

It's all in the eyes: Gaze cues facilitate eye-movements based on directional and mentalistic information

Sarah McCrackin, Nada Khalil & Jelena Ristic
Department of Psychology, McGill University



Introduction

We spontaneously look where others are looking¹.

This gaze following facilitates social interactions, but it is unclear what drives it².

Theory 1: Gaze is a Directional Cue³



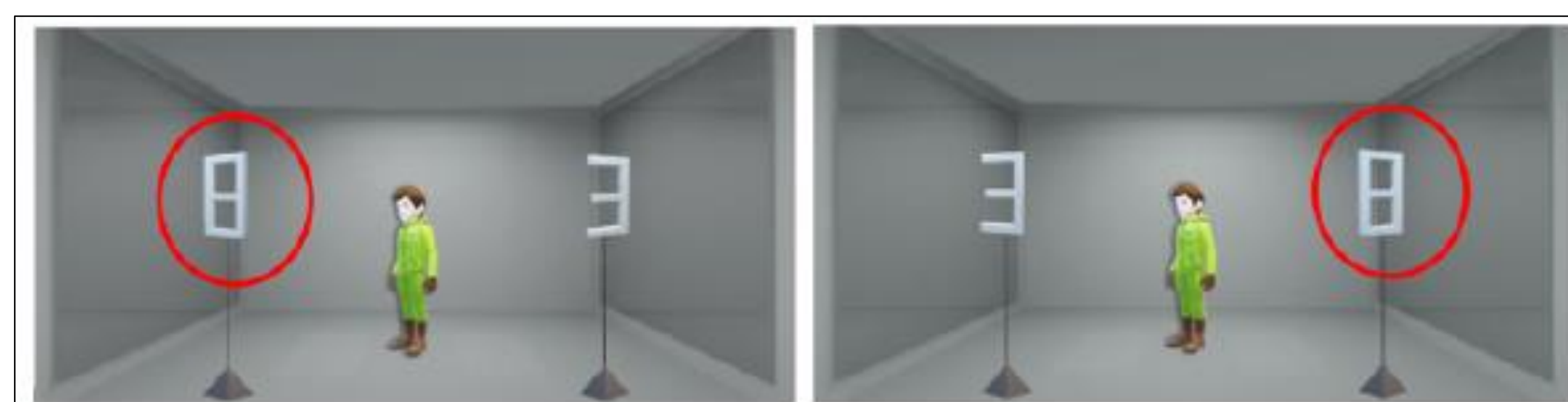
Theory 2: Gaze is a Perspective Taking Cue⁴



Theory 3: Gaze is both of these combined²

Methods

Combined Conditions



Congruent Direction
Congruent Content

Incongruent Direction
Incongruent Content

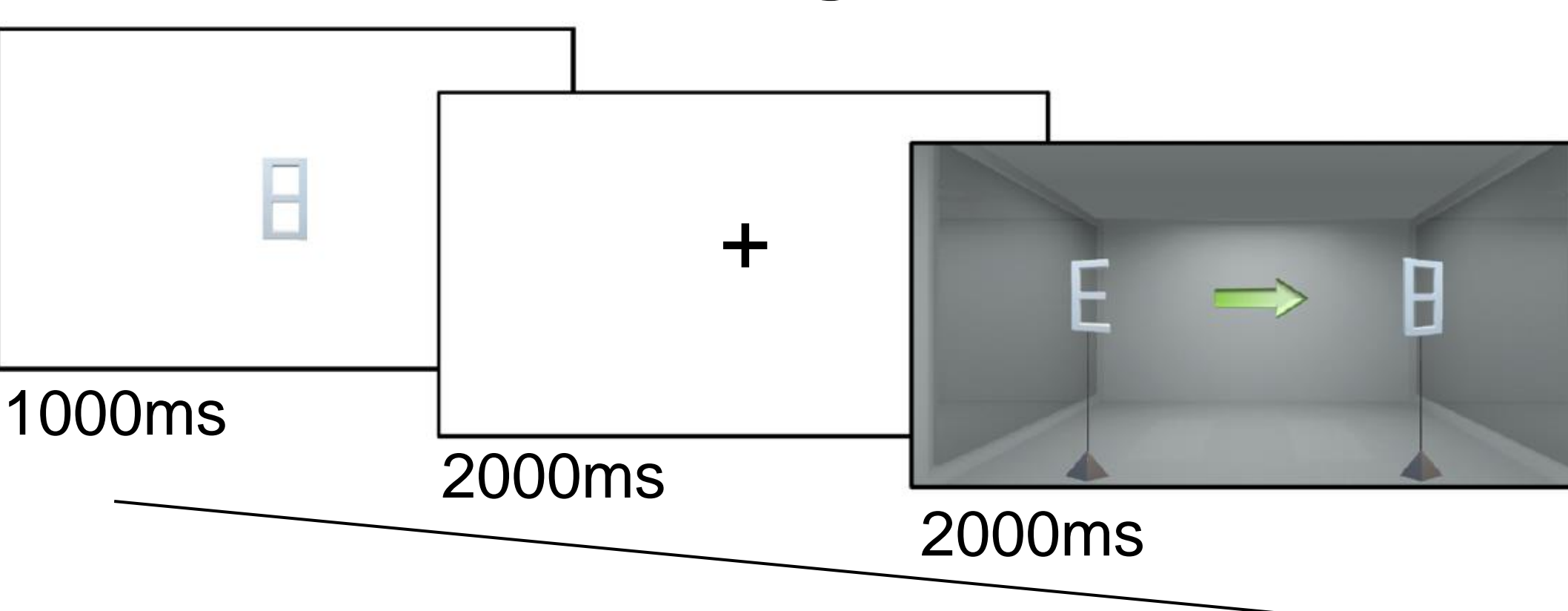
Dissociated Conditions



Congruent Direction
Incongruent Content

Incongruent Direction
Congruent Content

Trial Progression

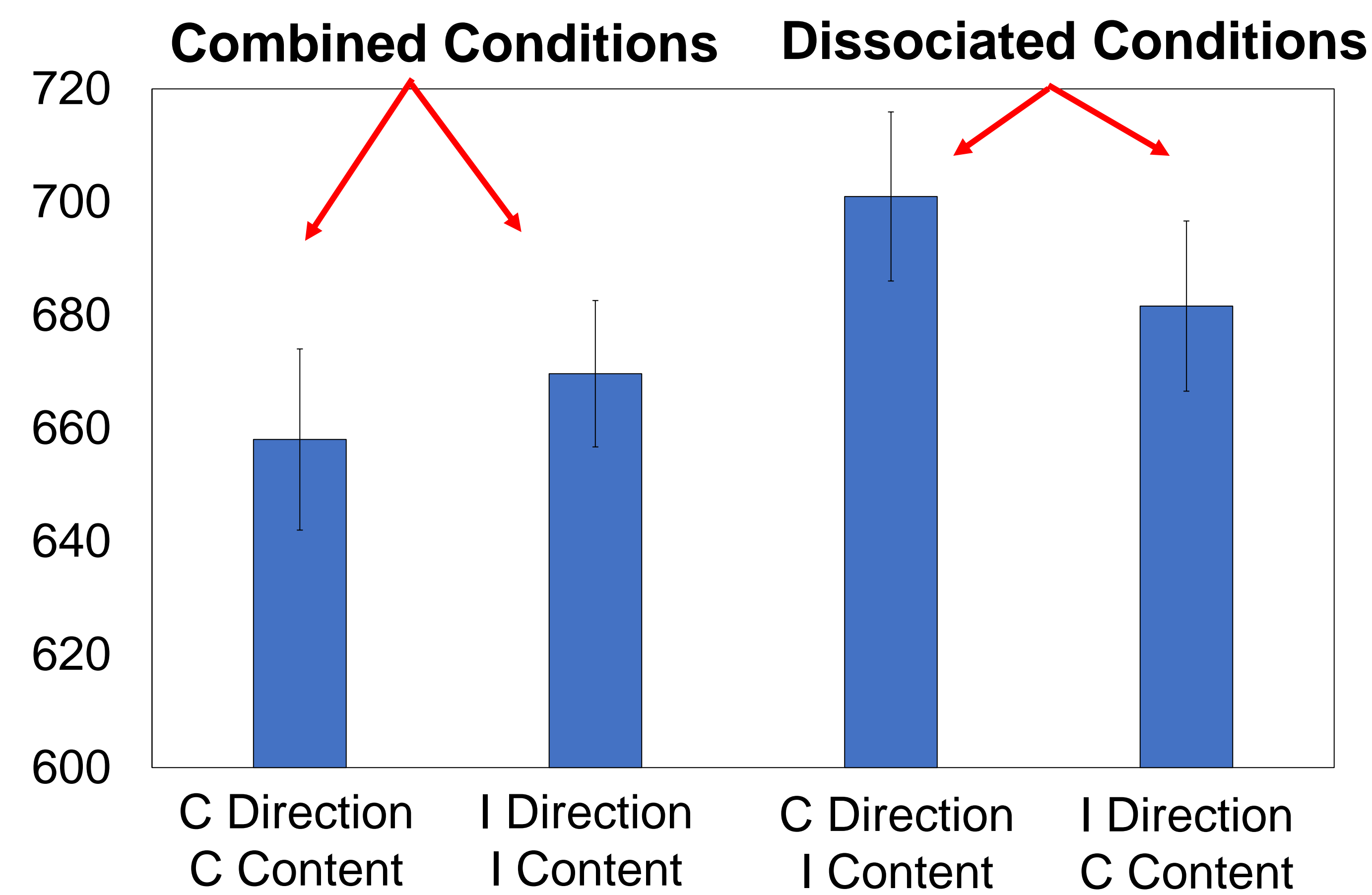


Interest Areas Capture First Fixation

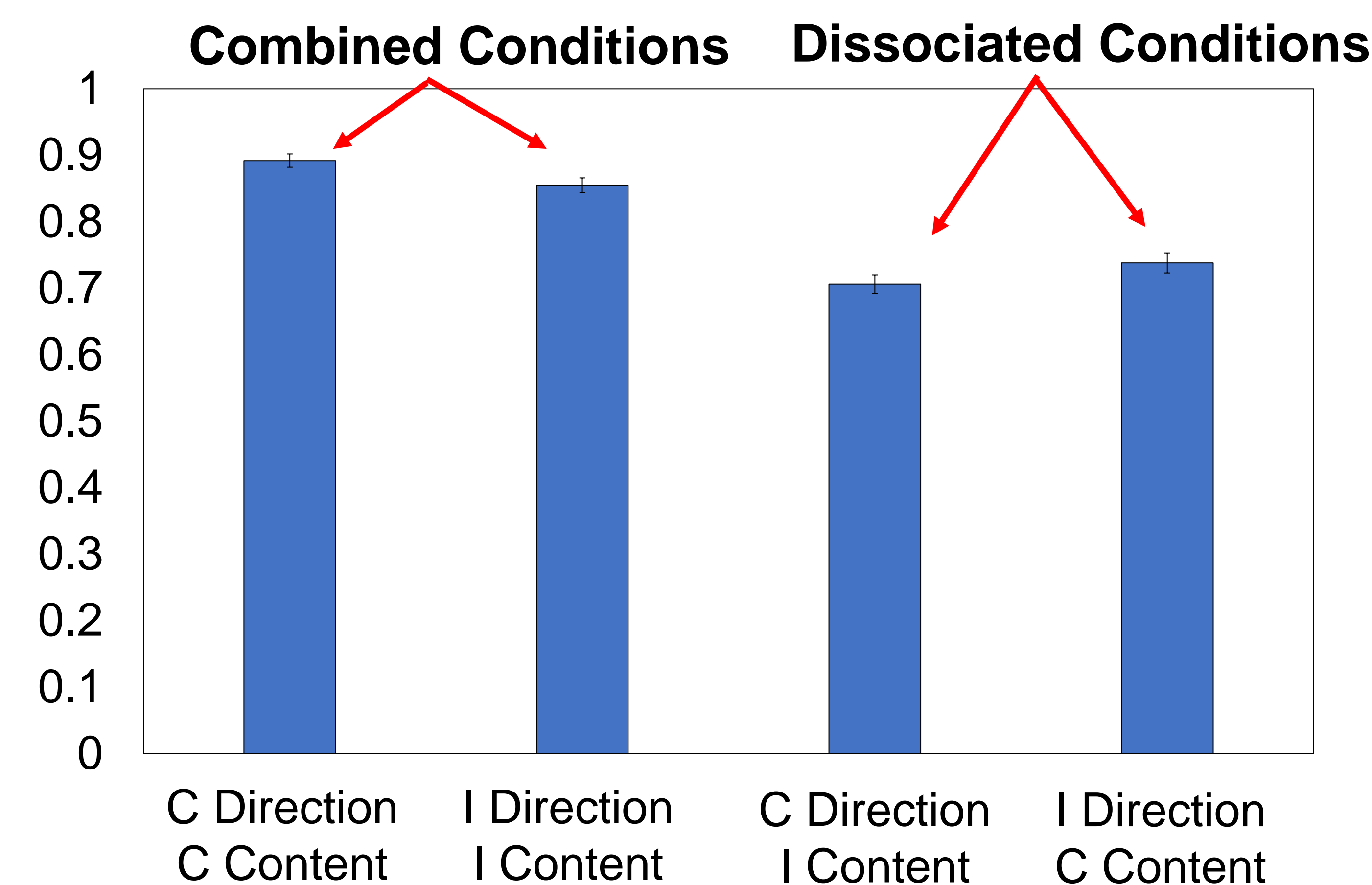


Results

Saccadic Response Time to Target



Accuracy of First Fixation



Summary

Fastest and more accurate responses observed when the avatar **both**:

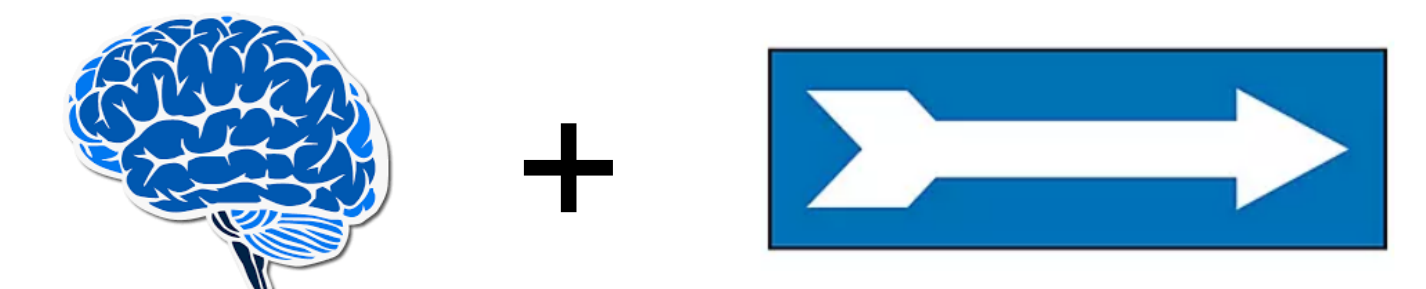
- 1) Directionally cued the target with gaze
- 2) Would have mental content of the target

Discussion

Sensitivity to both directional information and mental content information was found with:

- 1) Response facilitation when they produce the same answer
- 2) Response interference when they produce conflicting answers

Suggests that eye-gaze is BOTH a directional cue & perspective taking cue



References

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2. Capozzi, F., & Ristic, J. (2020). Attention AND mentalizing? Reframing a debate on social orienting of attention. *Visual Cognition*, 28(2), 97-105.
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4. Samson, D., Apperly, I. A., Braithwaite, J. J., Andrews, B. J., & Bodley Scott, S. E. (2010). Seeing it their way: evidence for rapid and involuntary computation of what other people see. *Journal of Experimental Psychology: Human Perception and Performance*, 36(5), 1255.

Acknowledgments

