

Perceptual grouping affects haptic enumeration over the fingers

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Question

Does perceptual grouping by proximity affect haptic enumeration?

Method

Participants (N=20) were asked to report the number of tangible items, amongst non-items, presented to the finger pads of both hands.

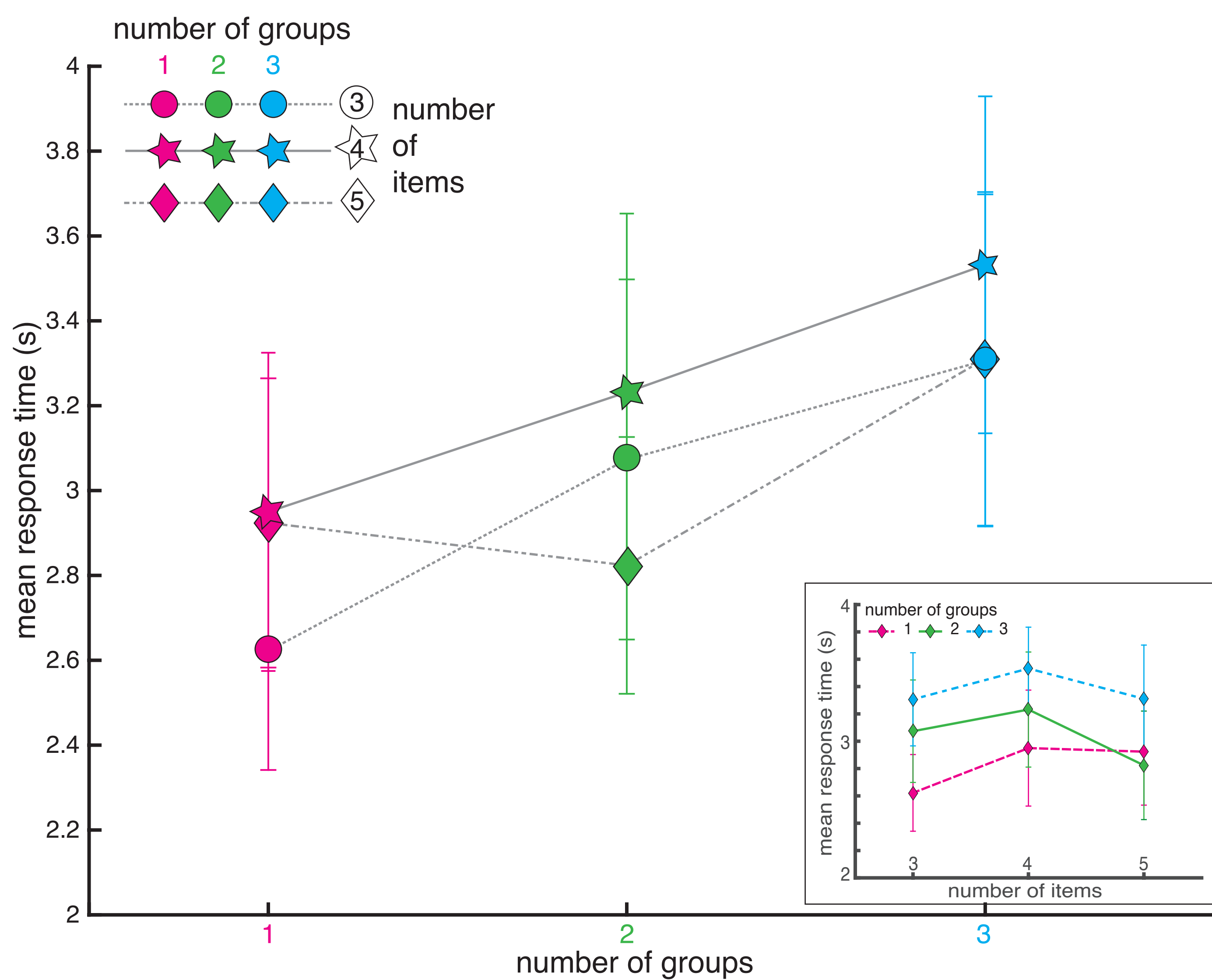
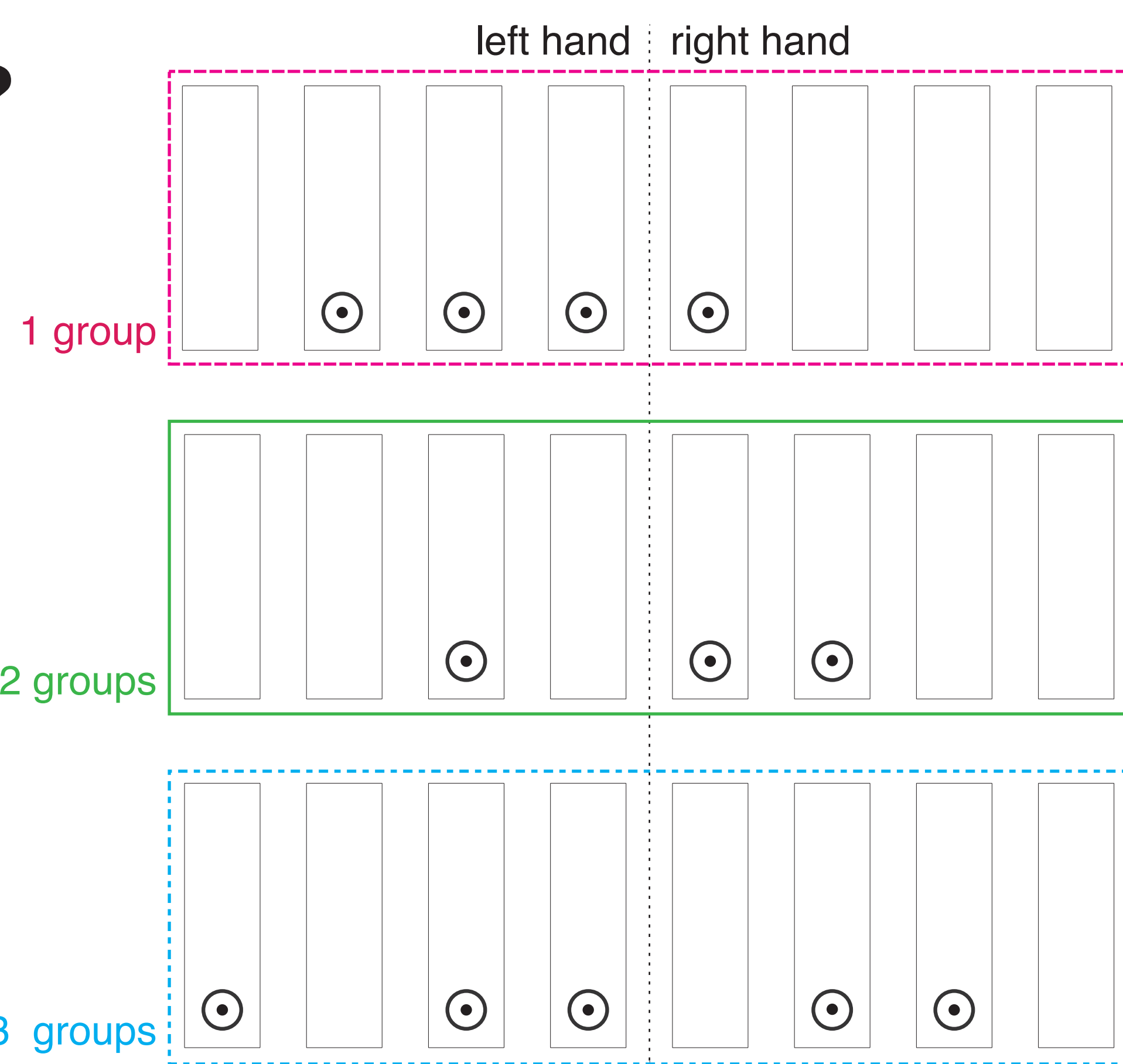
If grouping by proximity is operational, we predict enumeration times to be dependent on the number of groups.

Set-up

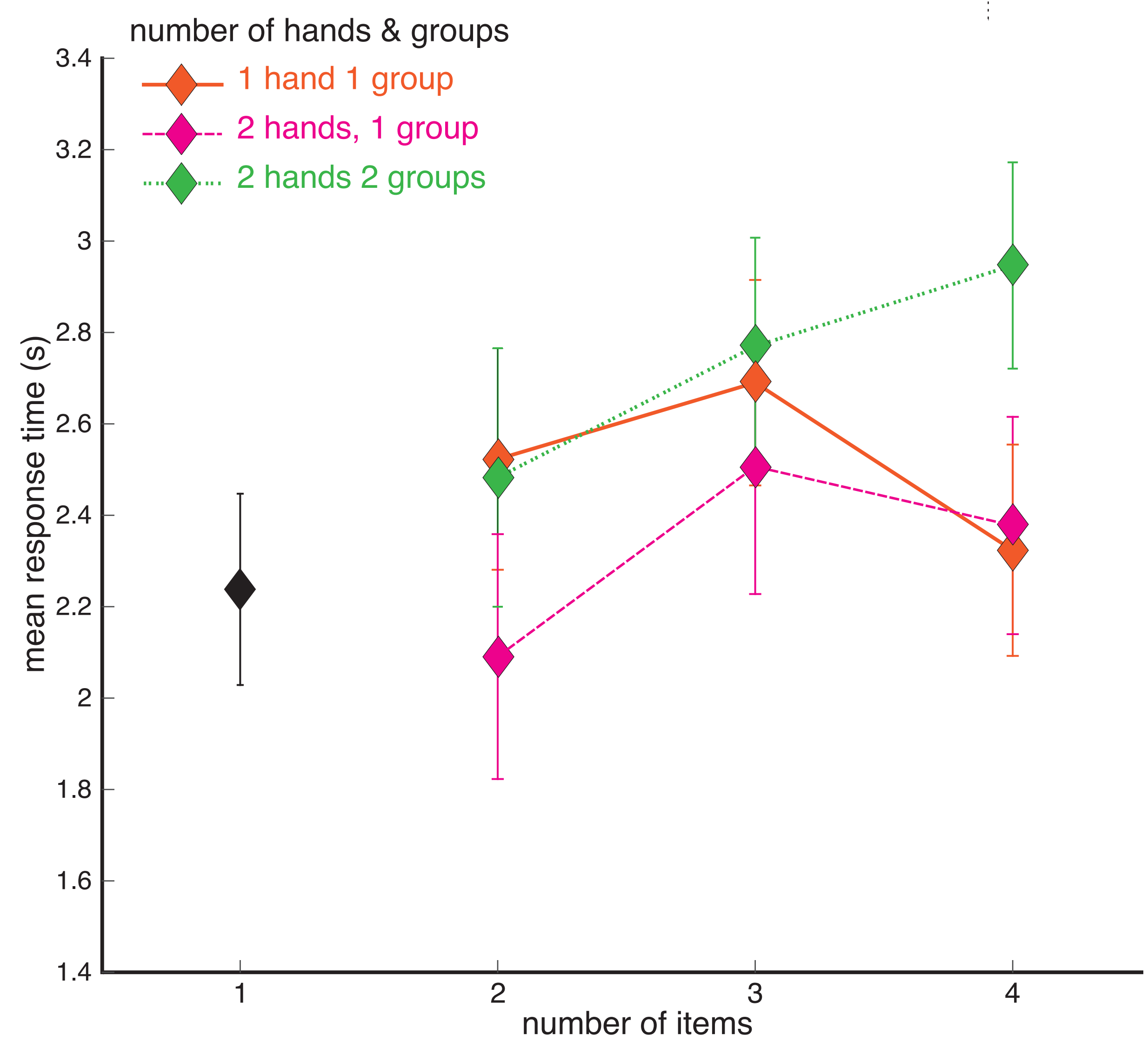
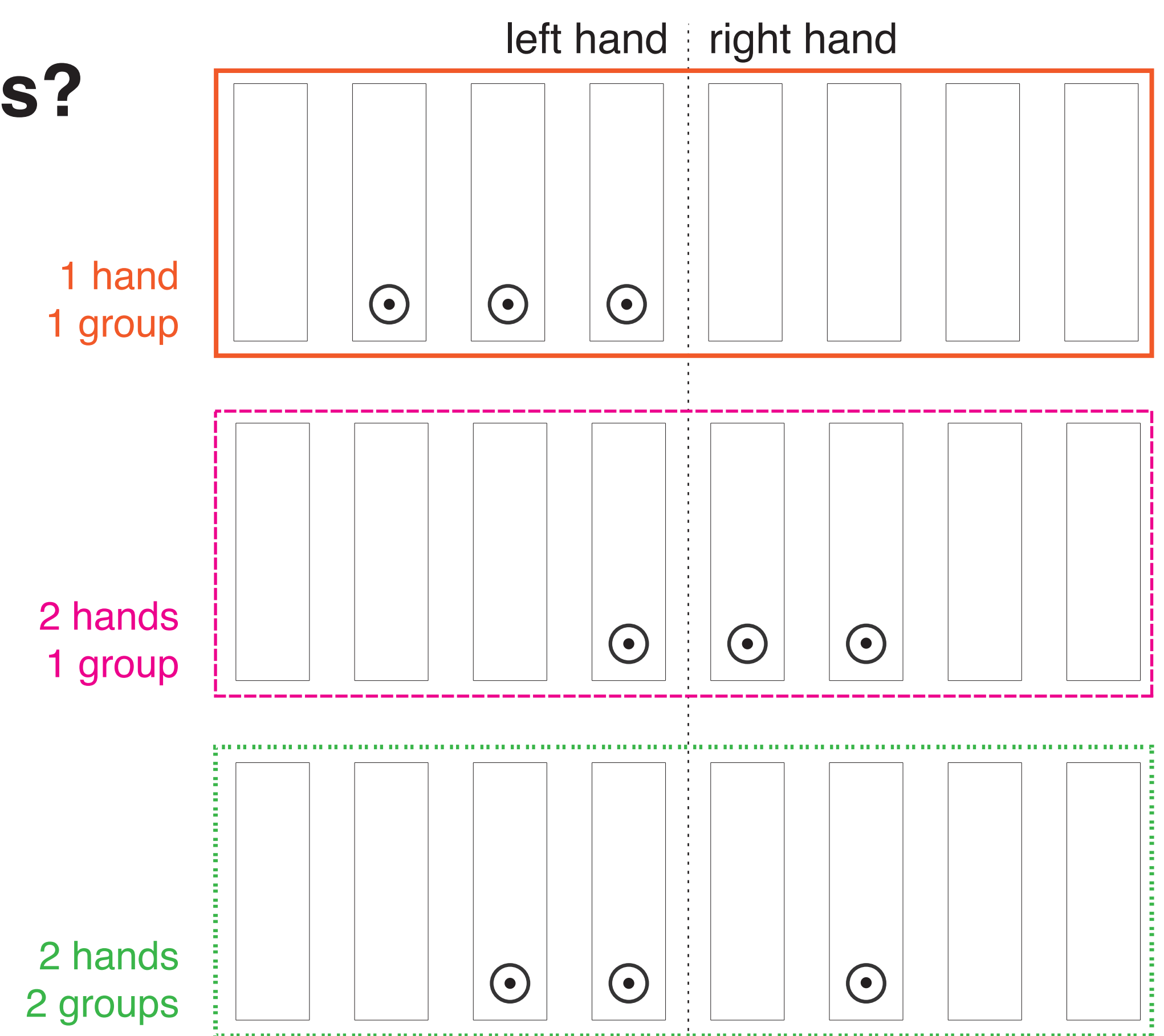


Time measurement was started by pressure sensors under the stimuli; measurement was terminated by a vocal response. Erroneous trials (Exp 1: 9%; Exp 2: 7%) were repeated at the end of the experiment.

Experiment 1: groups or items?



Experiment 2: groups or hands?



Conclusions

Experiment 1:

groups or items? **groups!**

Enumeration times are dependent on the number of groups and not on the number of items.

Experiment 2:

groups or hands? **hands!**

However, the results could be interpreted as a two-step process: first grouping within the hands on a somatotopic level, and if these groups are in spatial proximity, they may be grouped again on a spatial level.

Acknowledgements

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Reference

Overvliet, K.E. & Plaisier, M.A. (in press). Perceptual grouping affects haptic enumeration over the fingers. Perception.



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