

# Object-Based Attention Shift Direction Efficiency: Behavior and a Model

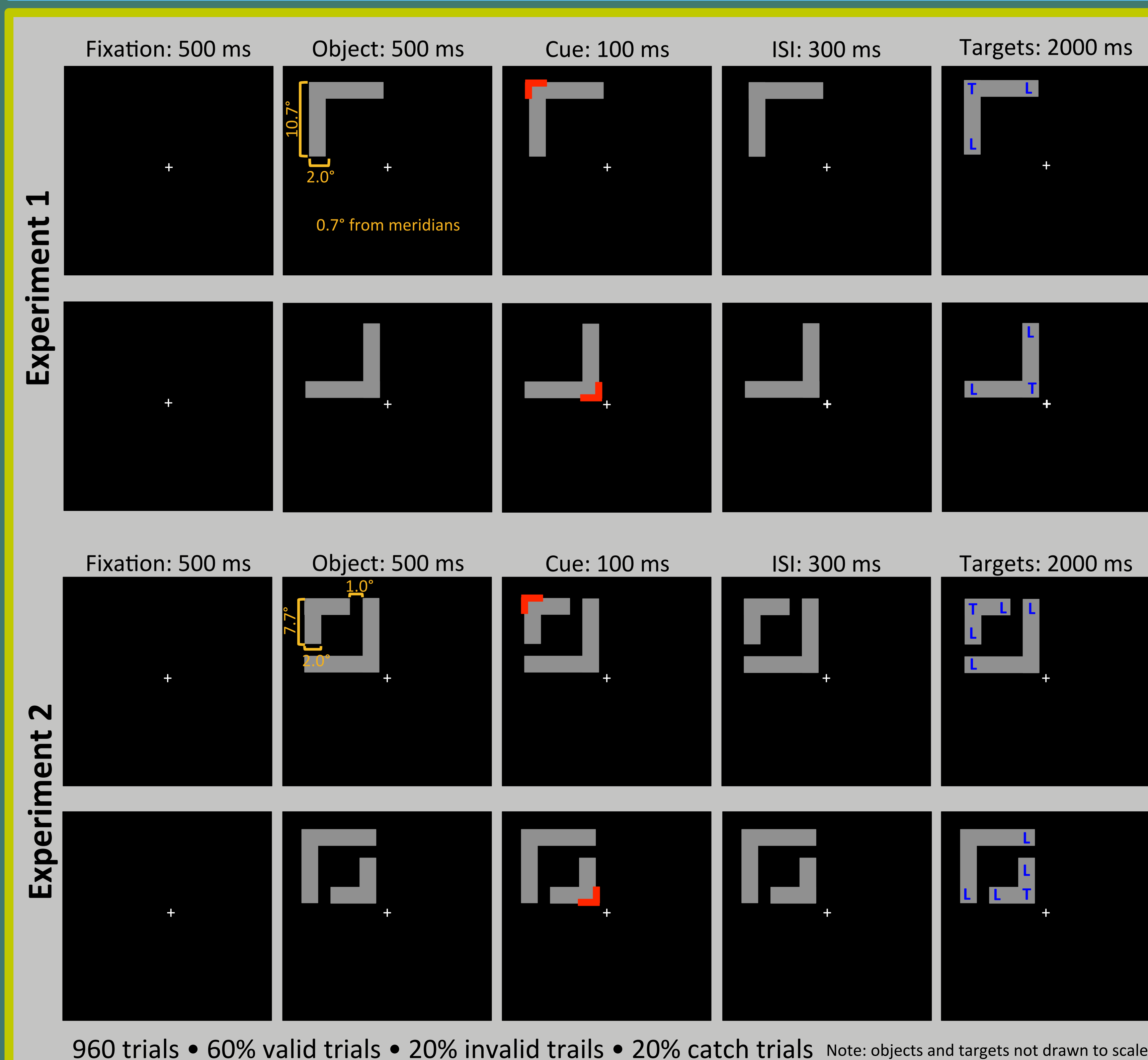
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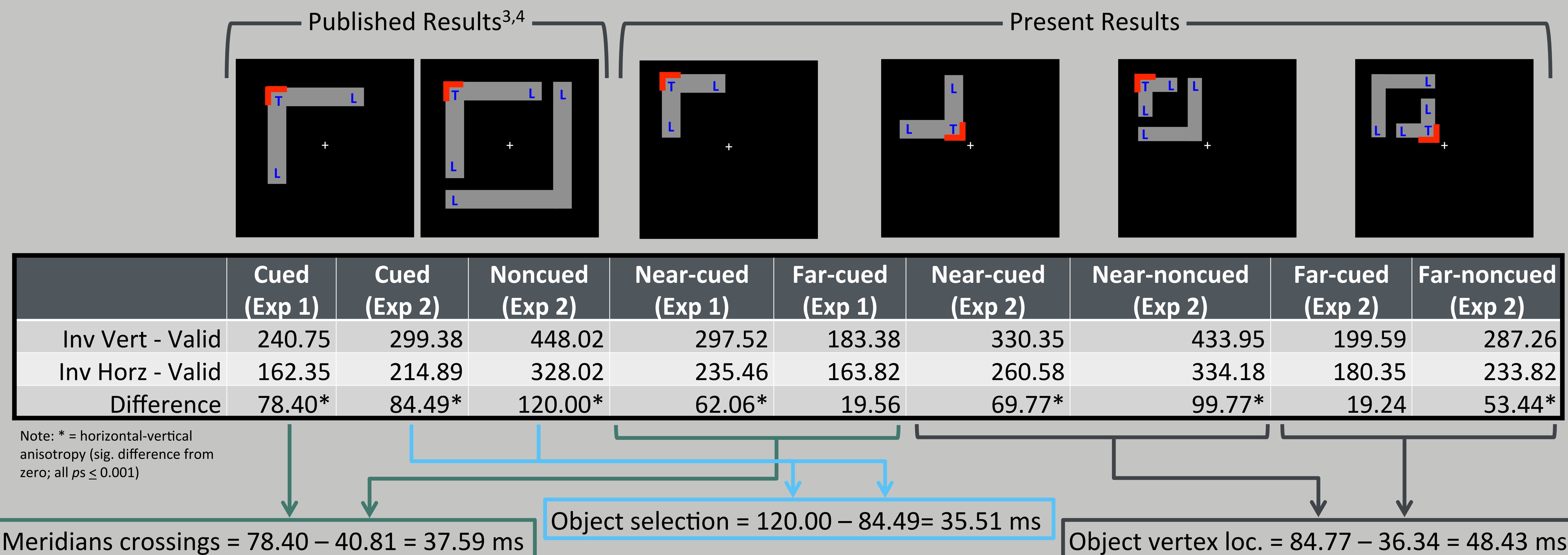
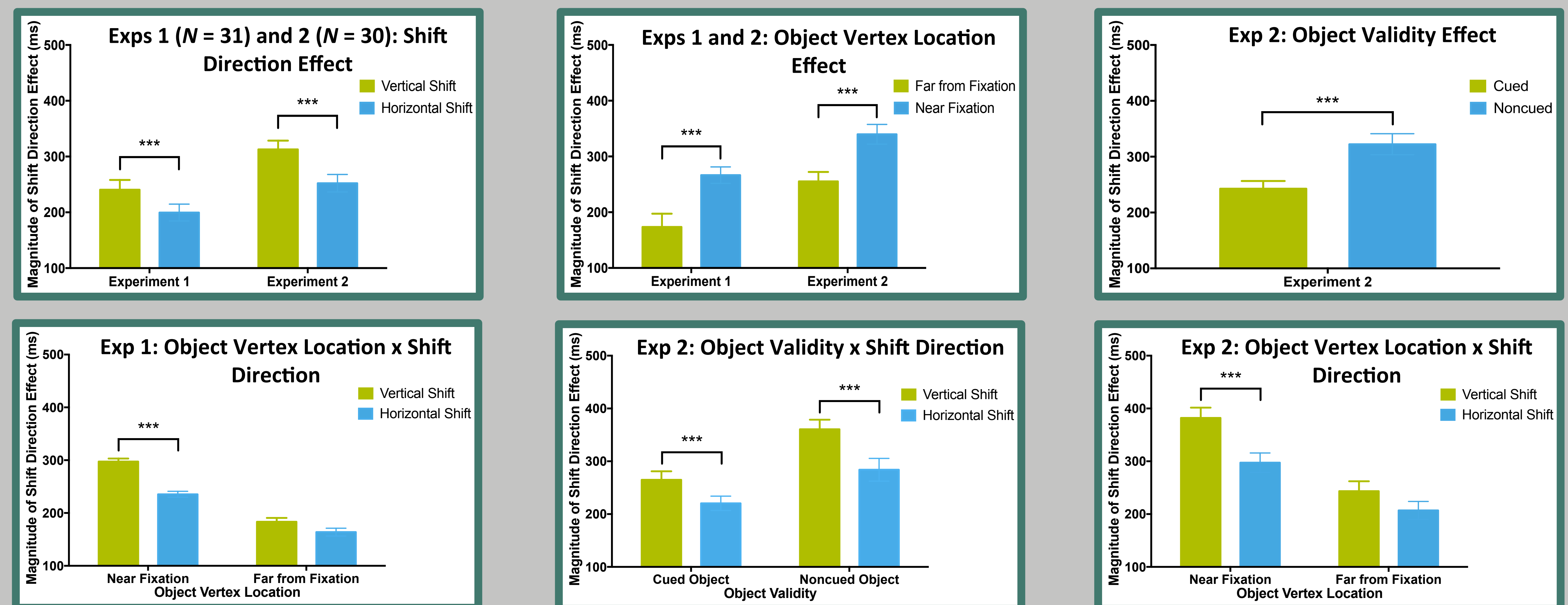
## Introduction

- Object-based attention (OBA) leads to preferential processing of visual information within the boundaries of a selected object
- Recent work demonstrated larger OBA effects for horizontal rectangles than vertical rectangles<sup>1</sup>
  - These effects were eliminated when controlling for attention shifts across the visual field meridians<sup>2</sup>
  - Reallocation of OBA was faster horizontally than vertically when objects cross the visual field meridians<sup>3,4</sup>
- Here, we aimed to further elucidate the modulatory role of the visual field meridians on OBA and to model the underlying components contributing to the efficiency of the shift direction

## Method



## Results



## Discussion

Behavioral results lead to a model of the shift direction efficiency magnitude that accounts for effects of **meridian crossings** (horizontal vs vertical; ~40 ms), **object validity** (cued vs noncued; ~40 ms), and **object vertex location** (near vs far from fixation; ~50 ms)

**These three parameters may be critical determinants of the often-reported difference in the efficiency of the shift direction in OBA**

## References

- Pilz et al. (2012). *PLoS One*
- Greenberg et al. (2014). *Journal of Vision*
- Barnas & Greenberg. (2015). *Journal of Vision*
- Barnas & Greenberg. (2016). *AP&P*

## Acknowledgments

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