

Introduction

As a foraging facilitator, Inhibition of return (IOR) must be coded in spatiotopic coordinates. Early reports confirmed this suggestion (e.g., Abrams & Pratt, 2000; Maylor & Hockey, 1985; Posner & Cohen, 1984) but recent results have shown that IOR is coded in both spatiotopic and retinotopic reference frames (e.g., Pertzov et al., 2010; Hilchey et al., 2012; Mathôt & Theeuwes, 2010; Krüger & Hunt, 2012). The present study was designed to examine the reference frame of IOR and to test whether retinotopic IOR might be a part of the spatiotopic IOR gradient.

We conducted four experiments with spatiotopically and retinotopically cued coordinates and an intervening saccade between the cue and target presentations. We alternated the response modality (manual and saccadic) and the cue-target spatial distance (fixed and continuous).

Methods

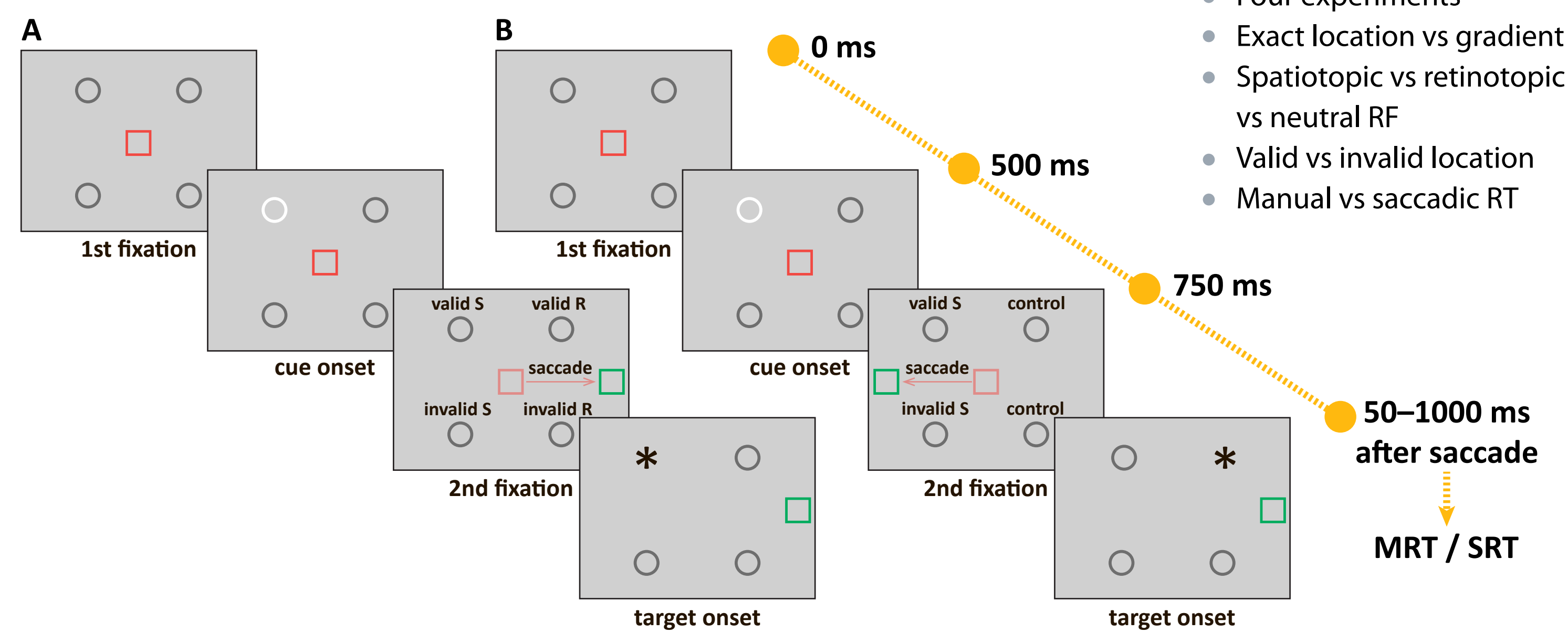
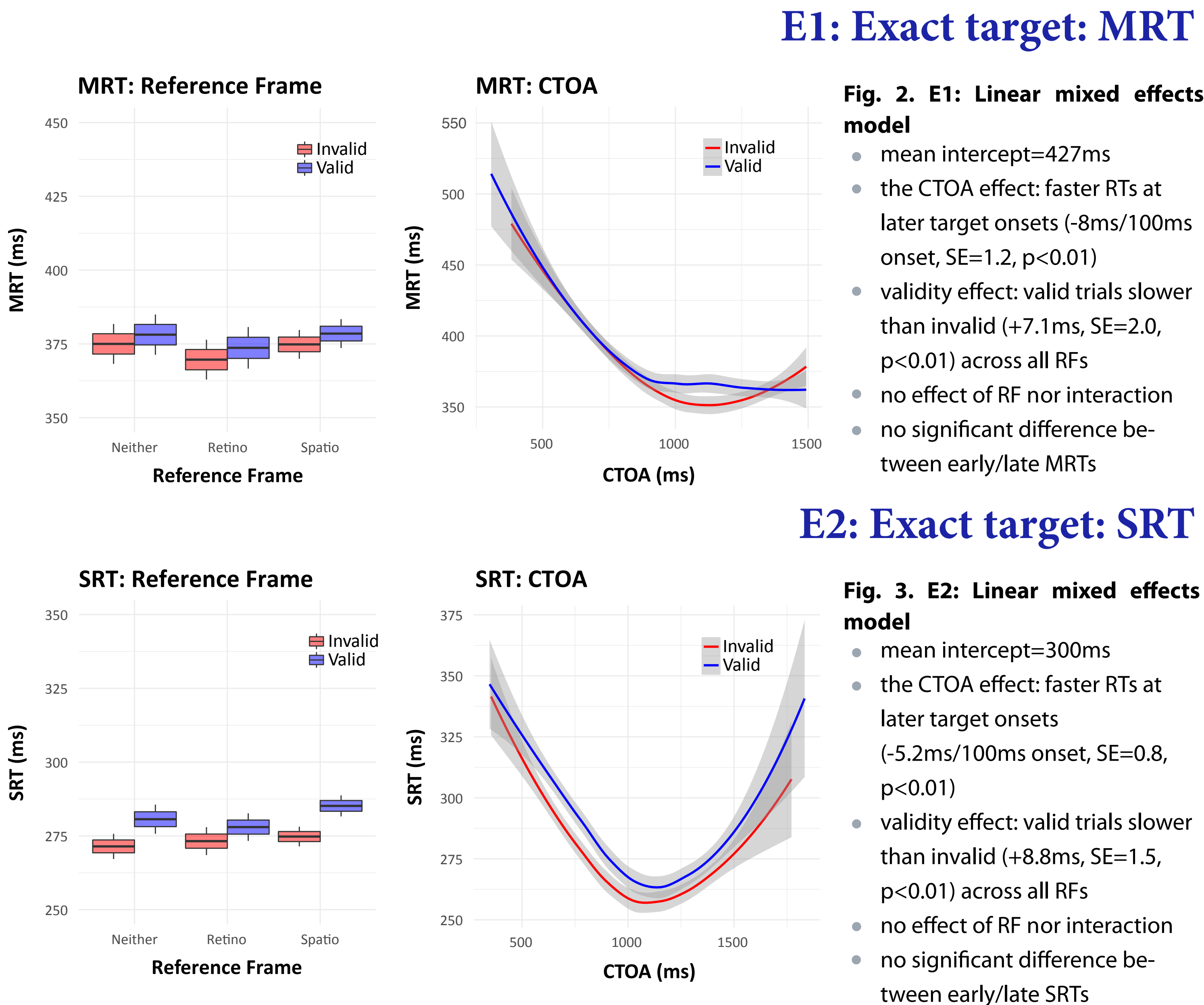


Fig. 1. E1 & E2: Target locations exactly at the potential cued locations. A. Trial with the valid location of the target in the spatiotopic reference frame. B. Control trial. In E3 & E4 targets could appear at random locations in the upper and lower hemispheres around the cued locations.

Results E1&E2

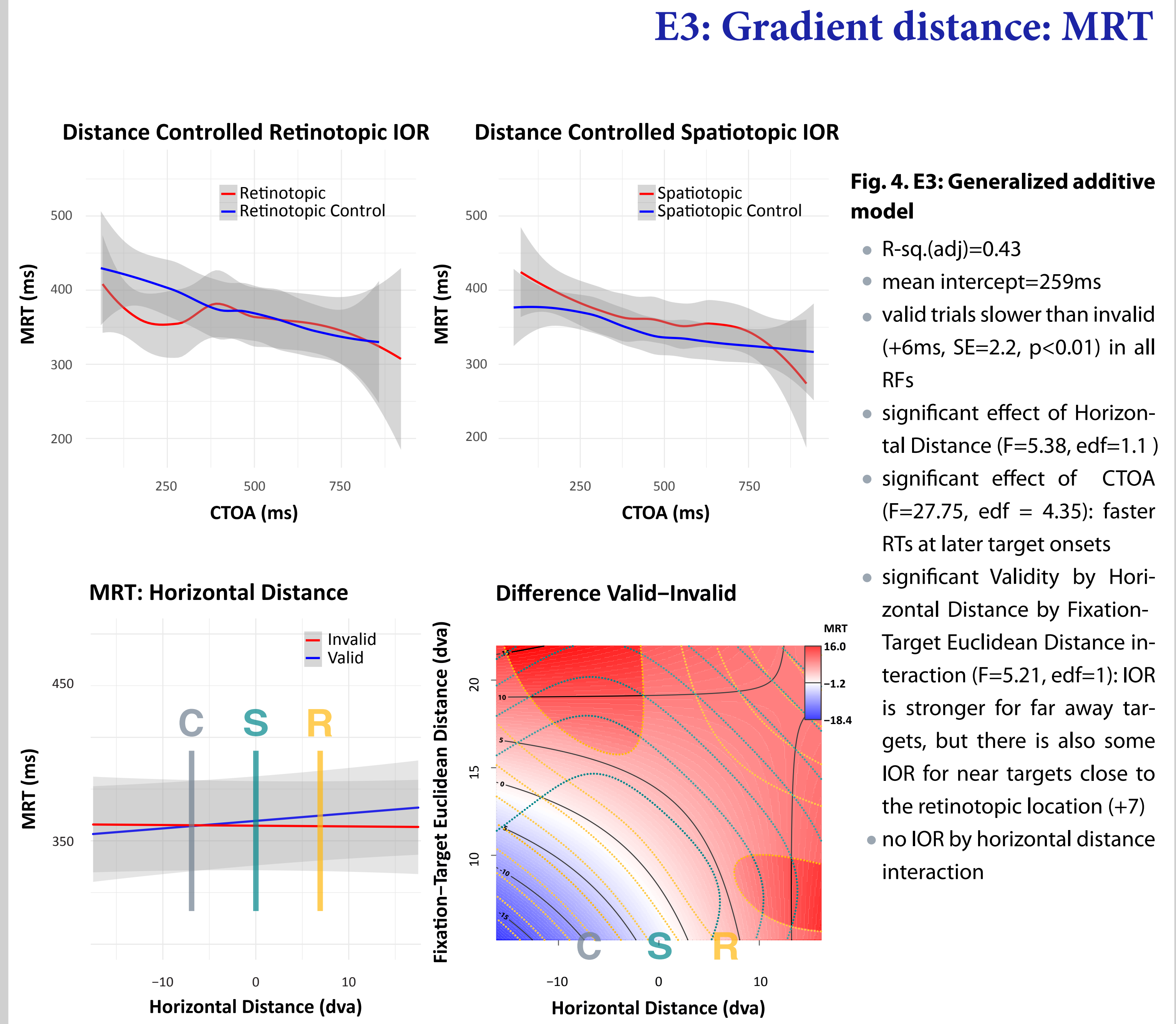


References

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Results E3&E4



Conclusion

No evidence for an independent source of retinotopic IOR neither at discrete locations (E1 & E2) nor as a gradient around the cued locations (E3 & E4)

There are differences between validly and invalidly cued hemifields

The entire hemifield IOR is consistently observed in all experiments, regardless of the response modality, exactness of the target location, or reference frame

The entire hemifield IOR also covers locations that are neither retinotopic nor spatiotopic

These results indicate a strategy to attend and then inhibit the entire cued hemifield

Alternatively, the gradient around the spatiotopically cued location might be too large