

“I’m just a soul whose intentions are good”: The role of communication in noisy repeated games

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Introduction

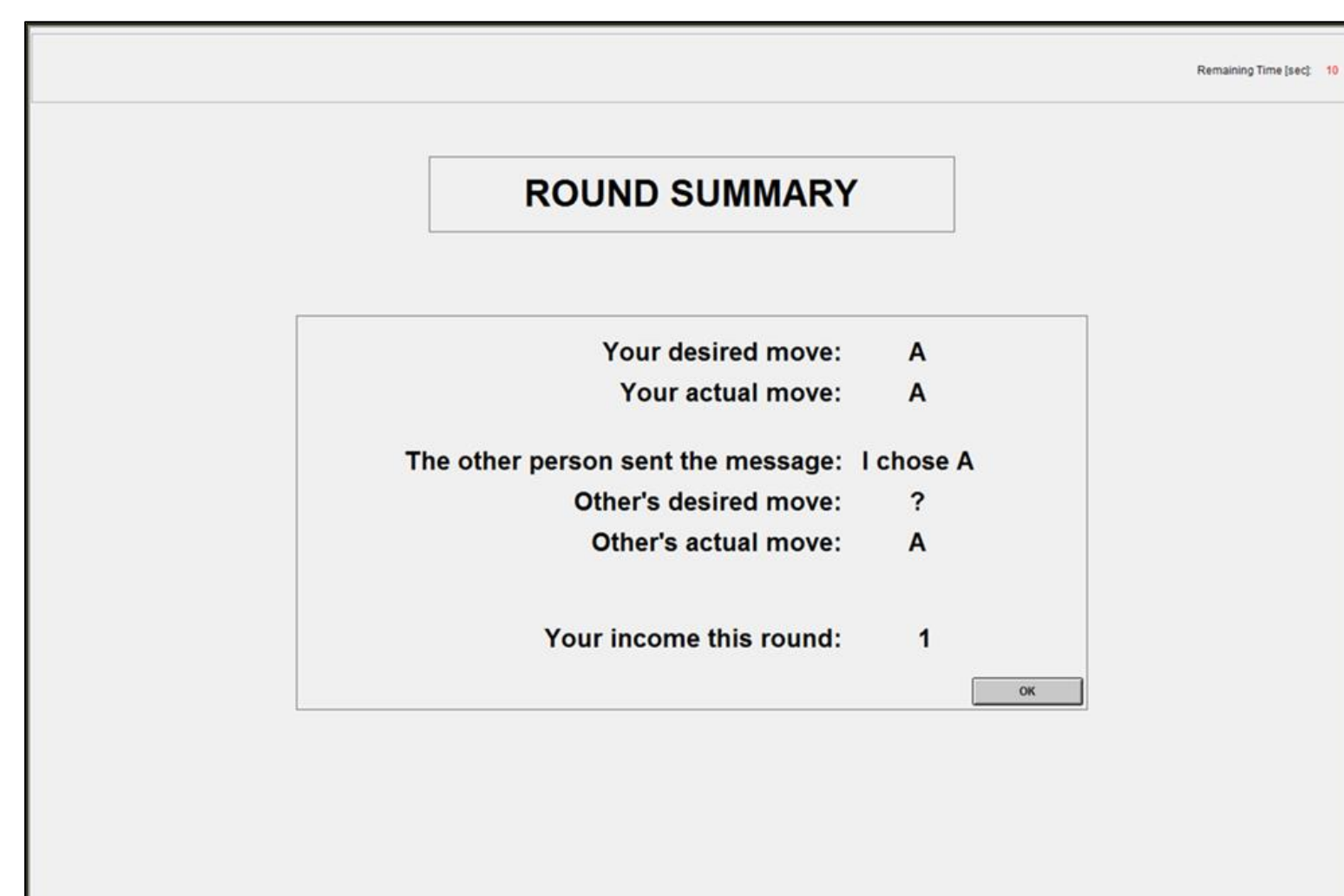
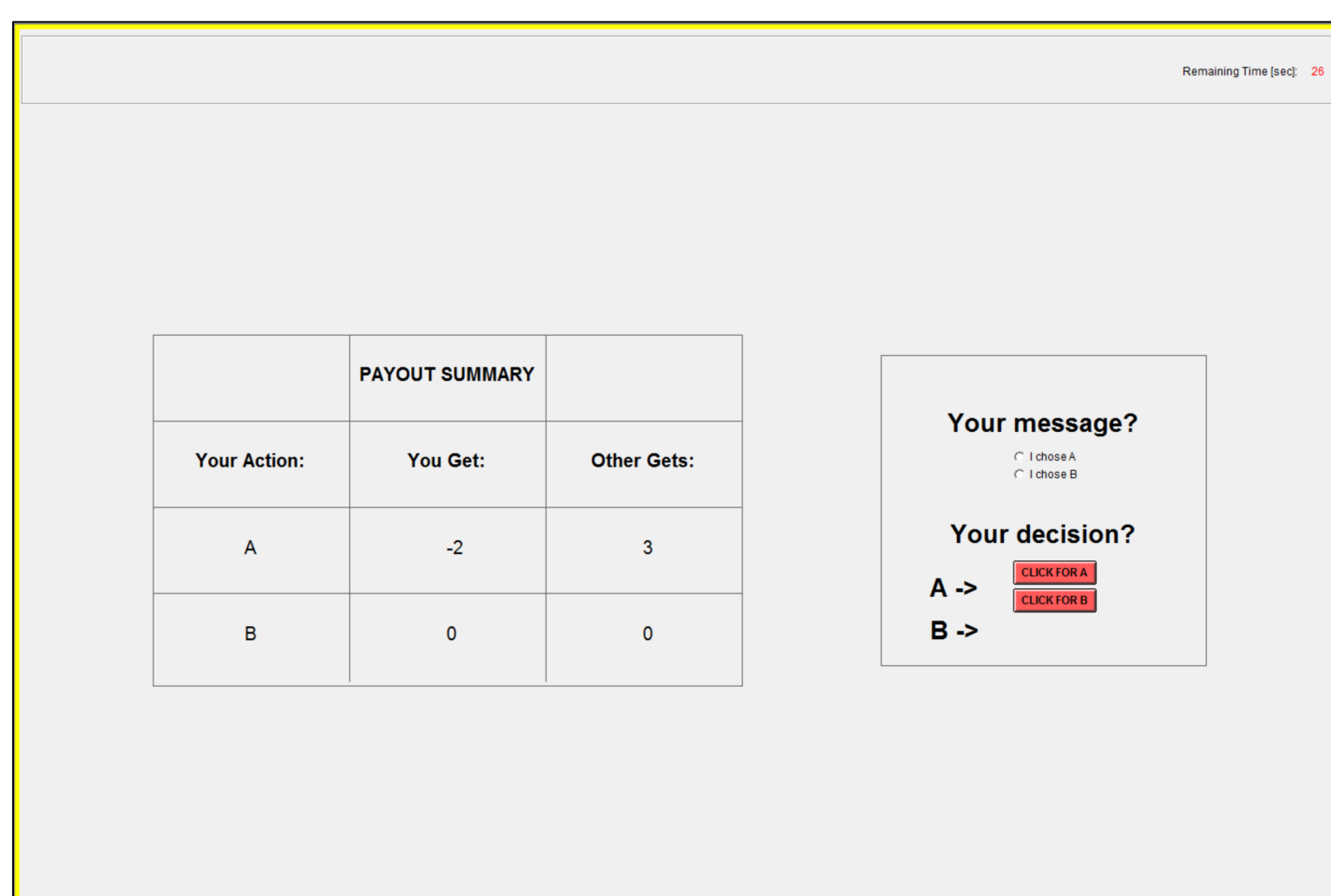
- Existing theory is of partial use for understanding cooperation.
- Repetition can add equilibria, but cannot take them away.
- People do *not* always cooperate when cooperation can be one of the equilibrium outcomes.
- When does repeated interaction lead to cooperation?**
- Noise reduces cooperation when intentions cannot be observed (e.g. punish accidental defections; Fudenberg et al. 2012).
- Cooperation rises if intentions *can* be seen (Rand et al. 2015).
- In real-world interactions people communicate intentions.
- Can cheap-talk communication promote cooperation in games with noise?**

Experimental Design

- Indefinitely repeated prisoner dilemmas (continuation p of 7/8).
- Decisions changed 1/8 of the times (error rate).
- 2 communication conditions: *Messages* and *No messages*.
- 2 payoff matrices: *Low* and *High* returns to cooperation.

<i>Low</i>	C	D	<i>High</i>	C	D
C	1,1	-2,3	C	2,2	-2,4
D	3,-2	0,0	D	4,-2	0,0

- Subjects choose action (and message) in each round.
- Subjects learn realized actions (and message), *not* intentions.



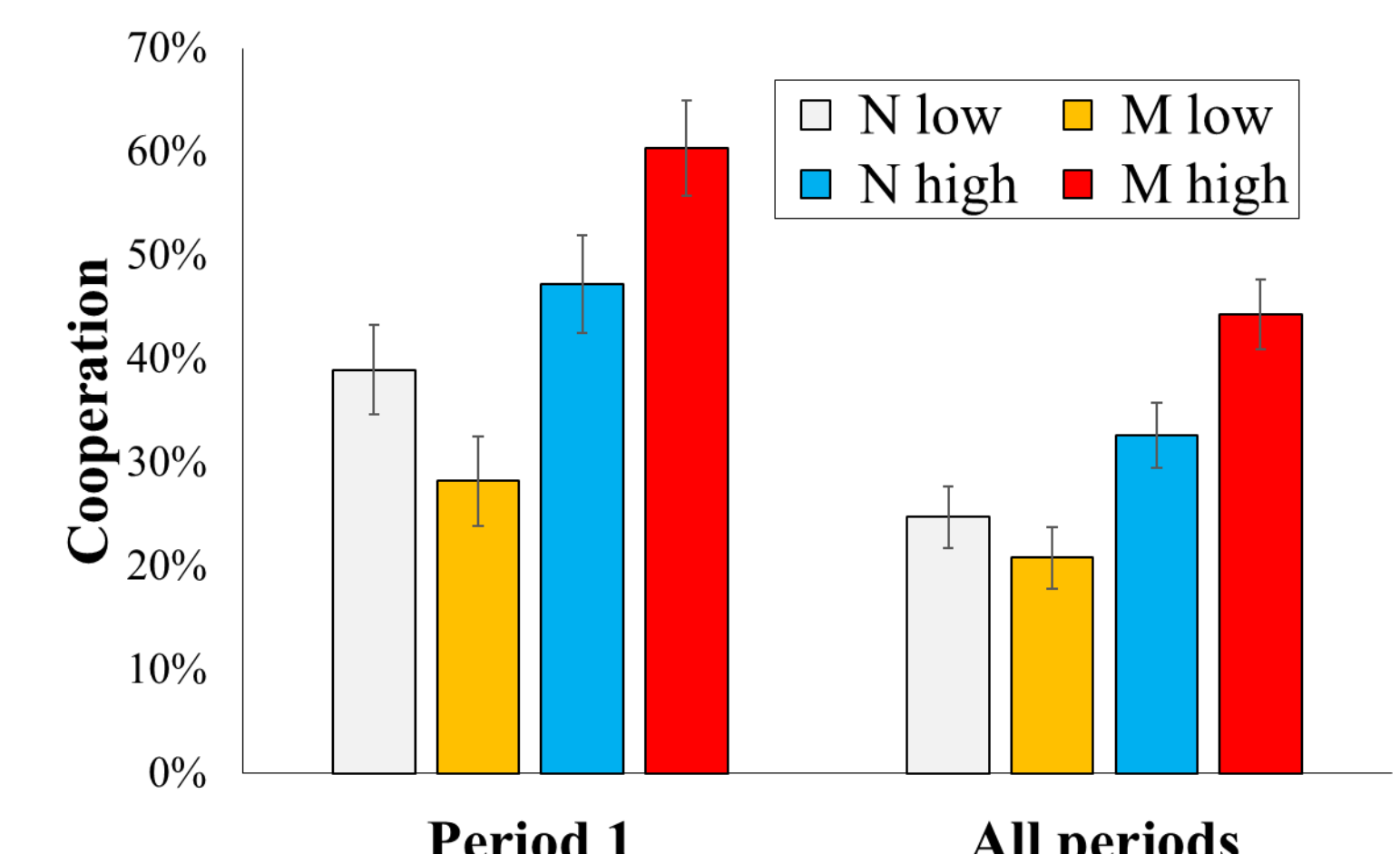
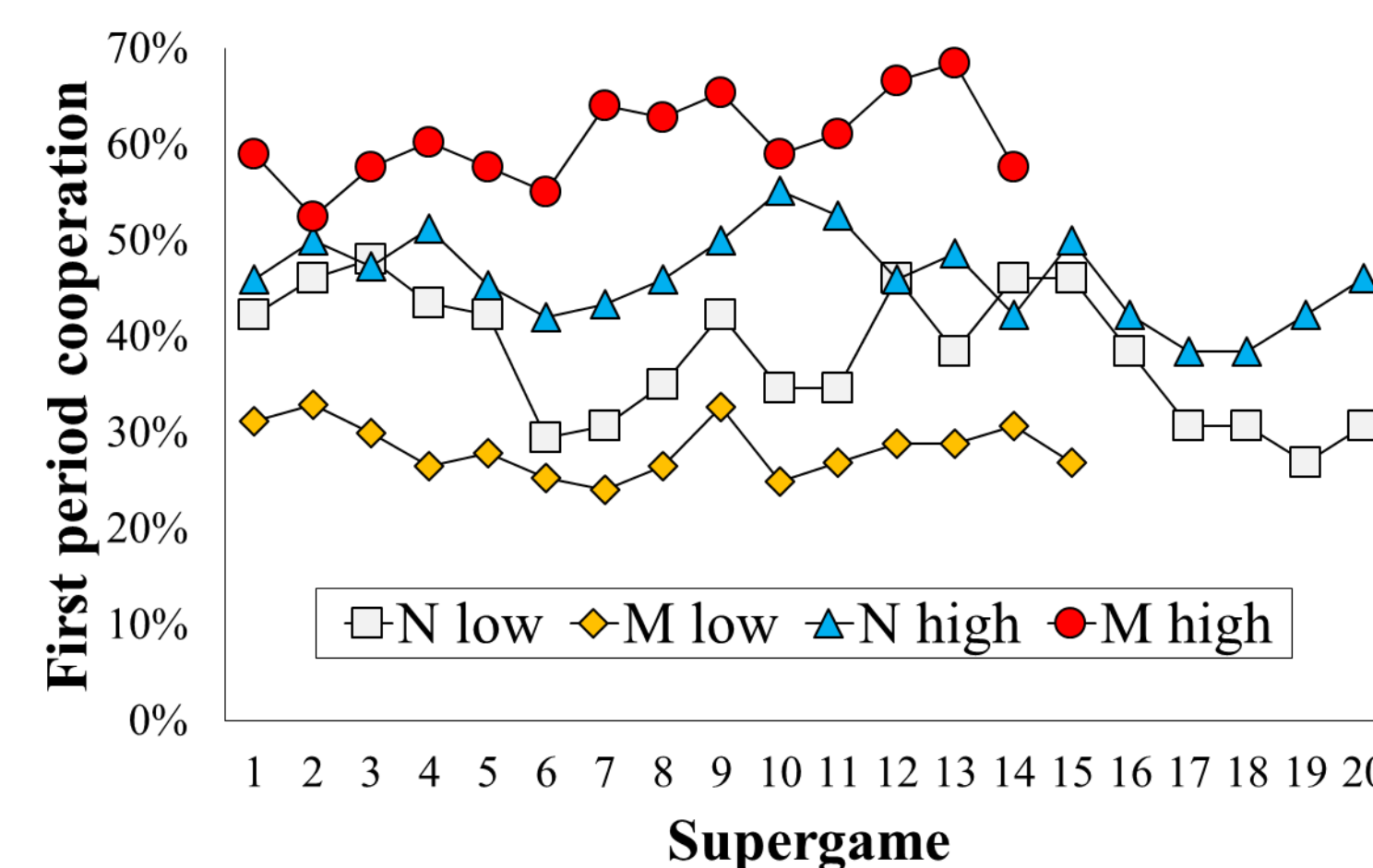
- N=312 (Nottingham); 3 sessions per treatment.

Research Questions

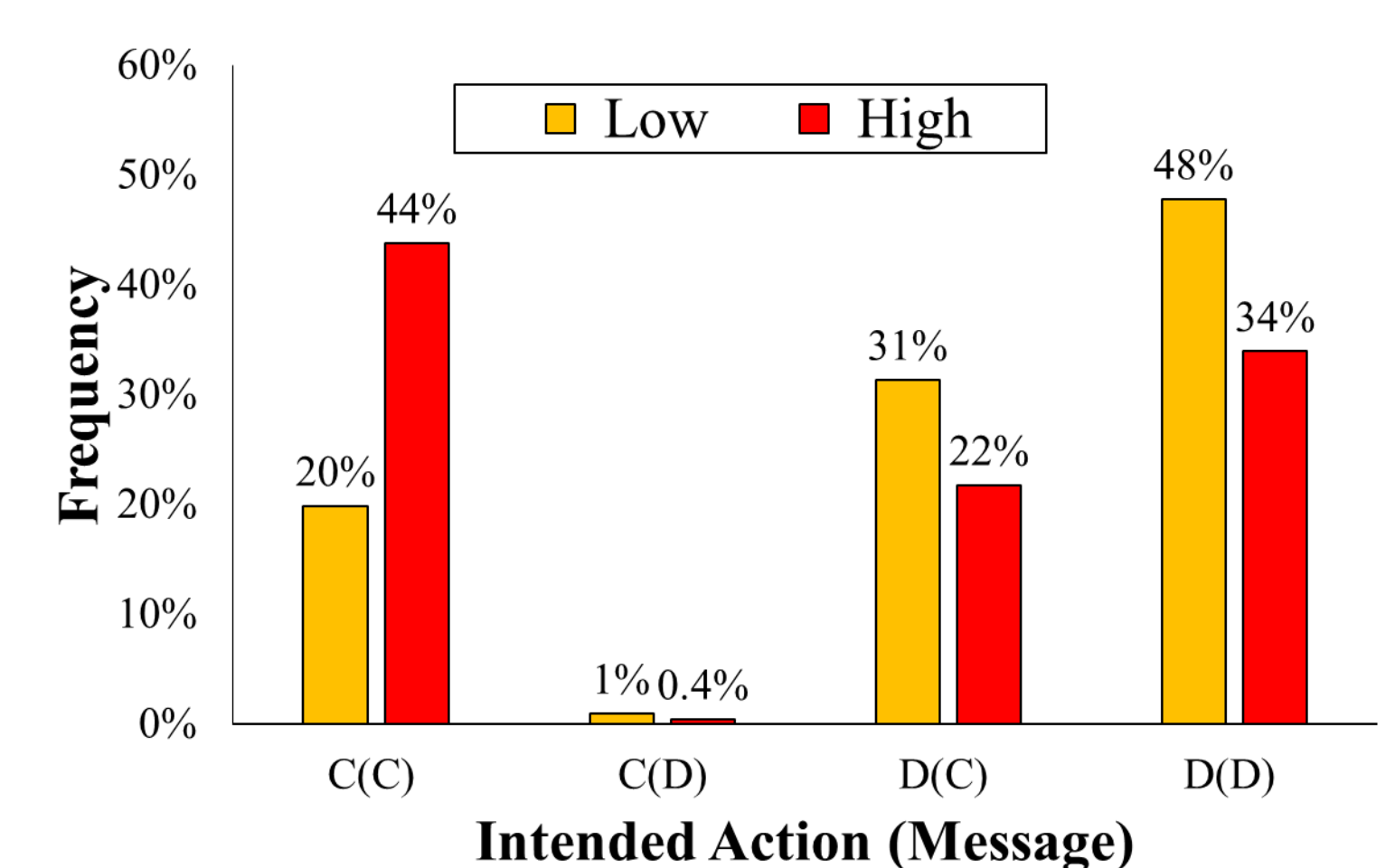
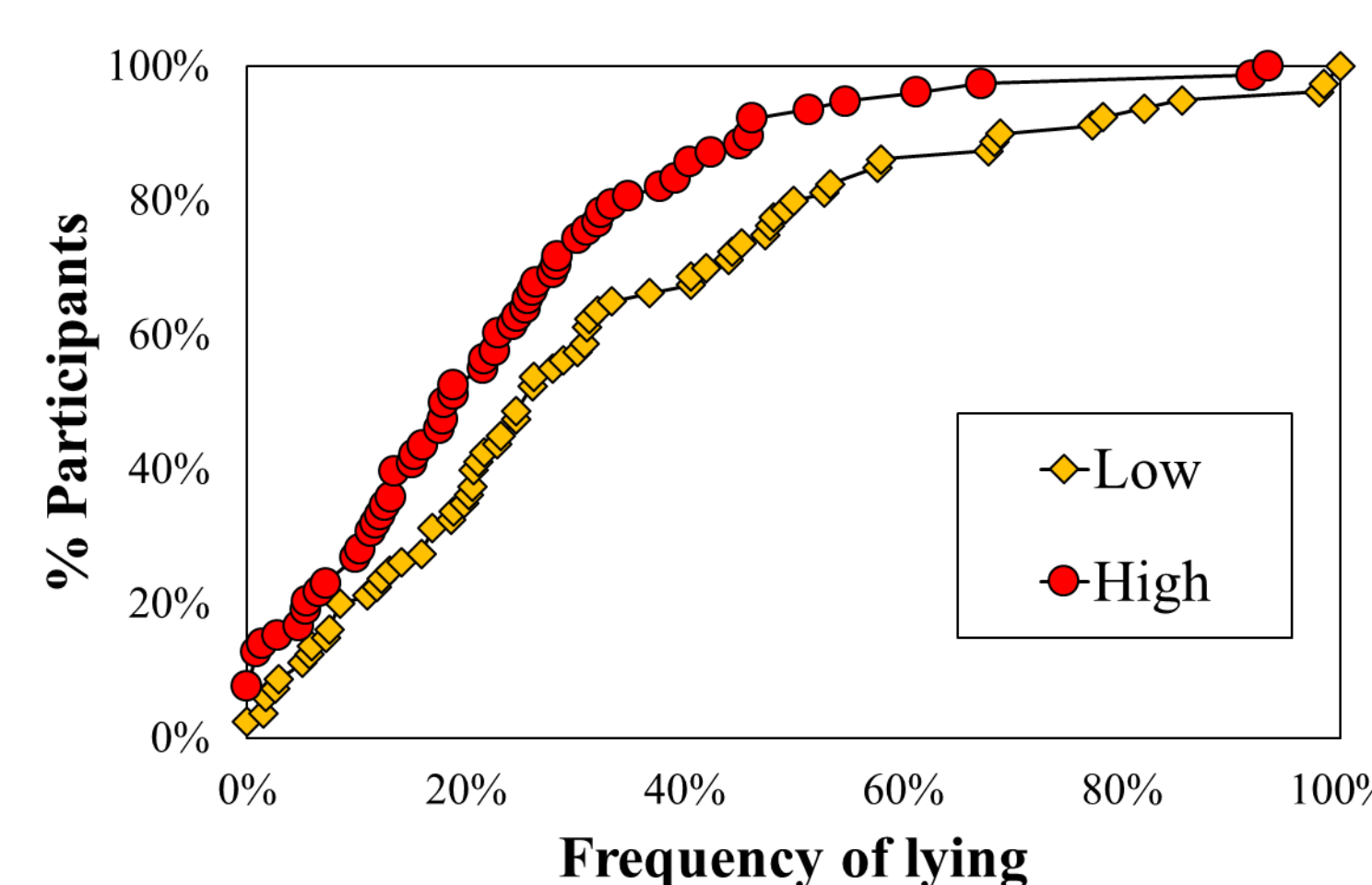
- Does the ability to send messages increase cooperation levels?
- How honestly do participants communicate their intentions?
- To what extent do participants condition on their partner's communicated intentions?
- Which strategies were most successful?

Results

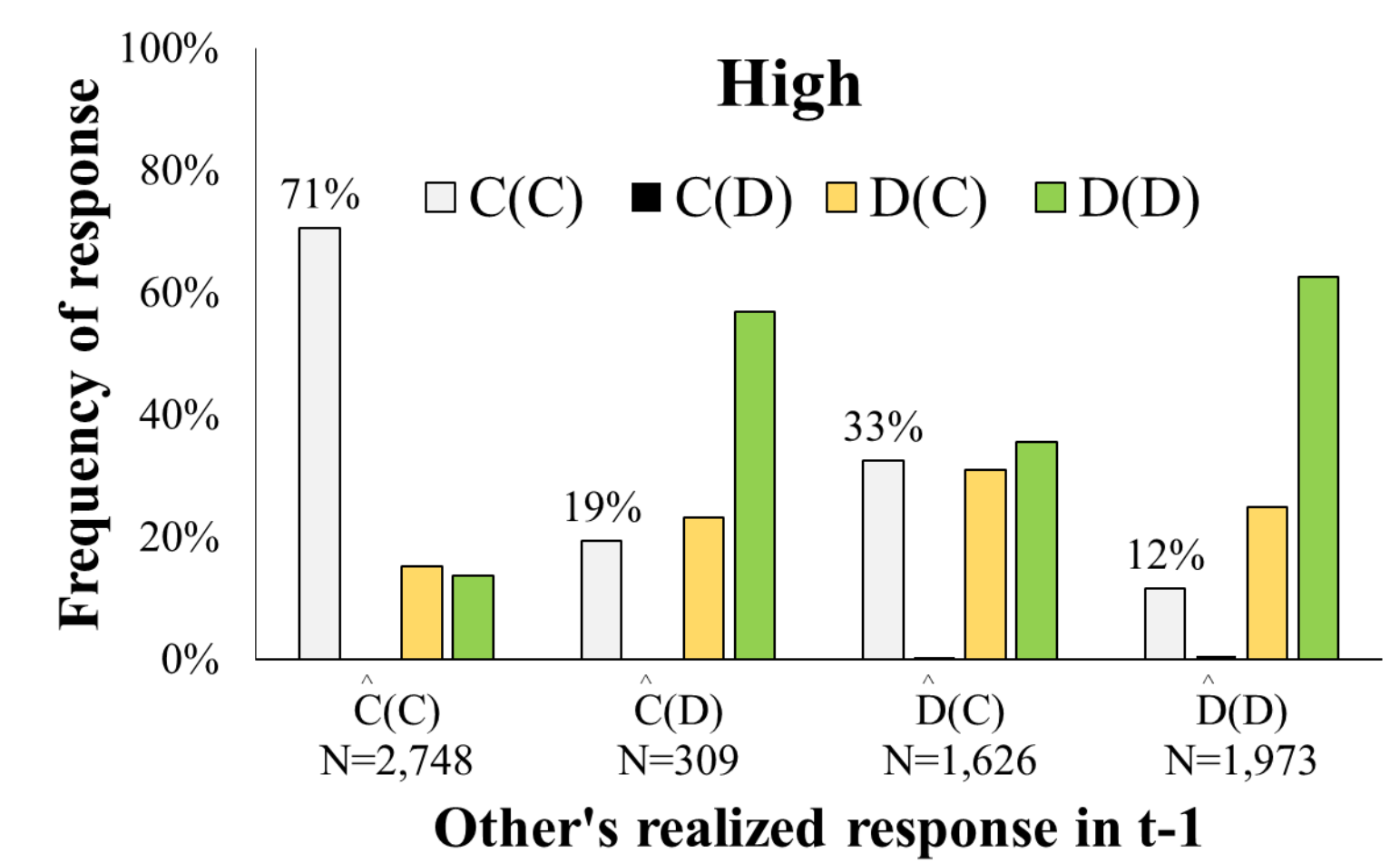
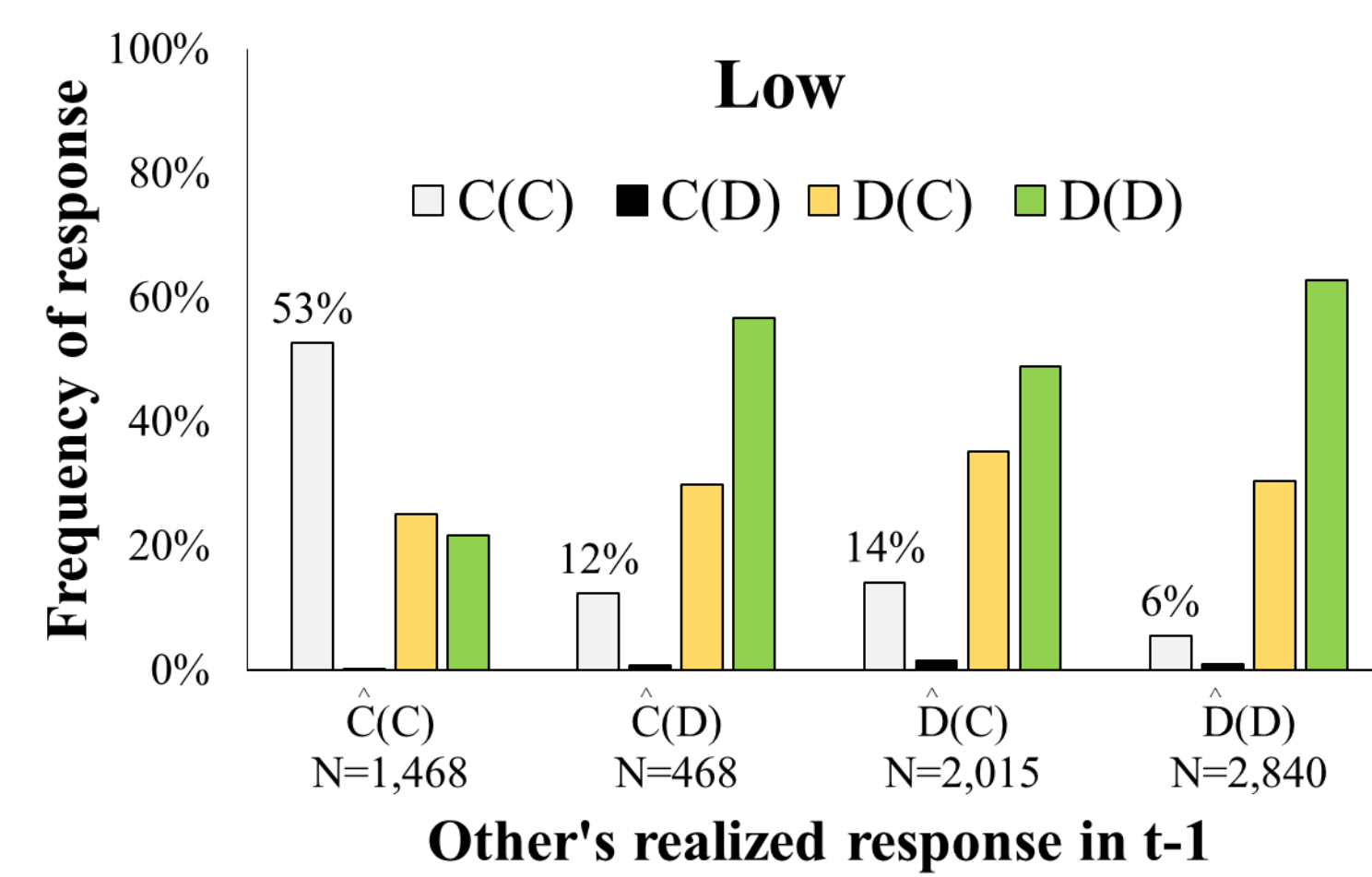
- Cheap-talk communication increased cooperation in *High*; but in *Low*, communication (initially) decreased it.**



- Most subjects lied rarely, and they lied less in *High*.**



- Subjects did condition responses on partner's messages**



- Communication boosts the performance of cooperative strategies when the payoffs support cooperation. Cooperative players earned more than non-cooperative ones with messages in *High*, the same without messages, and less in *Low* (regardless of communication).**

Discussion

- When *Grim* is an equilibrium but not risk dominant over *ALLD*, people hesitate to cooperate due to strategic uncertainty.
- Cheap-talk messages of intended cooperation are somewhat believed and this leads to more cooperation.
- When *Grim* is *not* an equilibrium, communication doesn't help because claims of “I tried to cooperate” aren't believed. In fact, communication may hurt by making subjects more suspicious.
- Our results suggest that **cheap talk communication, which is a common feature of daily life, can promote cooperation** in repeated games, but only when there is already a self-interested motivation to cooperate.

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References

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- This paper:** Arechar, A., Dreber, A., Fudenberg, D., Rand, D.G., 2017. “I’m just a soul whose intentions are good”: The role of communication in noisy repeated games. *Games Econ. Behav.* 104, 726–743.