

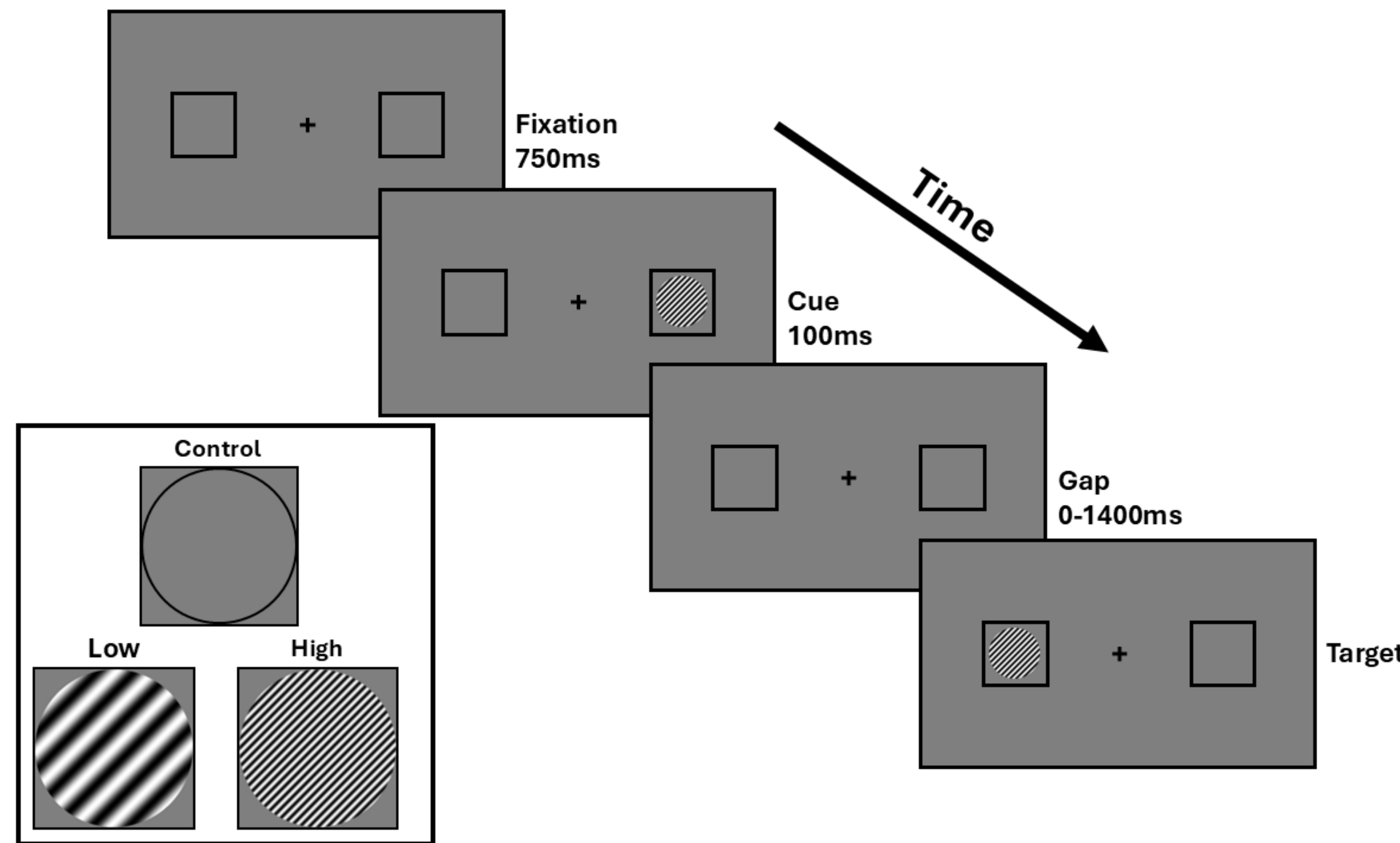
# Does Inhibition of Return Care About Spatial Frequency ?

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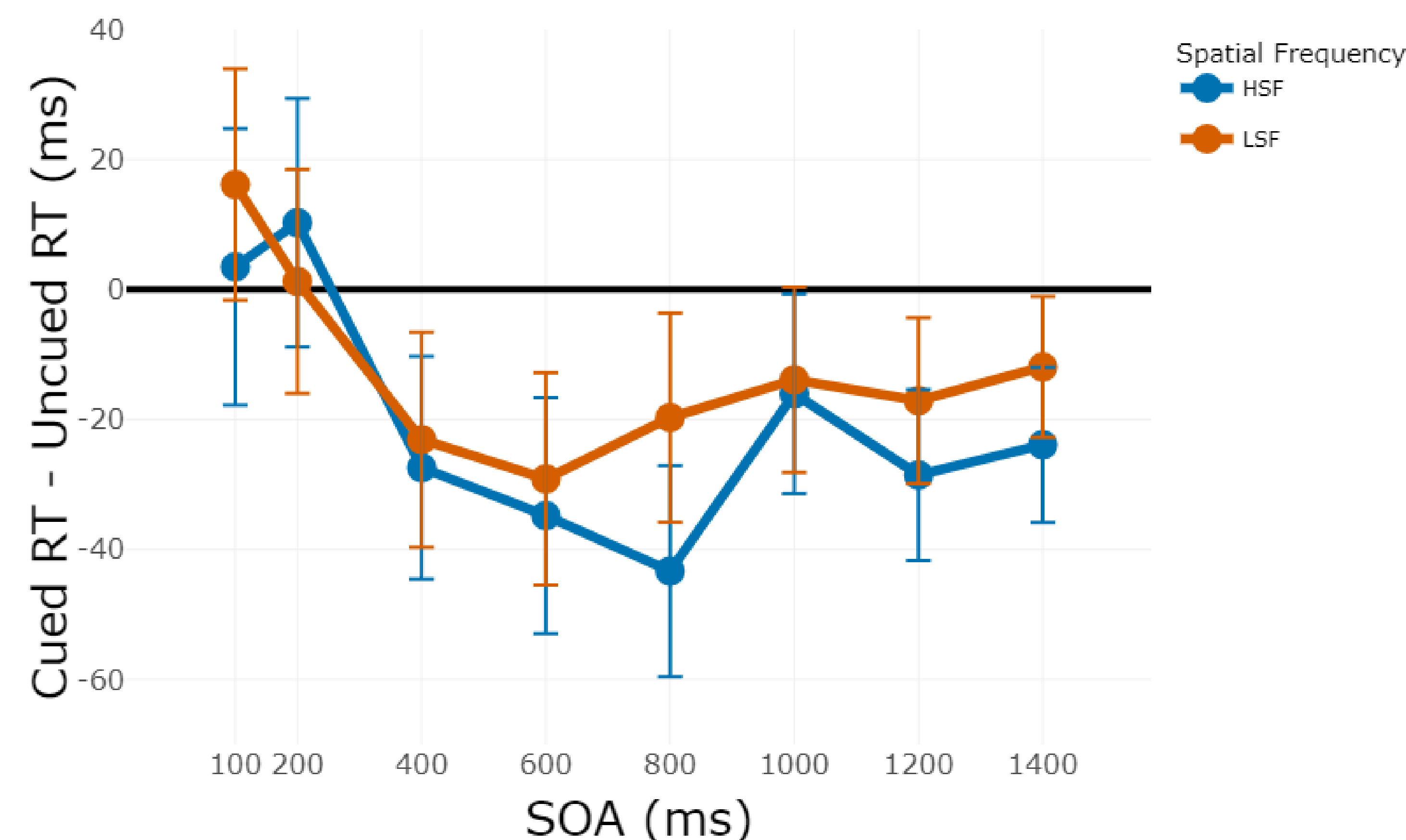
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## Background & Task

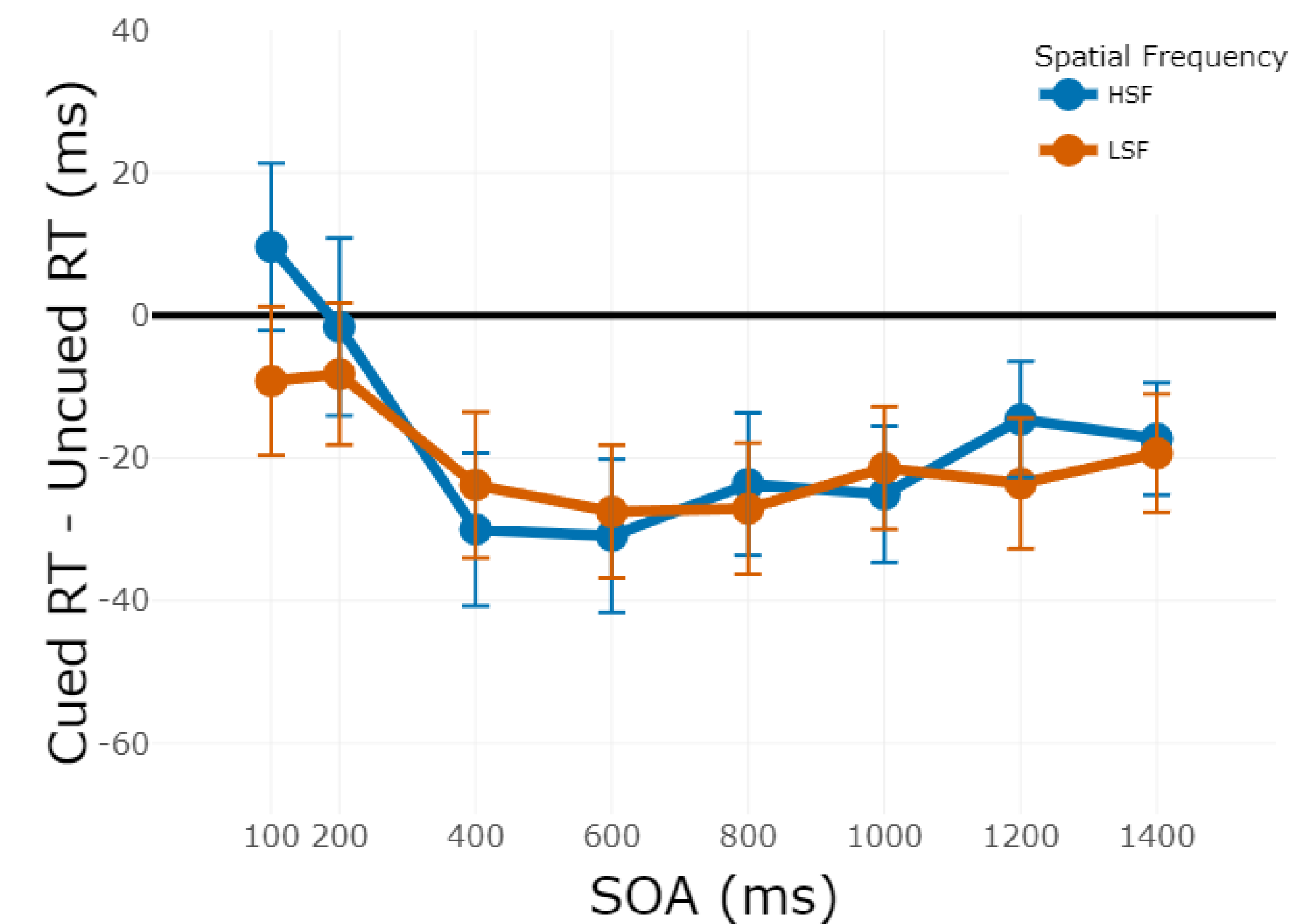
- I. The attentional cueing paradigm tracks how attention shifts over time and space. A brief cue draws attention to one location, leading to faster responses when the target appears there shortly after (~200 ms)—known as the cueing effect. At longer delays (~300 ms), this benefit reverses, producing Inhibition of Return (IOR): slower responses at cued locations, reflecting a reluctance to reorient attention.
- II. Spatial frequency (SF) can bias processing toward different visual pathways: low SF (<3 cpd) engages the magnocellular system, while high SF (>4 cpd) favors the parvocellular system. Prior work suggests IOR may rely more on P-cell mechanisms, though these findings may have been influenced by complex stimuli.
- III. We simplified the design to a standard cueing task. Targets appeared after varying SOAs to track how IOR unfolds over time.



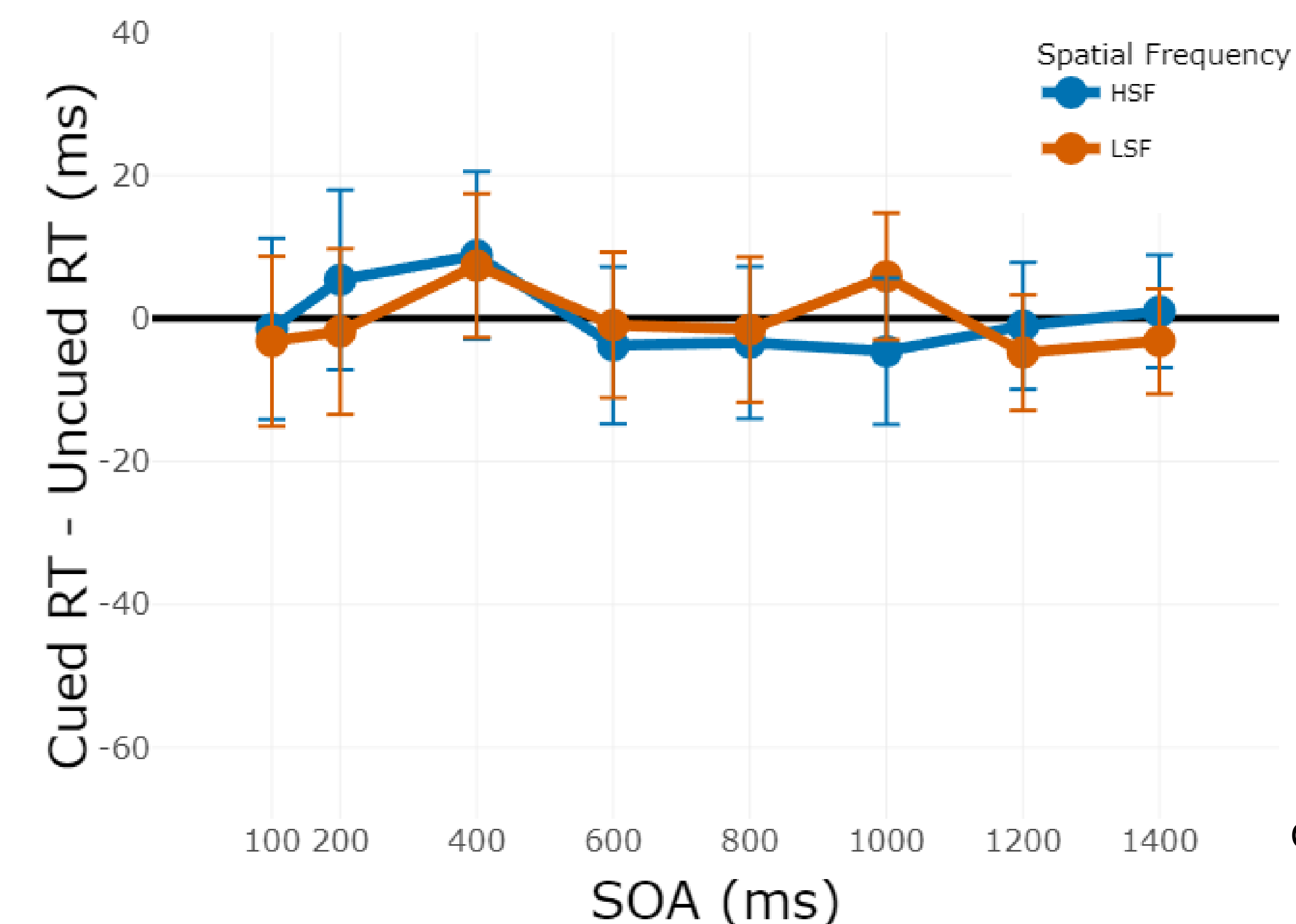
## Exp. 1: Does SF modulate IOR effect?



## Exp. 2: Does the SF of the Cue alter IOR?

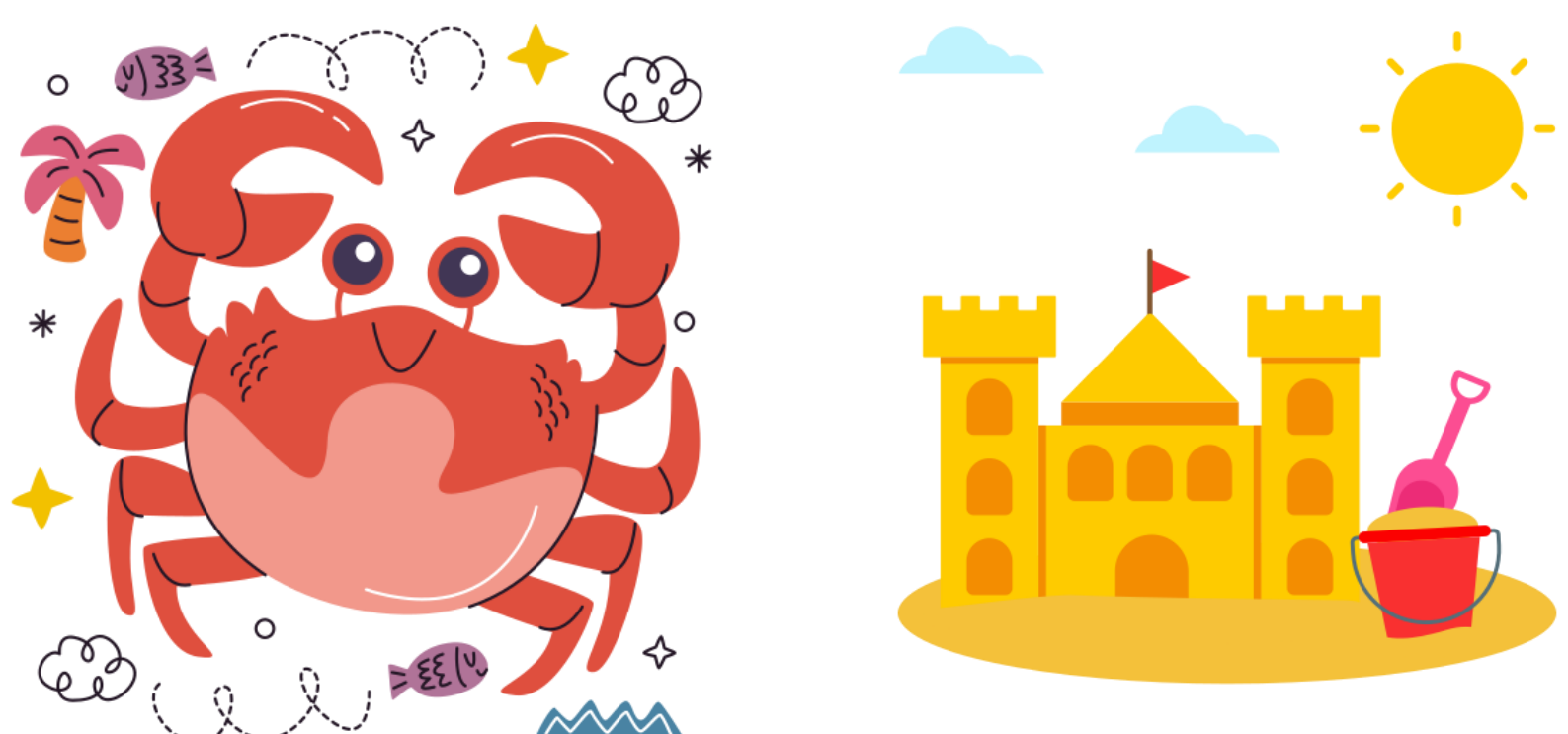


## Exp. 3: Does the SF of the Target alter IOR?



## Results and Conclusions

- I. **Experiment 1:** Participants responded more slowly to targets at cued locations, showing the typical IOR effect. This effect increased with SOA and SF did not significantly alter responses.
- II. **Experiment 2:** Responses demonstrate a typical IOR effect. SF did not significantly alter reaction times
- III. **Experiment 3:** Surprisingly, no IOR was observed for either SF.
- IV. **Overall:** IOR was not influenced by SF manipulations, suggesting that the M-cell & P-cell pathways are not involved in attentional inhibitory tagging. However, a lack of IOR in the target manipulation does raise further questions about the timeline of attentional capture.



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