

Object-based attention is modulated by shift direction and visual field quadrant

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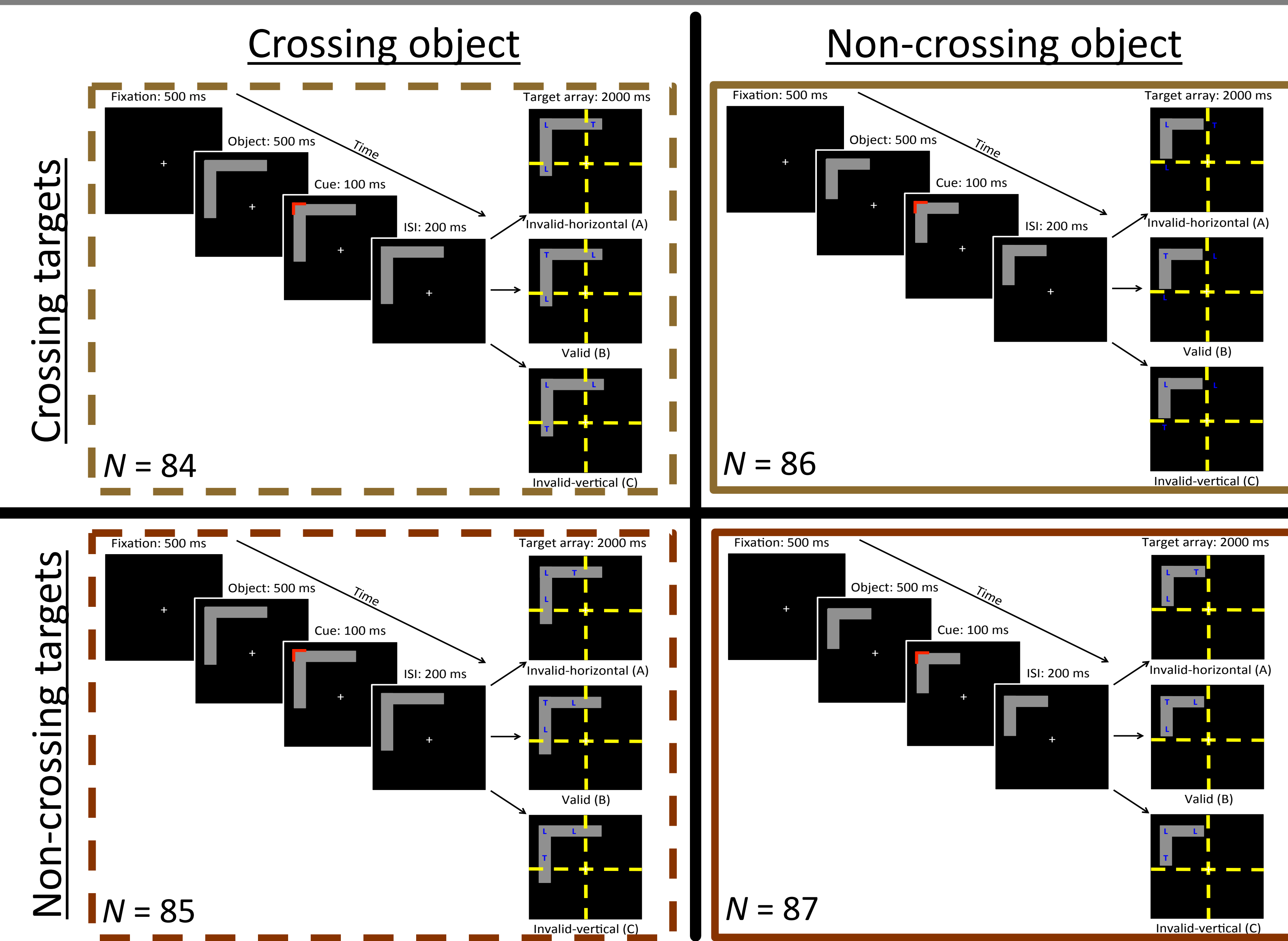
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Introduction

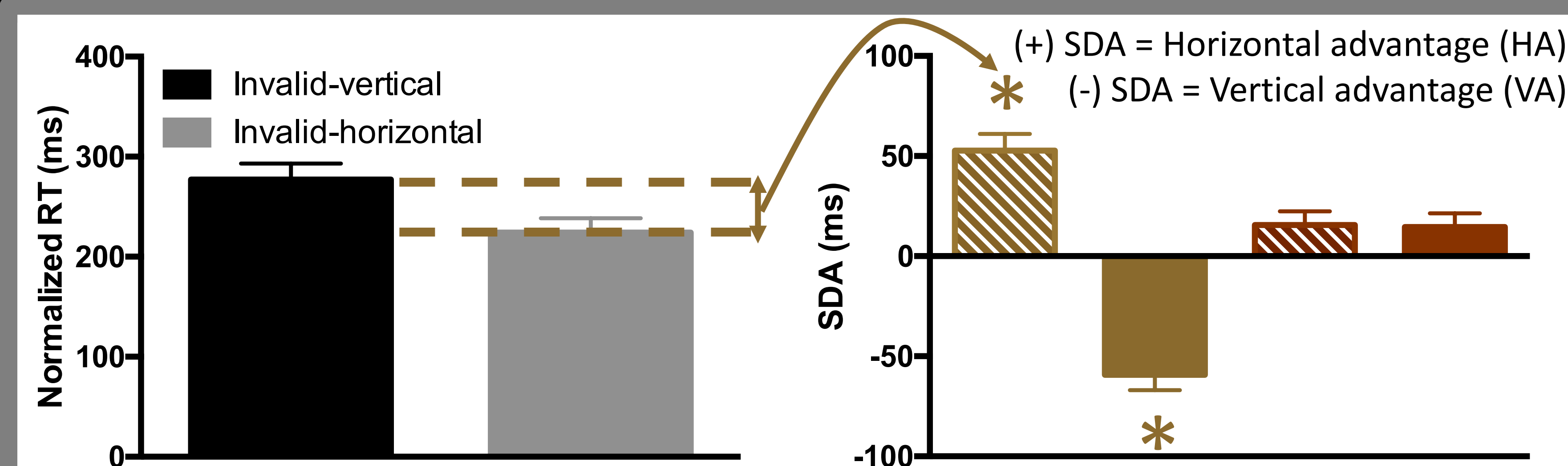
- Visually attended objects are afforded an enhancement of information relative to unattended objects, known as object-based attention (OBA)^{1,2}
- OBA shifts are anisotropic (Shift Direction Anisotropy, SDA) and are more efficient along the horizontal meridian versus vertical meridian³⁻⁵

Is the SDA driven by a *specific* shift direction, and does the SDA vary with visual field quadrant?

Method

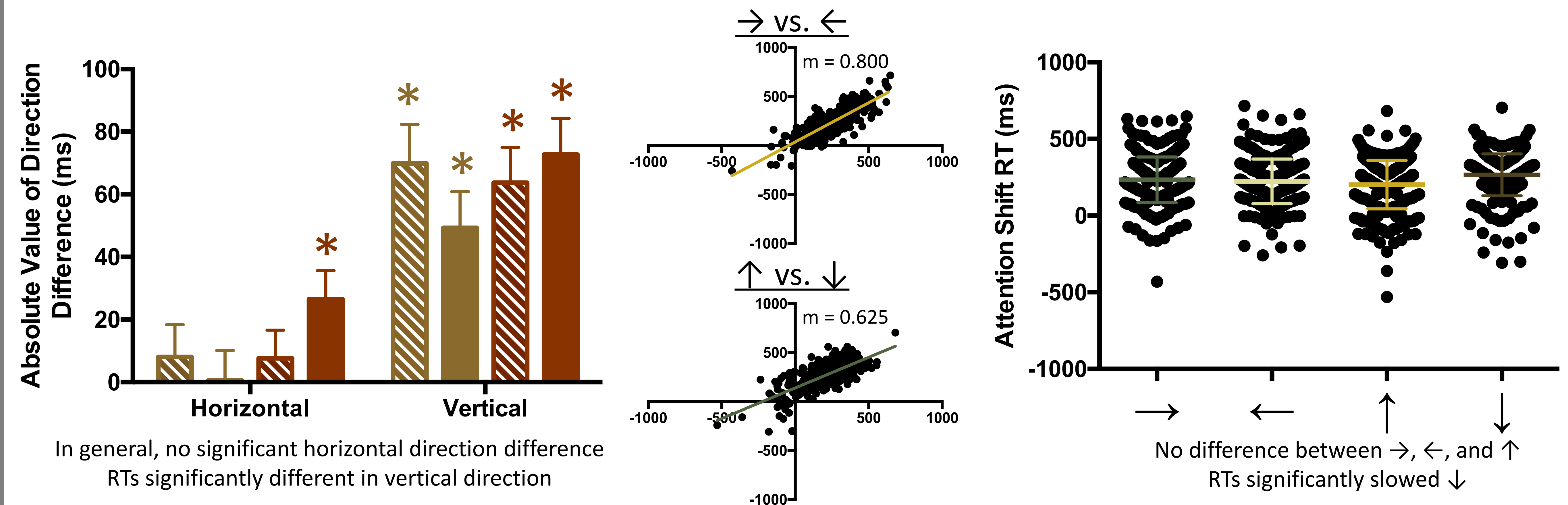


Previous Results

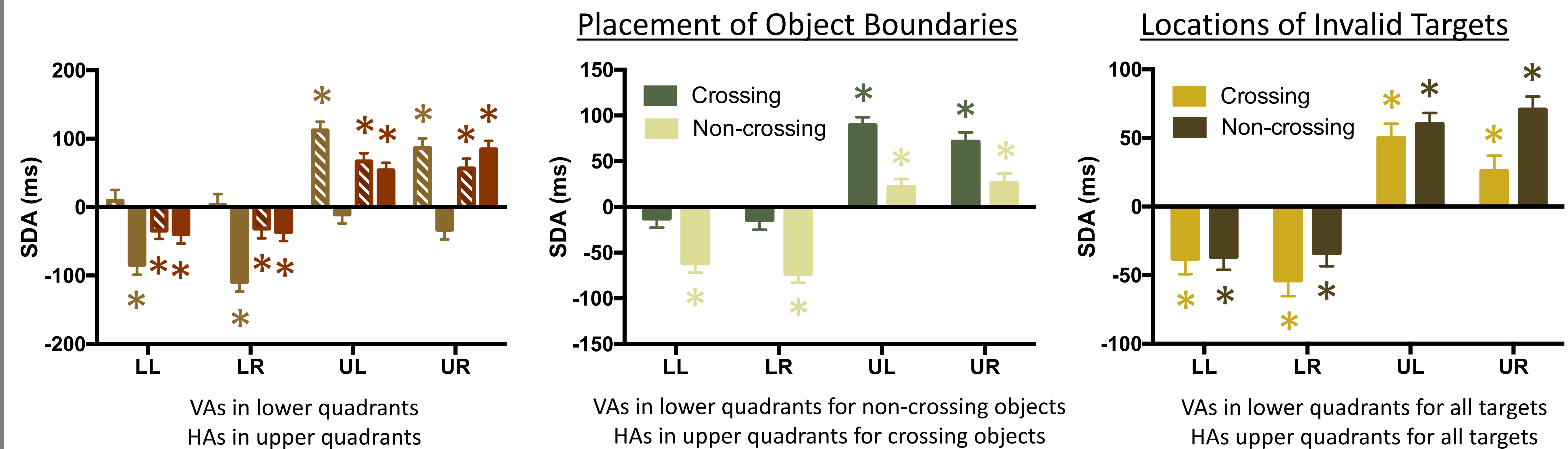


Current Results

Shift Direction Results



Visual Field Quadrant Results



Discussion & Conclusion

- In addition to a *general* horizontal advantage, the SDA emerges from a *specific* impairment when shifting top-to-bottom
- The SDA is also **modulated by visual field quadrant** and depends on:
 - Whether attentional selection is object-based or non-object-based
 - Placement of object boundaries, not locations of invalid targets
- These findings support a neurobiological explanation of the SDA based on the representation of the visual fields in visual cortex

References

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