Multi-party communication games

Veronica Boyce

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Some of this is conventionalized, but some is dynamic.

Partner-specific adaptation

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- Audience Design (Yoon & Brown Schmidt 2019)

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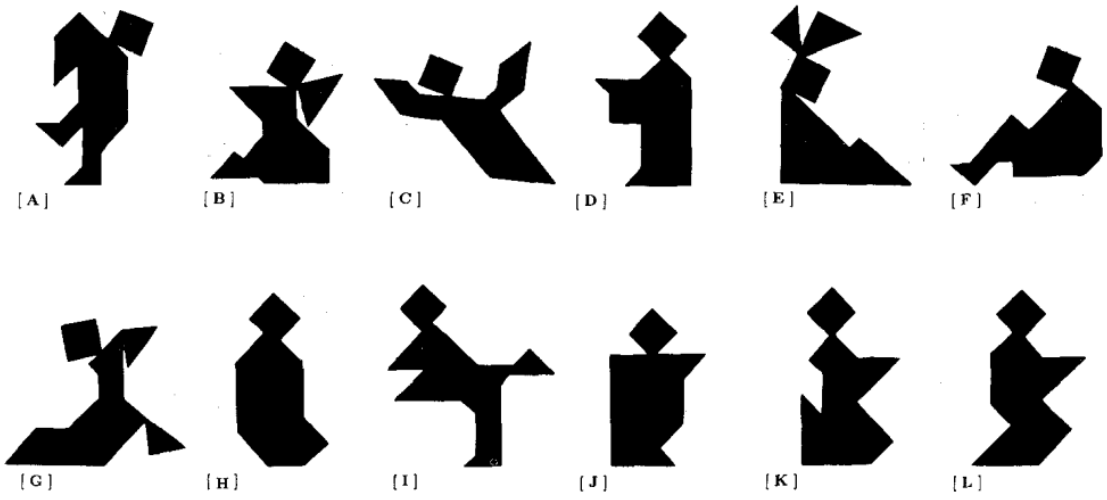
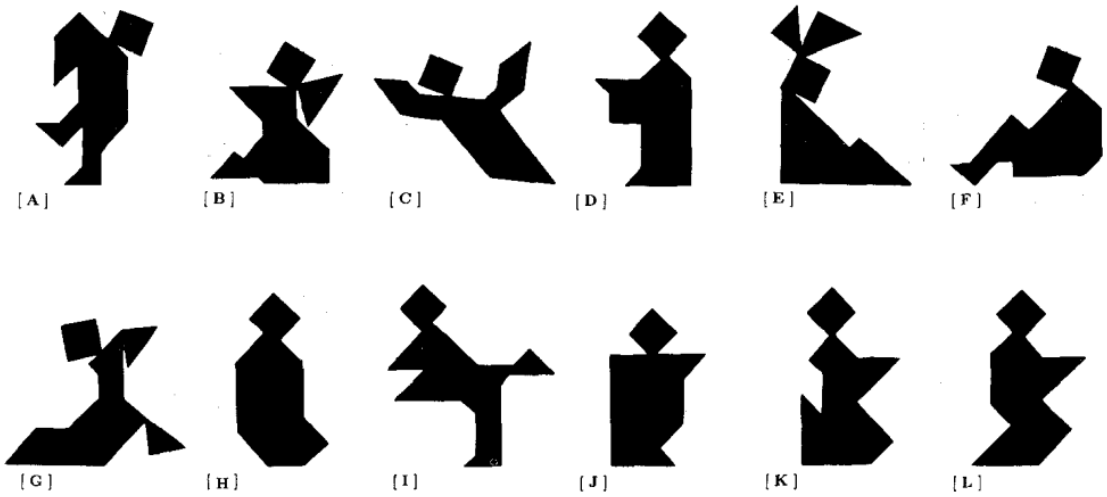


Clark & Wilkes-Gibbs 1986



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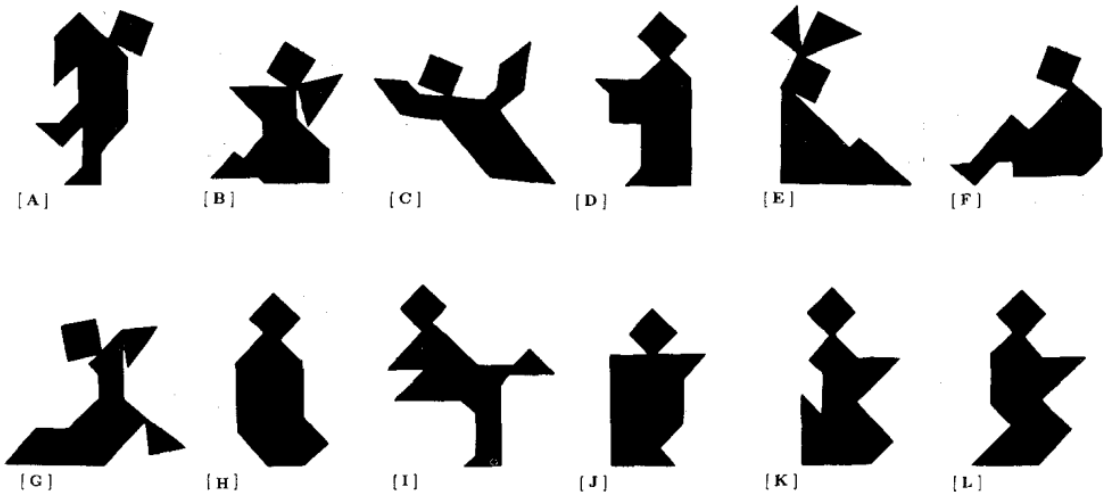

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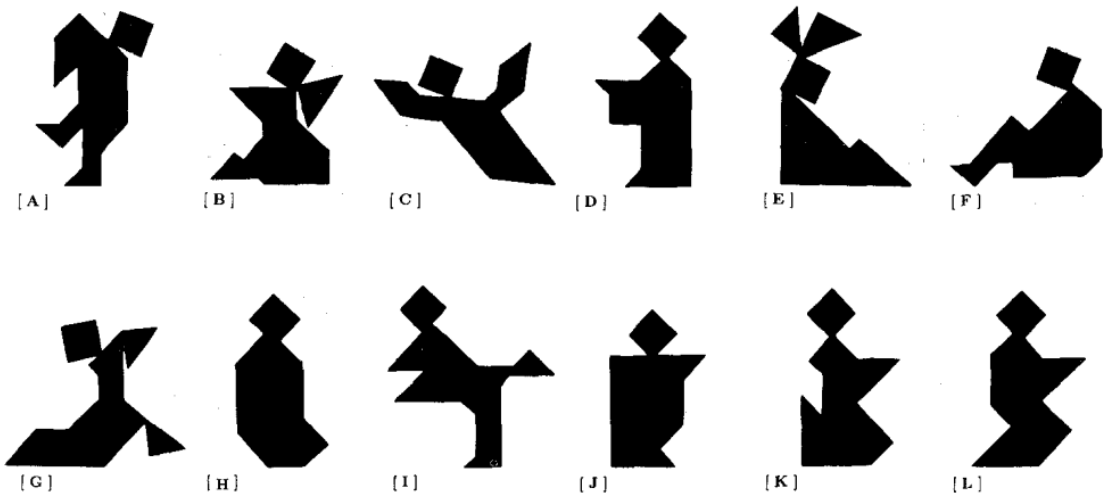

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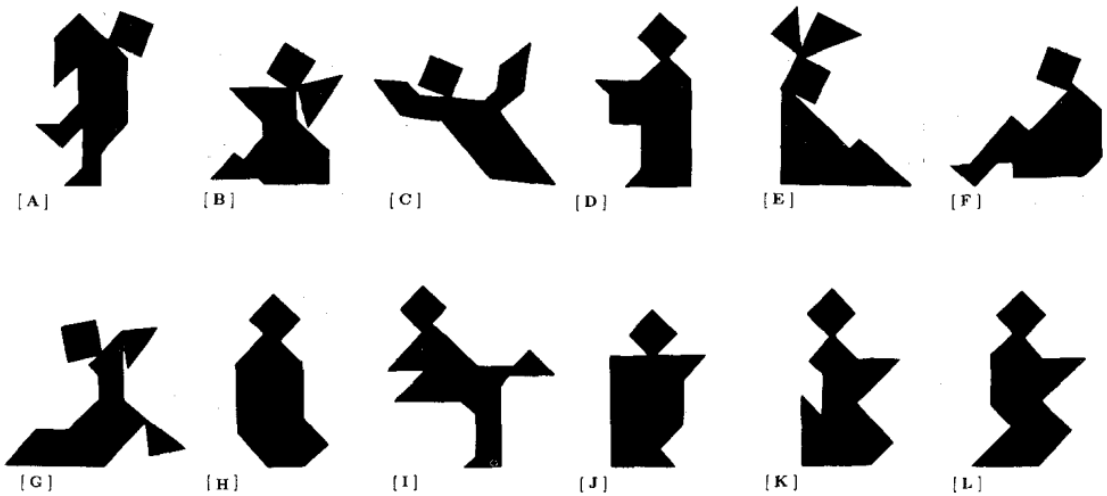

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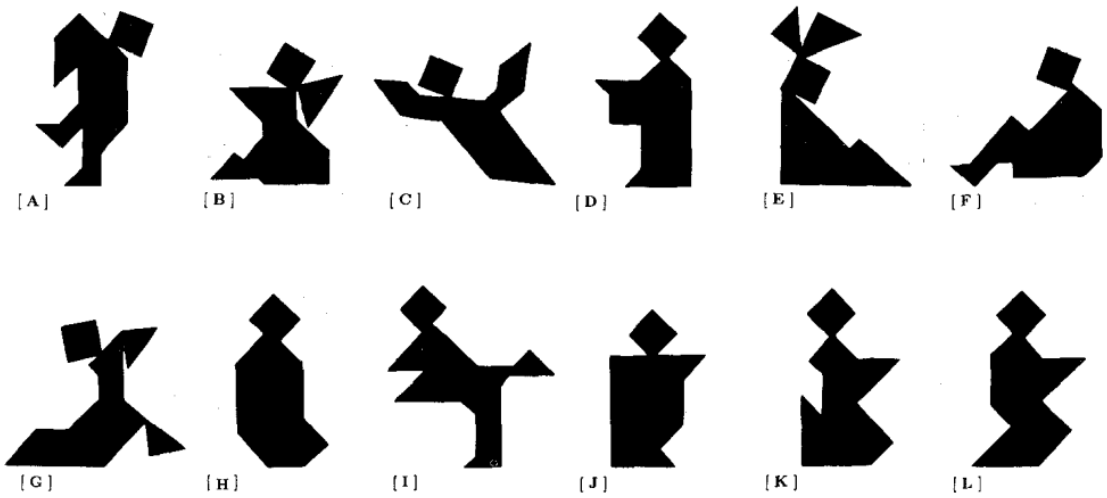

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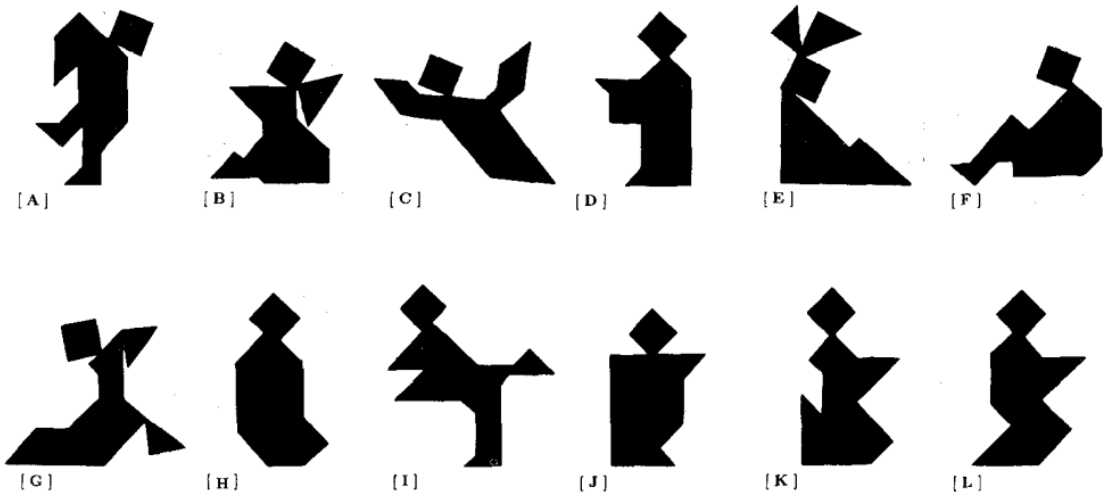

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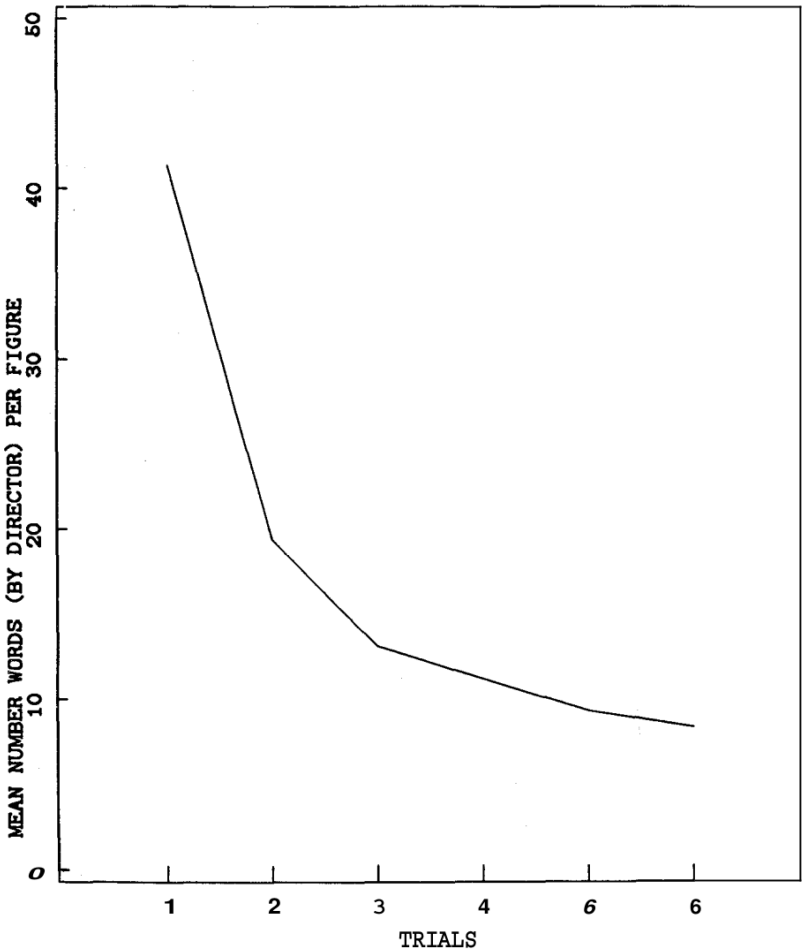
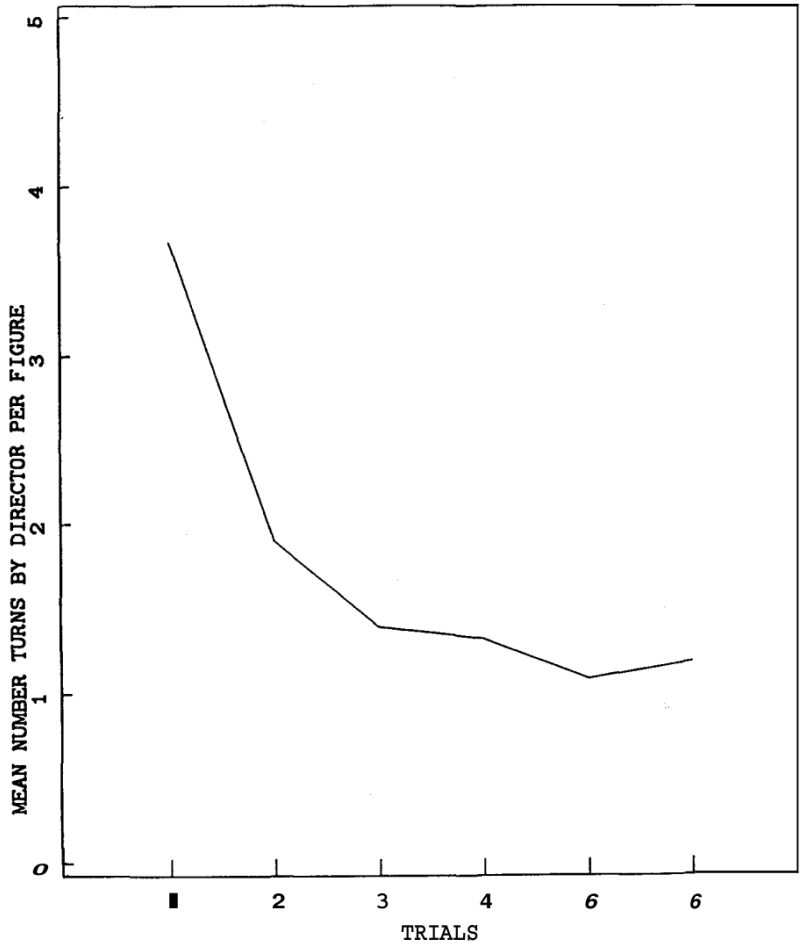
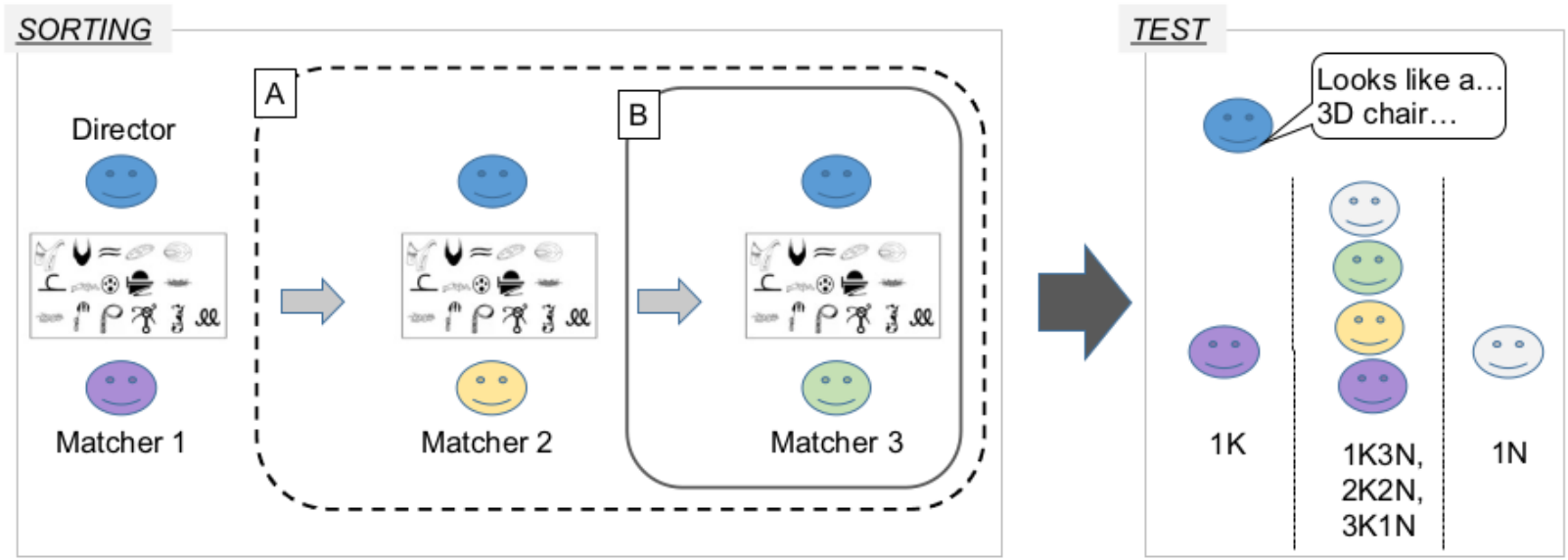




Yoon & Brown-Schmidt 2019

Speaker talks to multiple matchers of different knowledge levels



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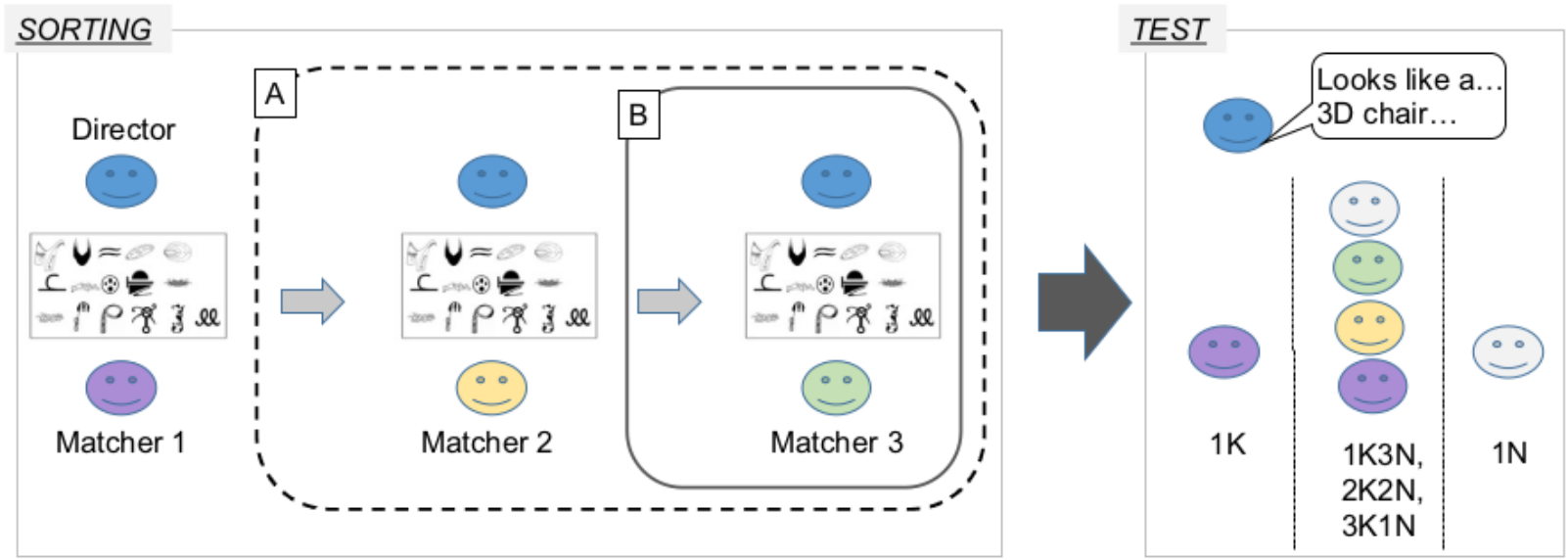

Examine speaker's utterances for length, elaborations, disfluencies

Hawkins, Frank, & Goodman 2020

Scaling up with web-based experiments

- Cued version with feedback on each trial

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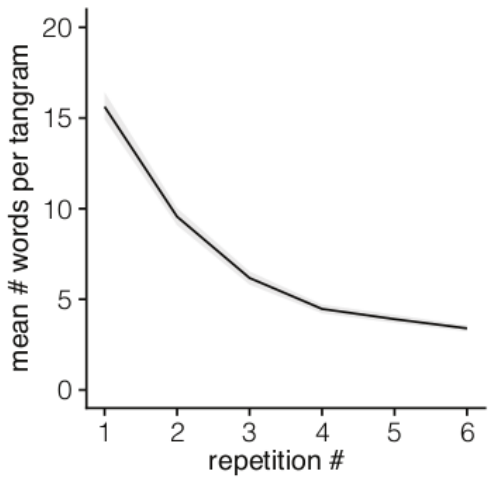

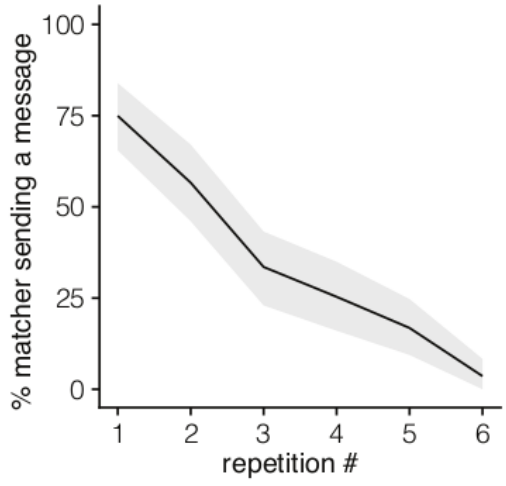

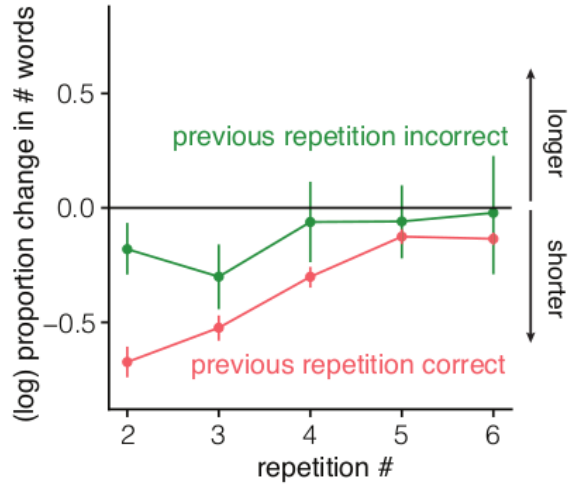

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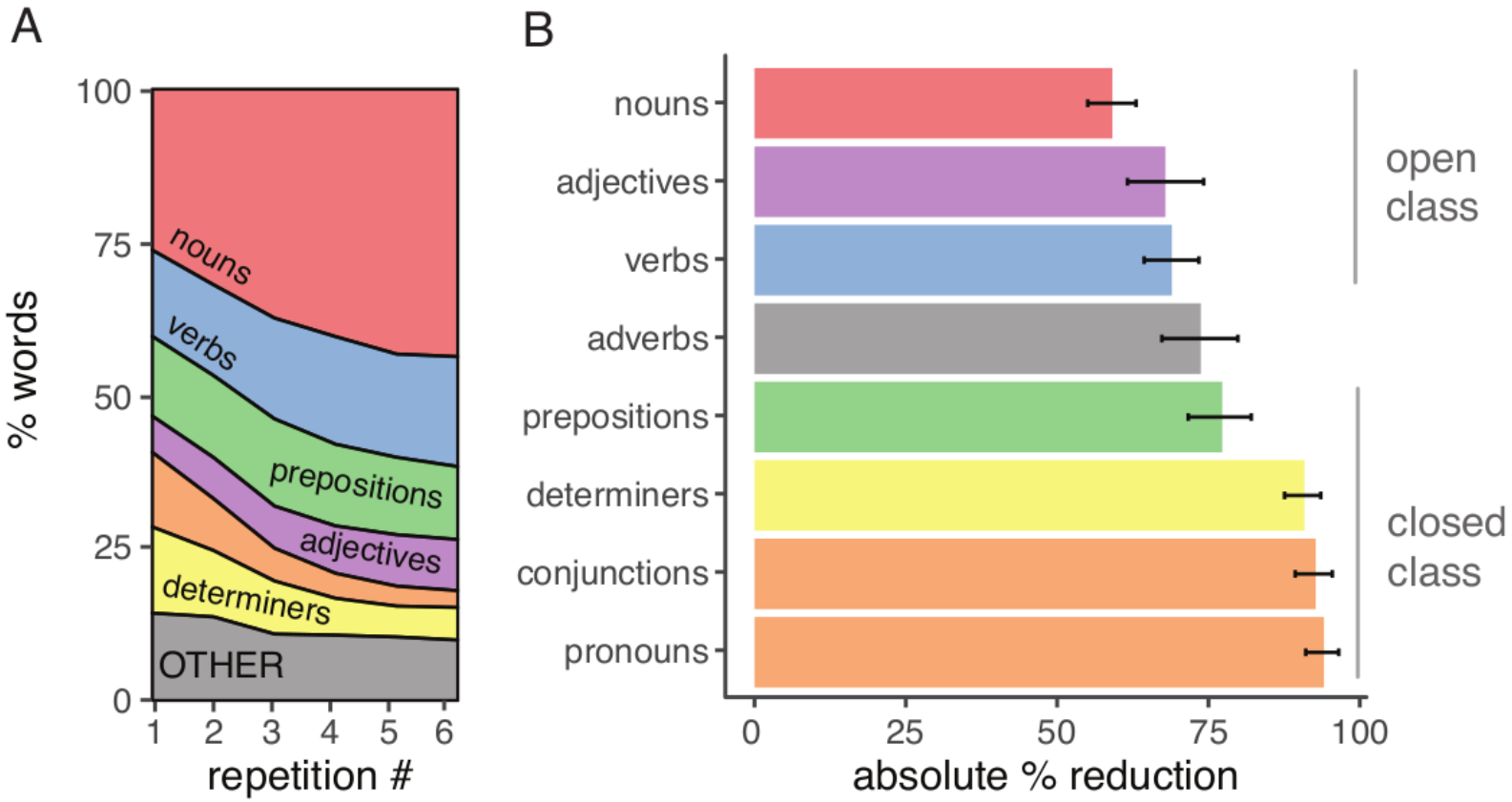
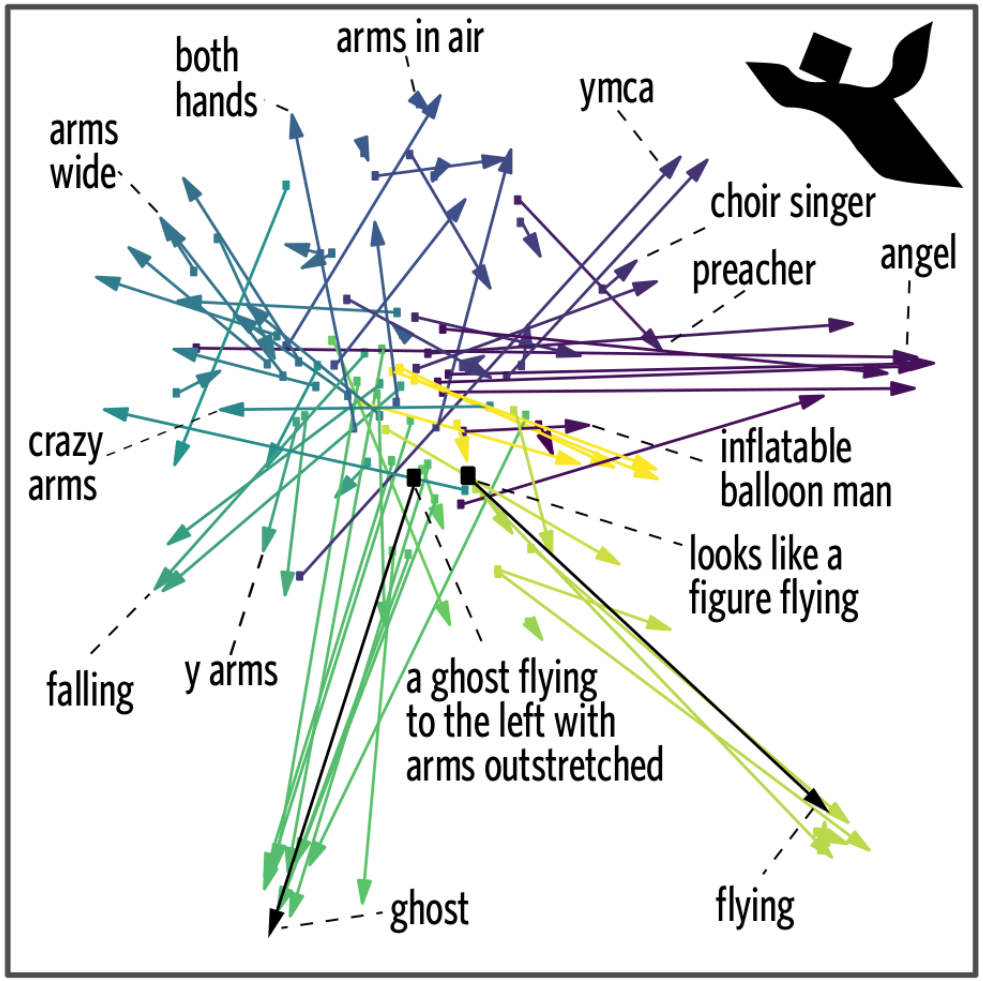


Words tend to drop out in syntactic units

Hawkins, Frank, & Goodman 2020



Semantics converge within and diverge between groups

FYP Proposal

What are the dynamics of pact formation between groups?

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- Replicate Hawkins et al for multiple listeners
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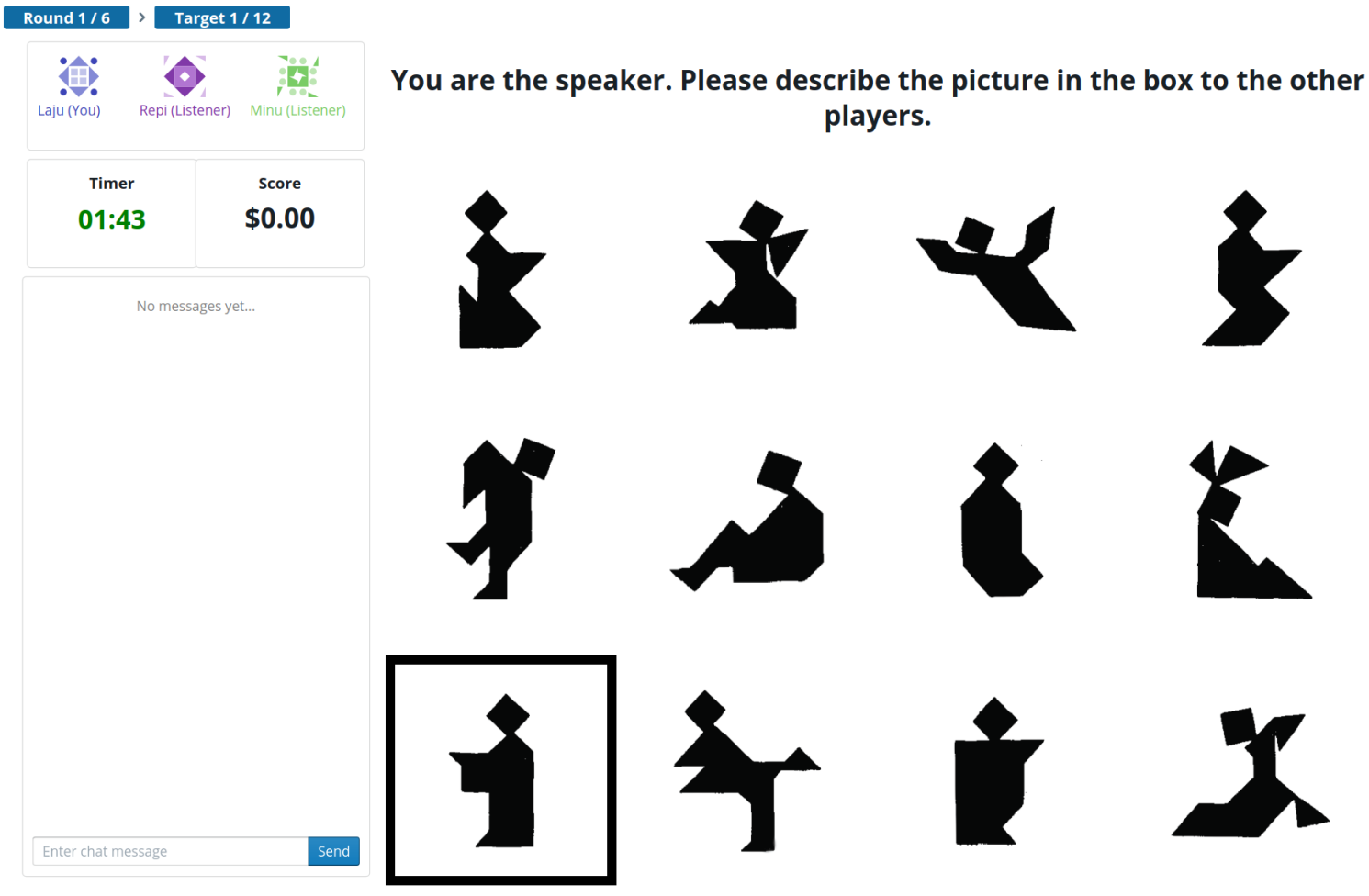
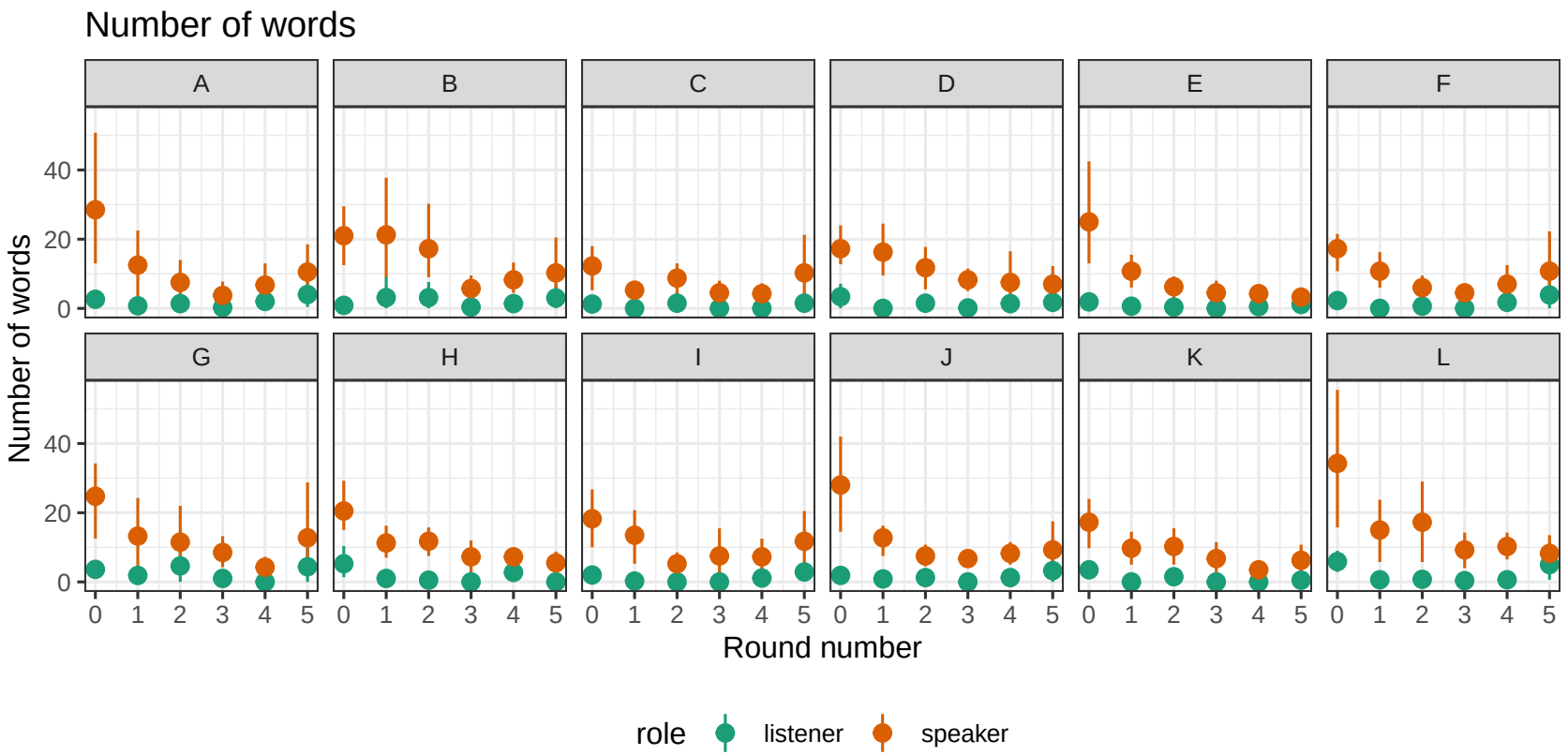
- Use Empirica (Almaatouq et al 2020) for implementation

FYP Framework



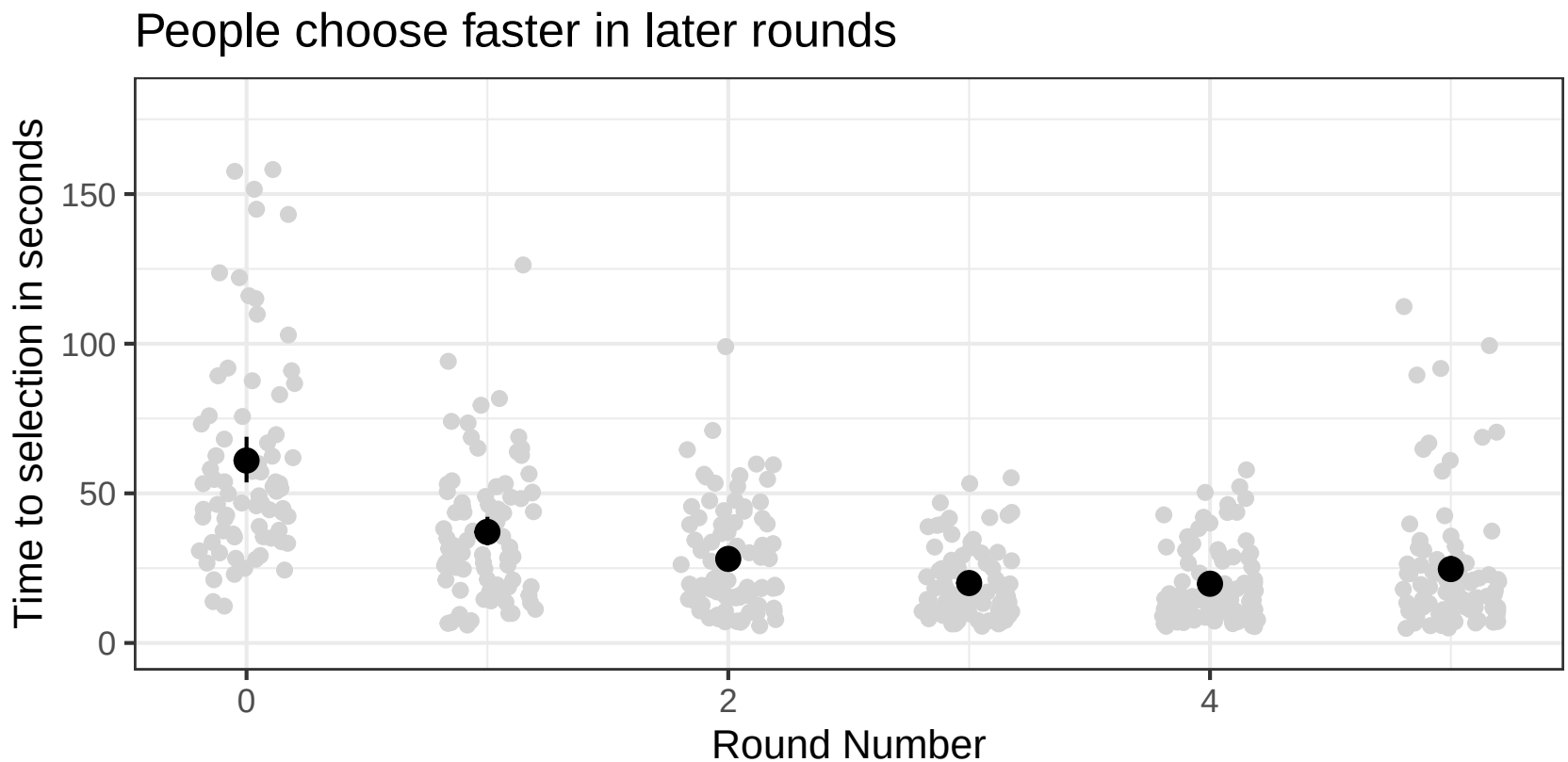
Pilot results



Utterances get shorter

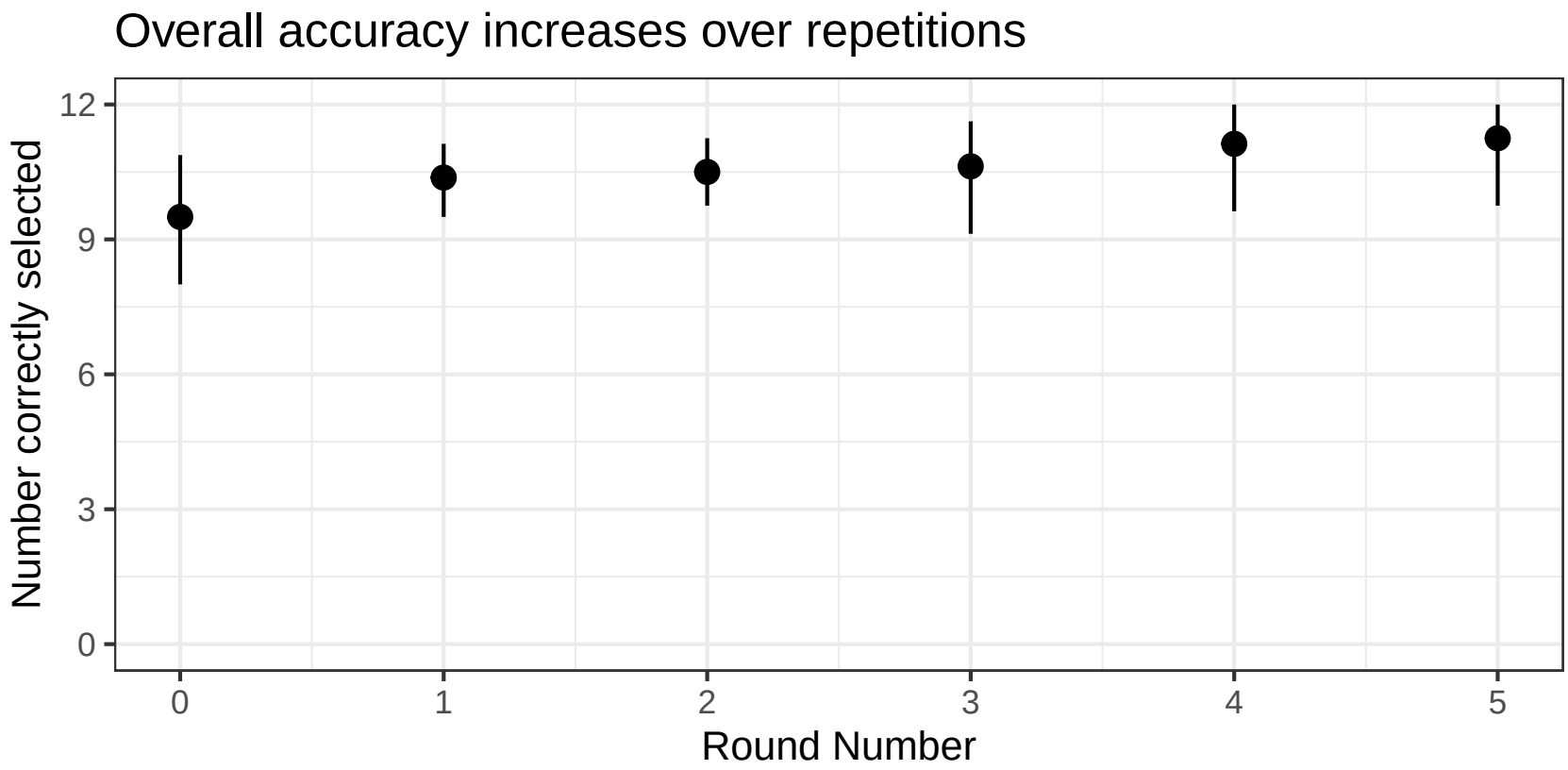
Tangrams vary in difficulty

Pilot results



Listeners choose faster in later rounds

Pilot results



Accuracy is uniformly high, but seems to increase

FYP Plans

Future analyses

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Full experiment

- Test groups of 2-4 (1-3 listeners/speaker)
- Aim for 20 groups in each group size

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Bigger picture

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- Dataset for training AI agents for conversation

Comments, Questions?

Looking for feedback on

- What analyses would be interesting?
- What variants/extensions would be interesting?