



Goal inference for ‘irrational’ actions: The movements themselves are seen as the goal

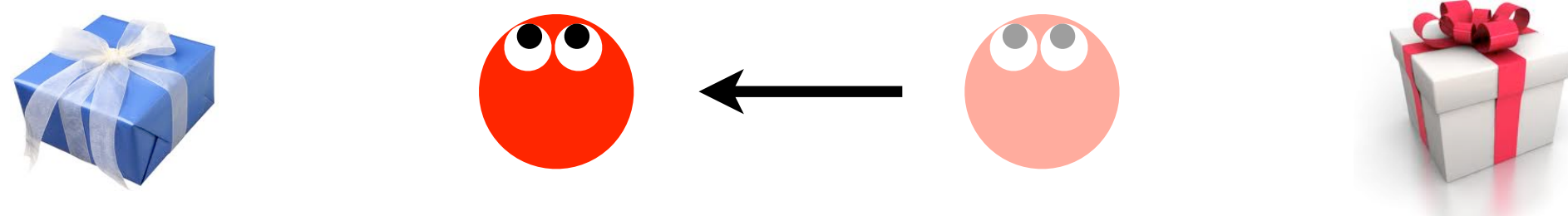


Adena Schachner Susan Carey

Background

Infants and adults assume agents act rationally to achieve their goals^{1,2}

When we observe actions, this rationality assumption allows us to infer the agents’ most likely goal based on the path of movement³



Dance-like movements: not the rational means toward any goal



How do we reason about seemingly ‘irrational’ movements?

Experiment 1

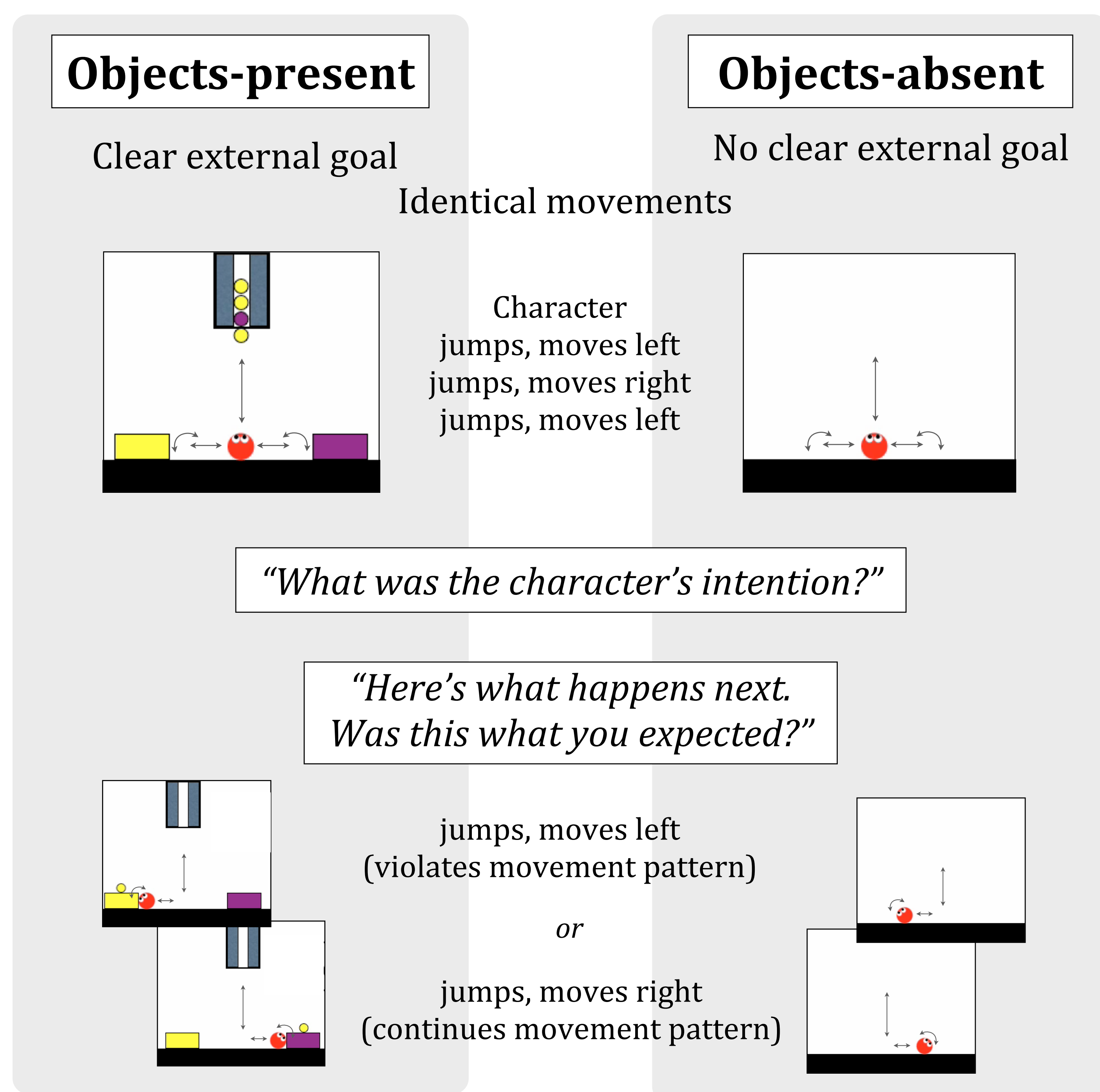
How do observers reason about movements with no plausible goal?

Hypothesis: They infer that the agent’s goal is to produce the movements

N=128, online
(MTurk.com)

Method

Two conditions (between-subject):

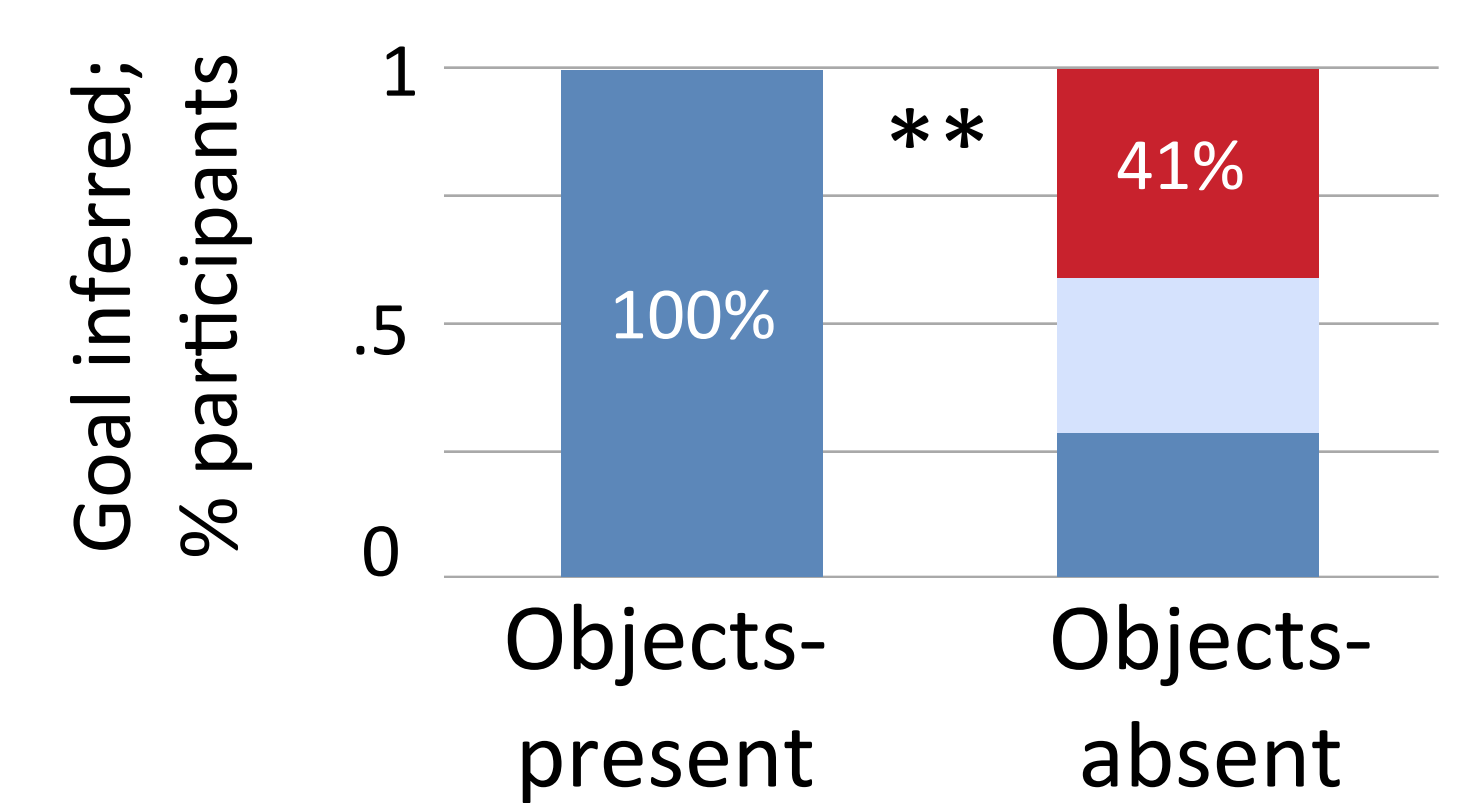


Results

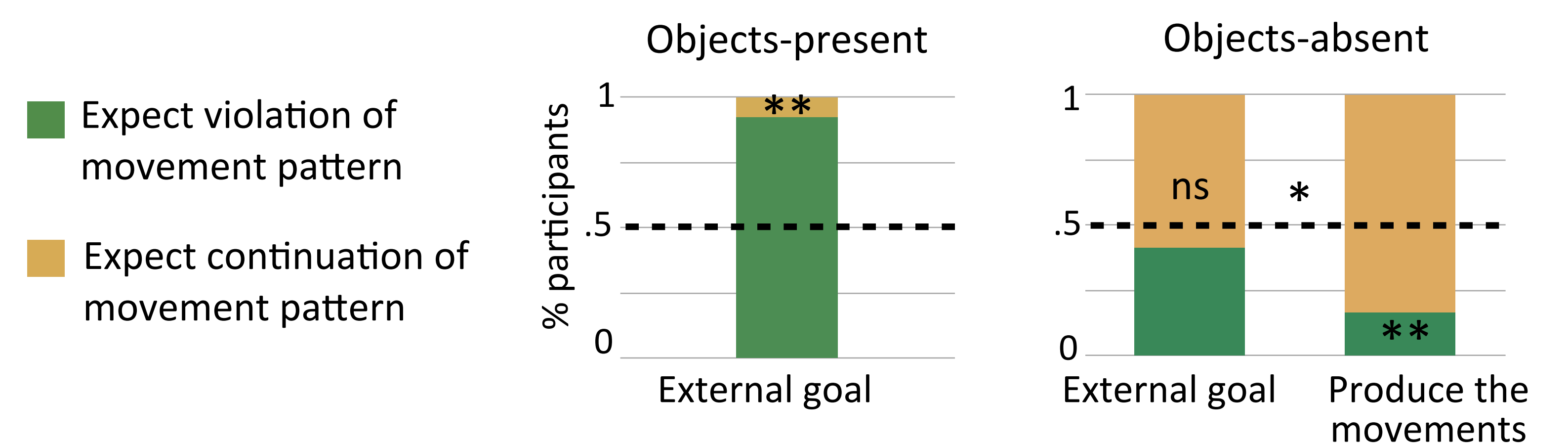
“What was the character’s intention?”

Free-response answers coded into categories:

- External goal
- Produce the movements
- Other/Ambiguous



“Was this what you expected next?”



When there is no plausible external goal, observers commonly infer that the goal is to produce the movements.

This inference leads to different expectations about future actions.

Experiment 2

What drives the inference that the goal is to produce the movements?

Hypothesis: The irrationality of the actions as a means to other (external) goals

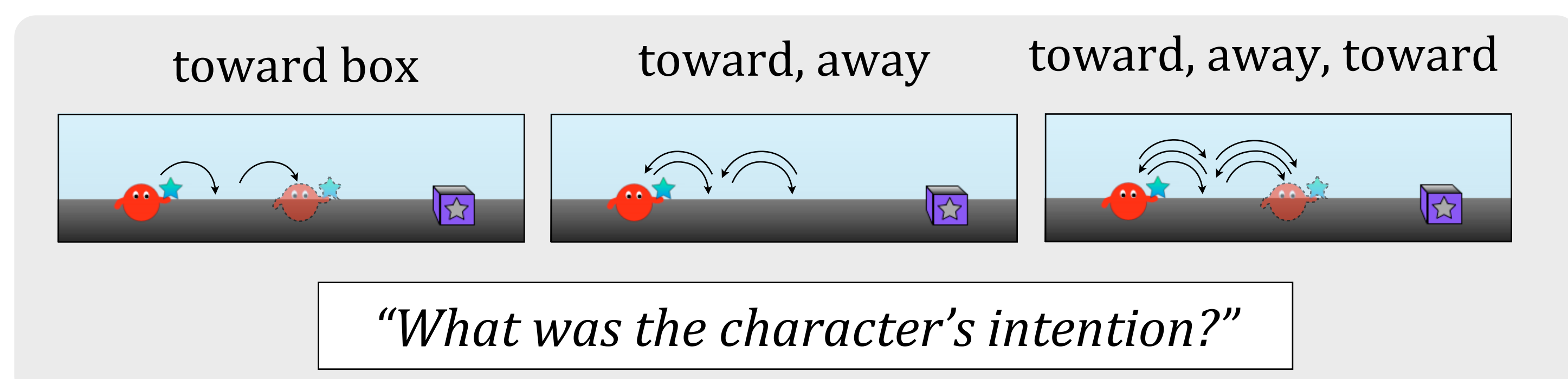
N=90, online
(MTurk.com)

Alternative accounts

- Driven by lack of salient objects (more attn to movement)
- Driven by movements not causing change in the environment
 - Cue ‘ritual stance’, more attn to exact movements⁴

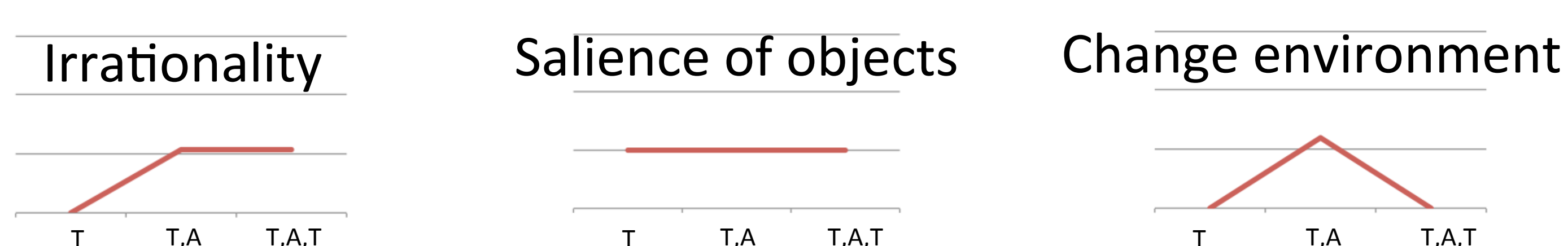
Method

Three conditions (between-subject):



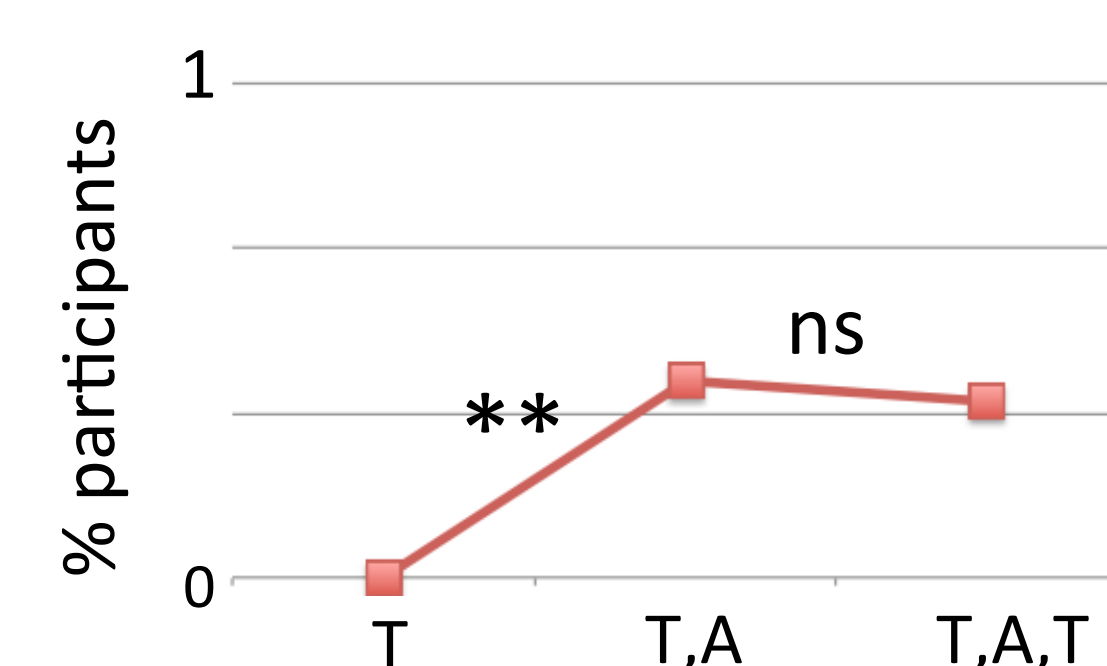
DV: How often do participants infer that the goal is to produce the hopping movements?

Predictions



Results

Rate of inferring that the goal is to produce the hopping movements



The **irrationality** of the actions as a means to other external goals drives this inference

Conclusion

When there is no plausible external goal, observers infer that the goal is to produce the movements

This inference is driven by the **irrationality** of the actions as a means to other (external) goals

- Not automatically cued by movement path, lack of salient objects, or a failure to change the environment

May predict/explain overimitation^{5,6}

Possible basis for our concepts of dance, ritual
(ask about additional data)

References

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