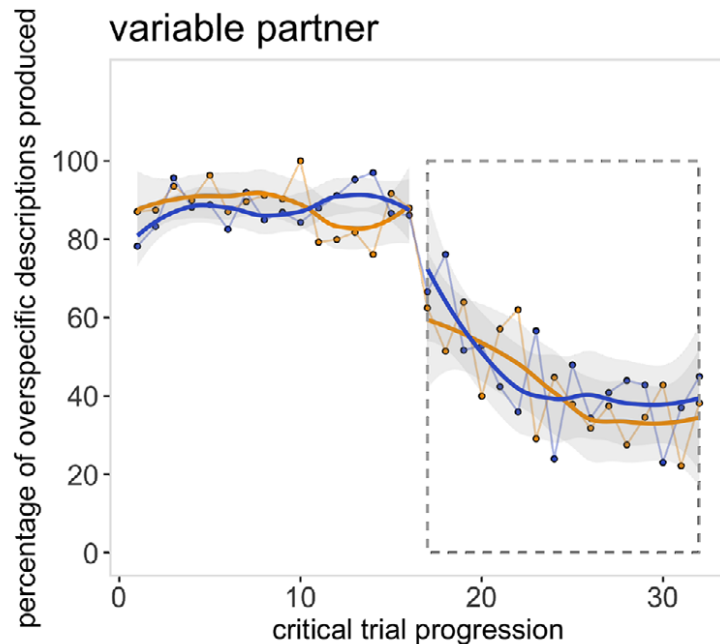
Size



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

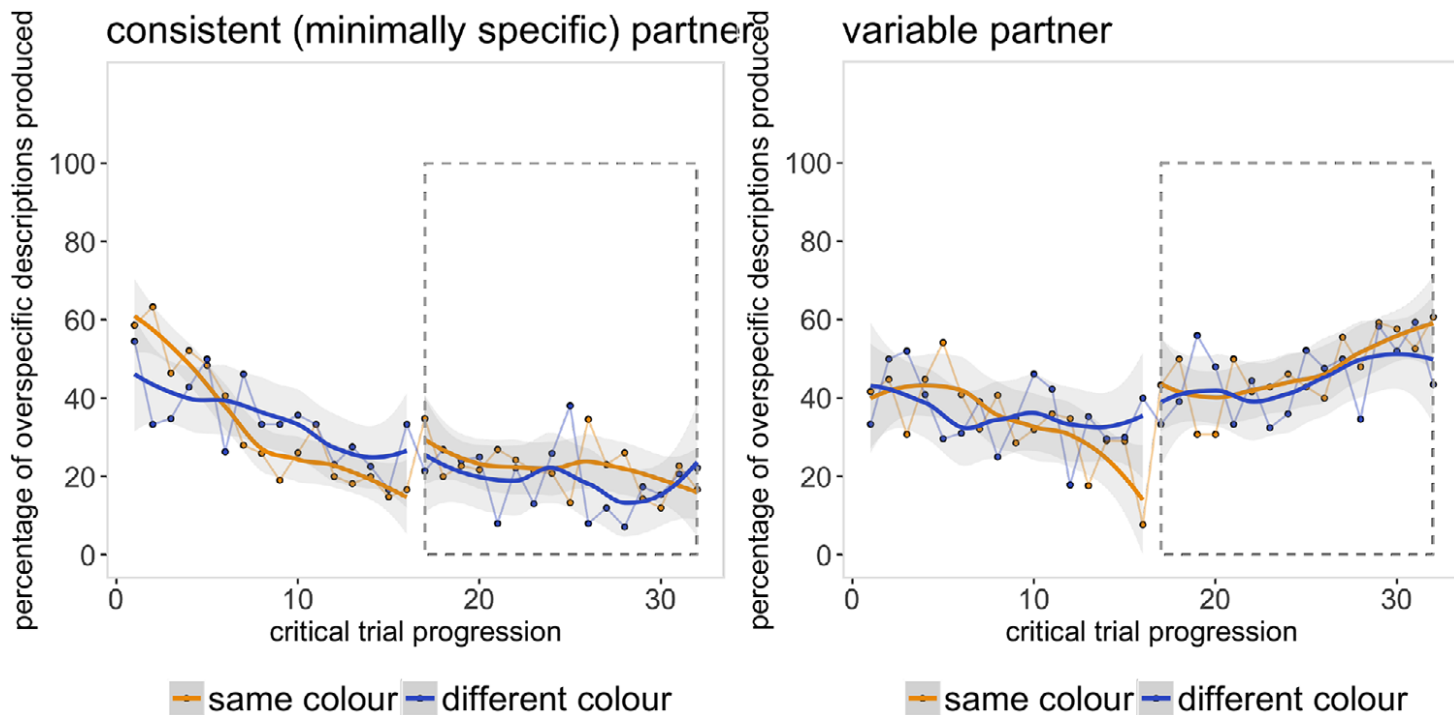


— same colour — different colour



— 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

Next up

Lab

- A confederate priming experiment, recording spoken responses

Next week (final week!)

- Language evolution by iterated learning