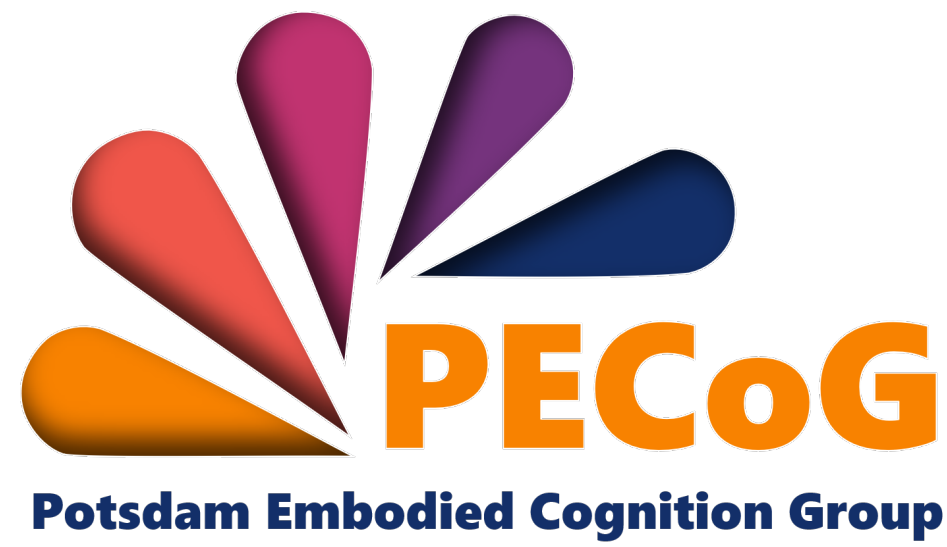


Motion-numerical compatibility effects on magnitude processing



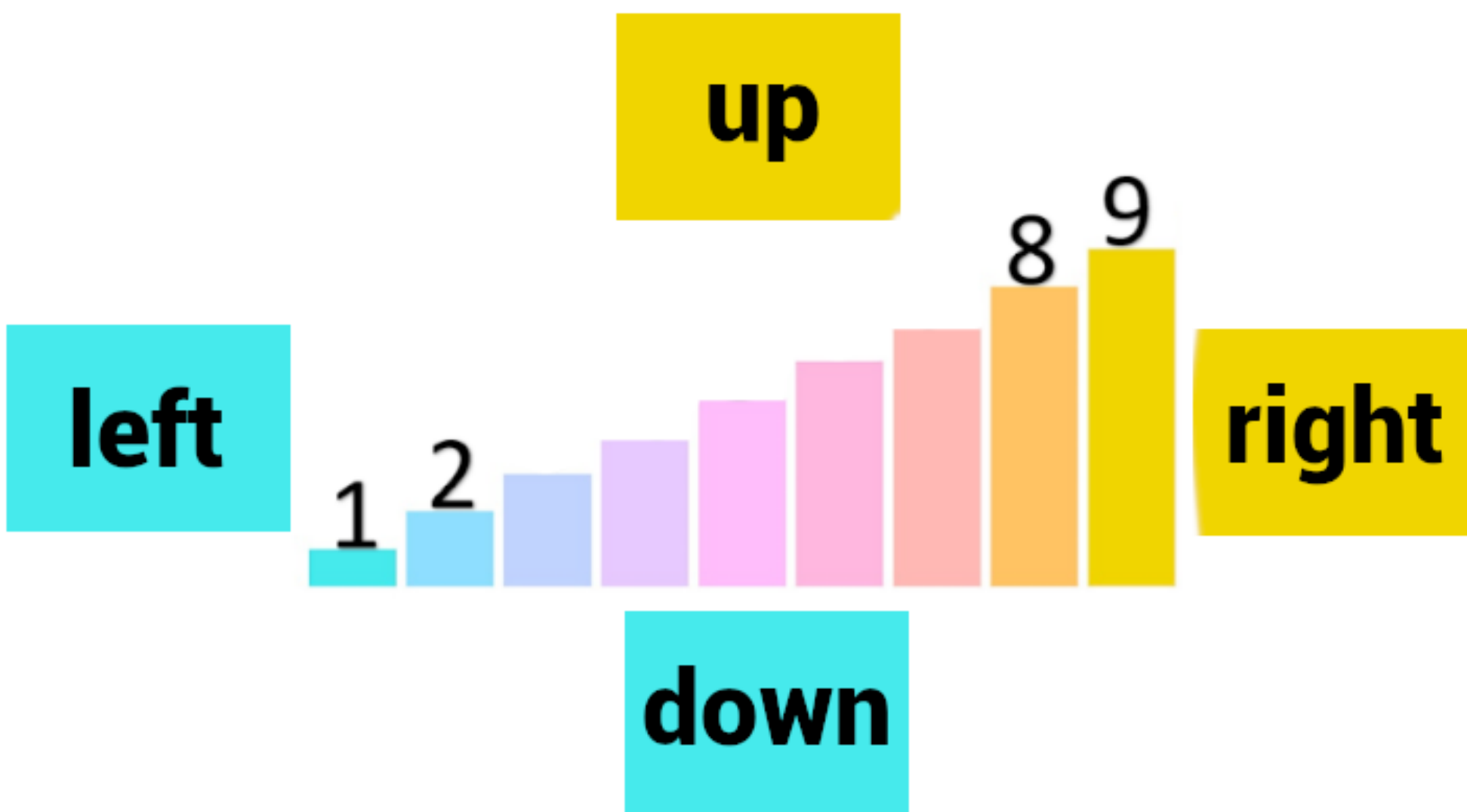
Vittoria Volpi¹, Carlotta Isabella Zona², and Martin H. Fischer²

1. Integrative Neuroscience and Cognition Center, Université Paris Cité, Paris

2. Potsdam Embodied Cognition Group, University of Potsdam, Germany



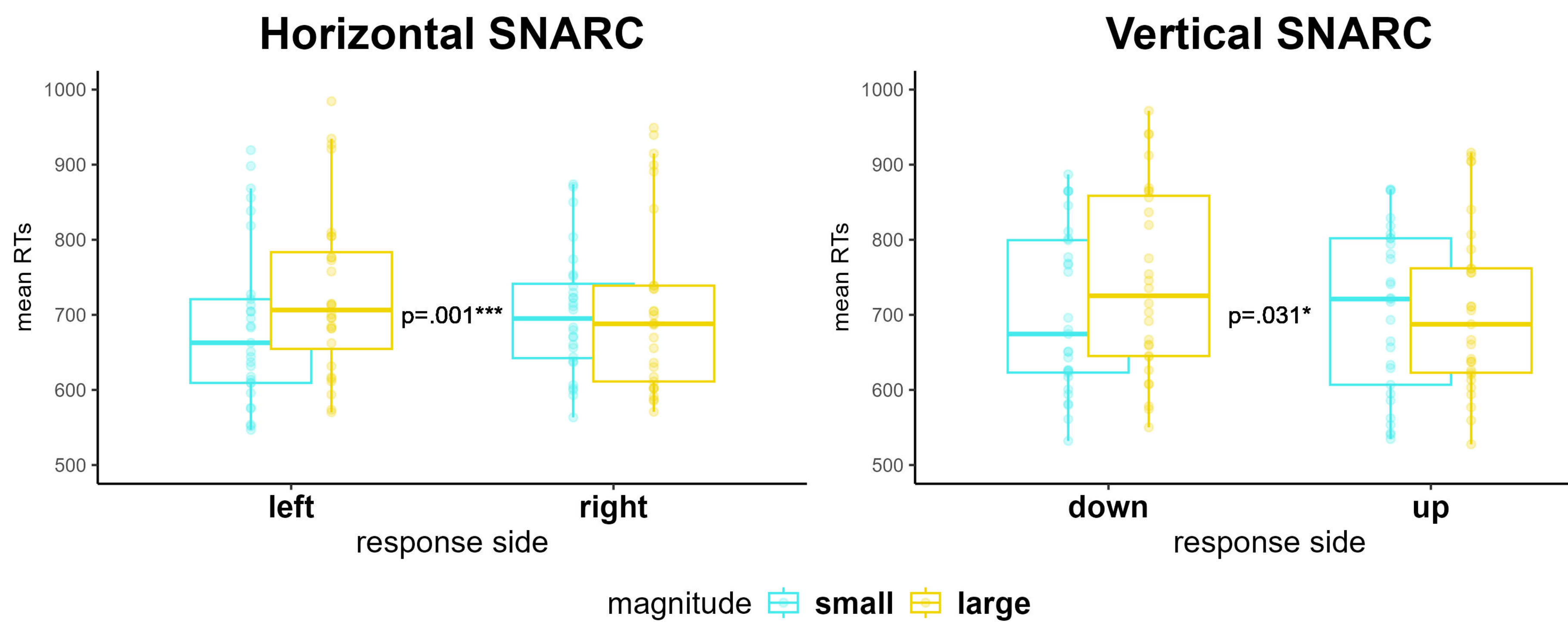
MENTAL NUMBER LINE (MNL)



COMPATIBILITY of magnitude and...

- Response codes during number processing (**SNARC effect**)
- Motion during number generation (**motion-numerical compatibility effect**)

REPLICATION OF SNARC EFFECT



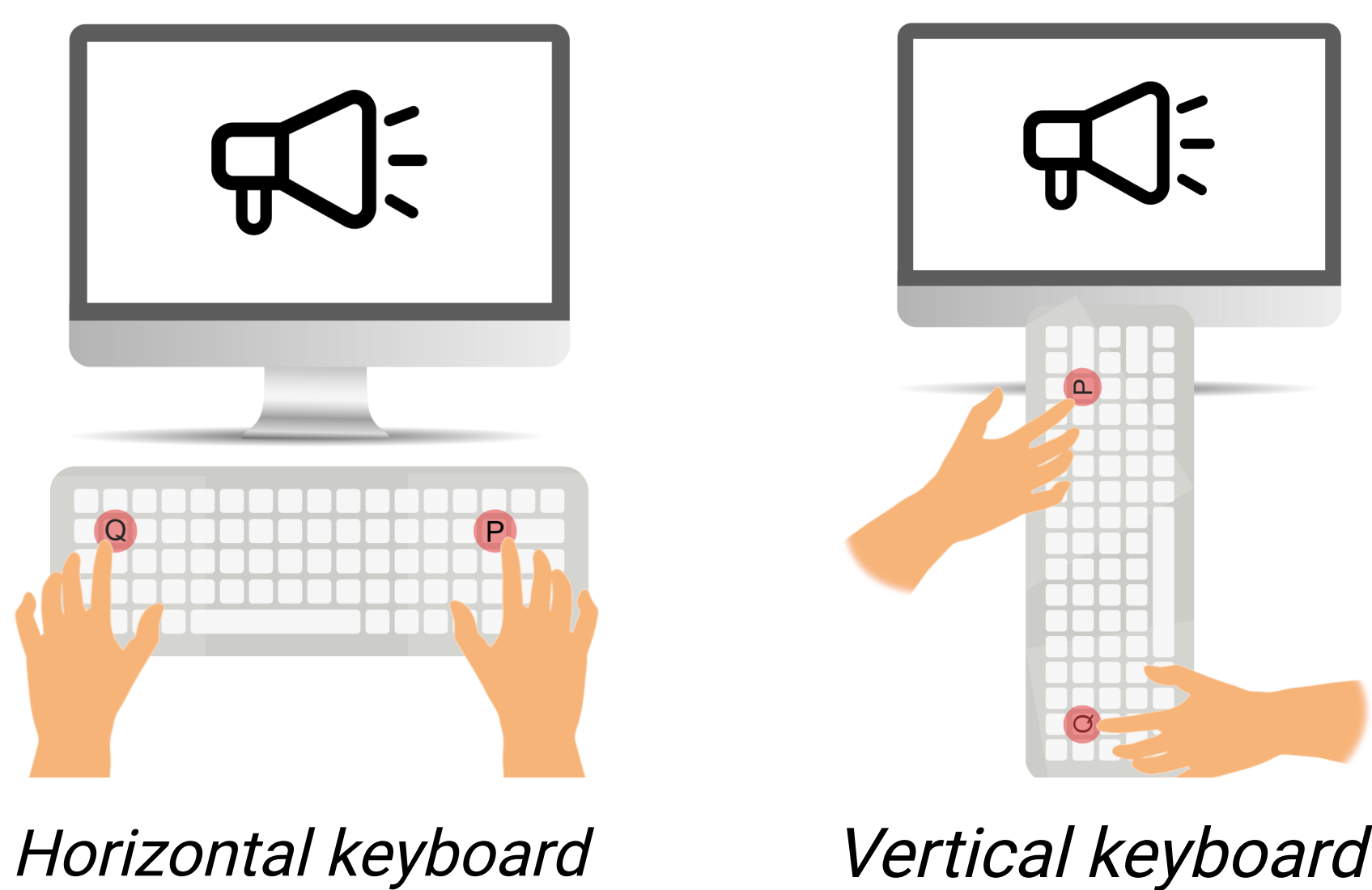
Participants respond faster when the response location is compatible with the magnitude's position on the MNL

RESEARCH QUESTION

Does motion-numerical compatibility influence magnitude judgments?

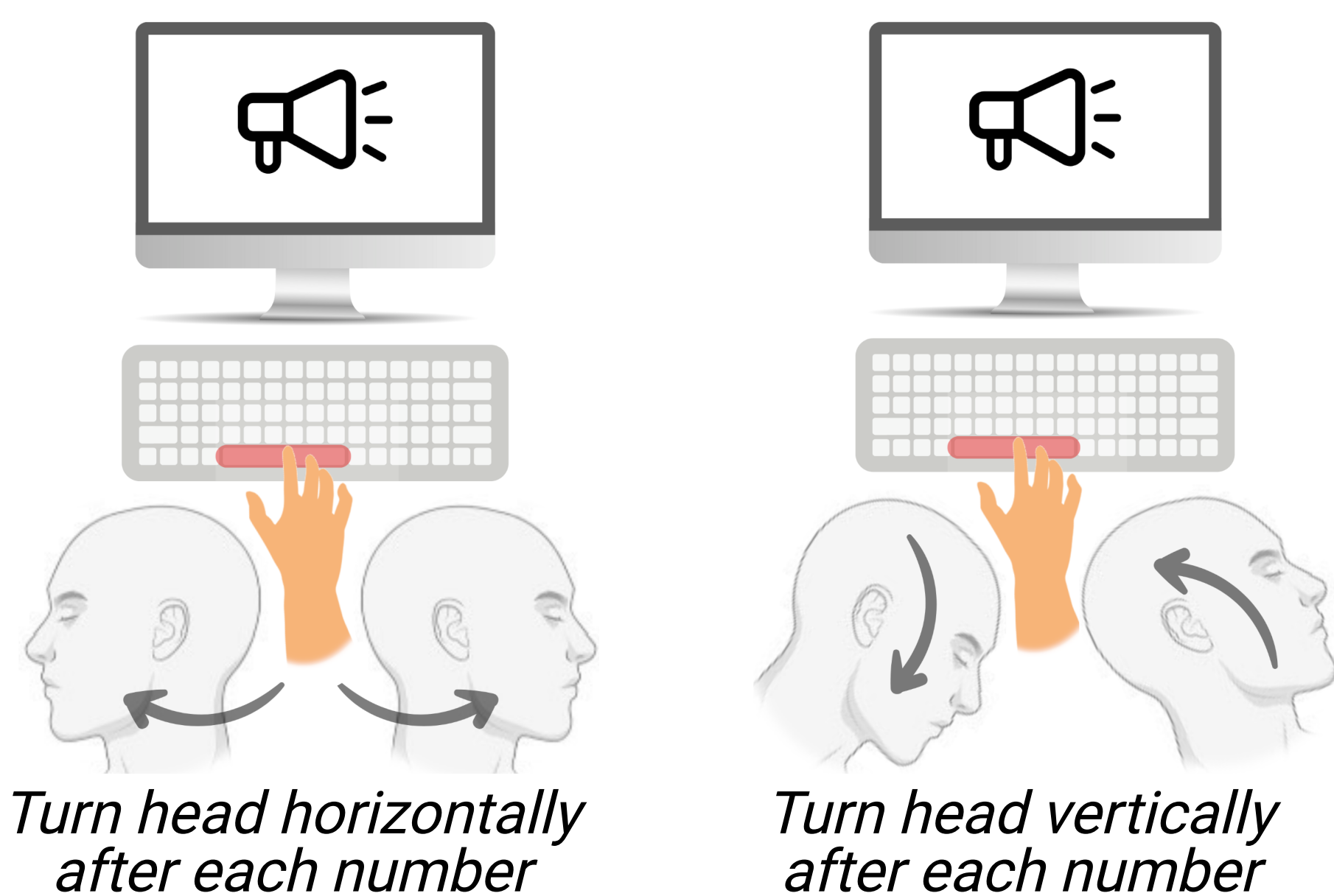
METHOD (n=30)

SNARC blocks



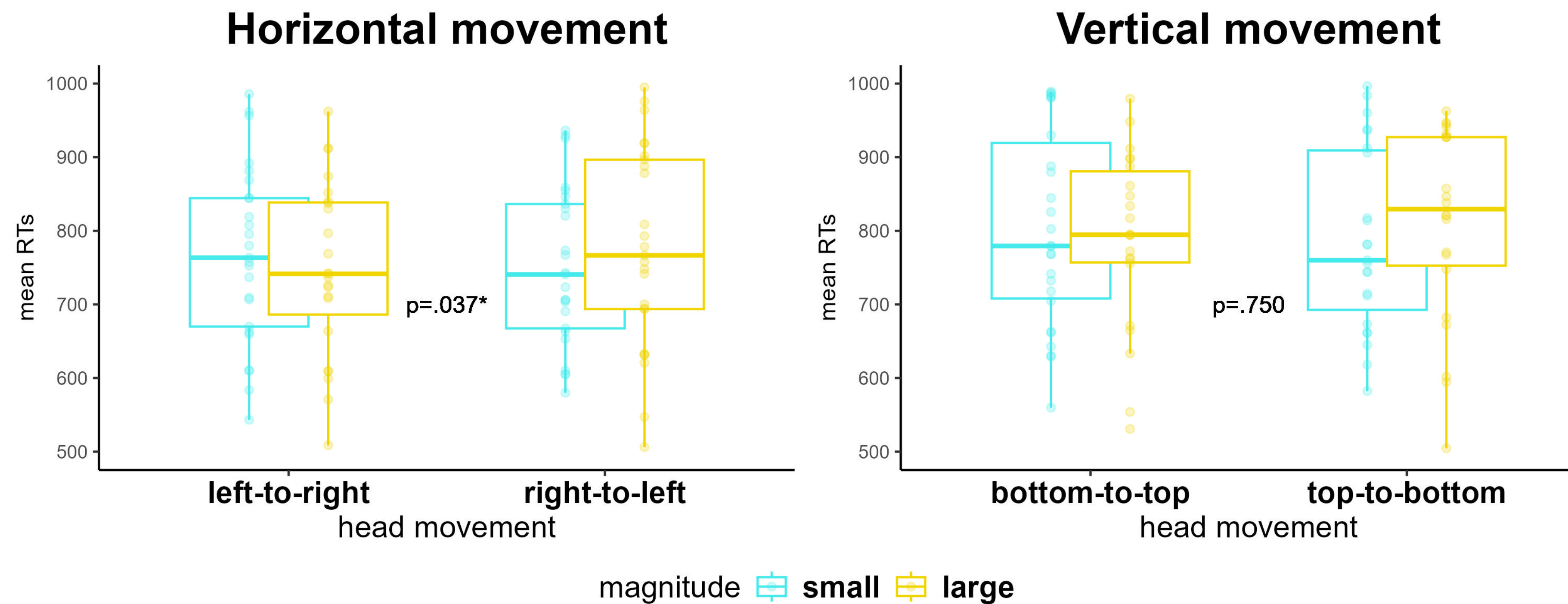
Press P/Q if (1, 2, 8, 9) is larger/smaller than 5

Head-movement blocks



Press spacebar if (1, 2, 8, 9) is larger/smaller than 5

MOTION COMPATIBILITY EFFECTS

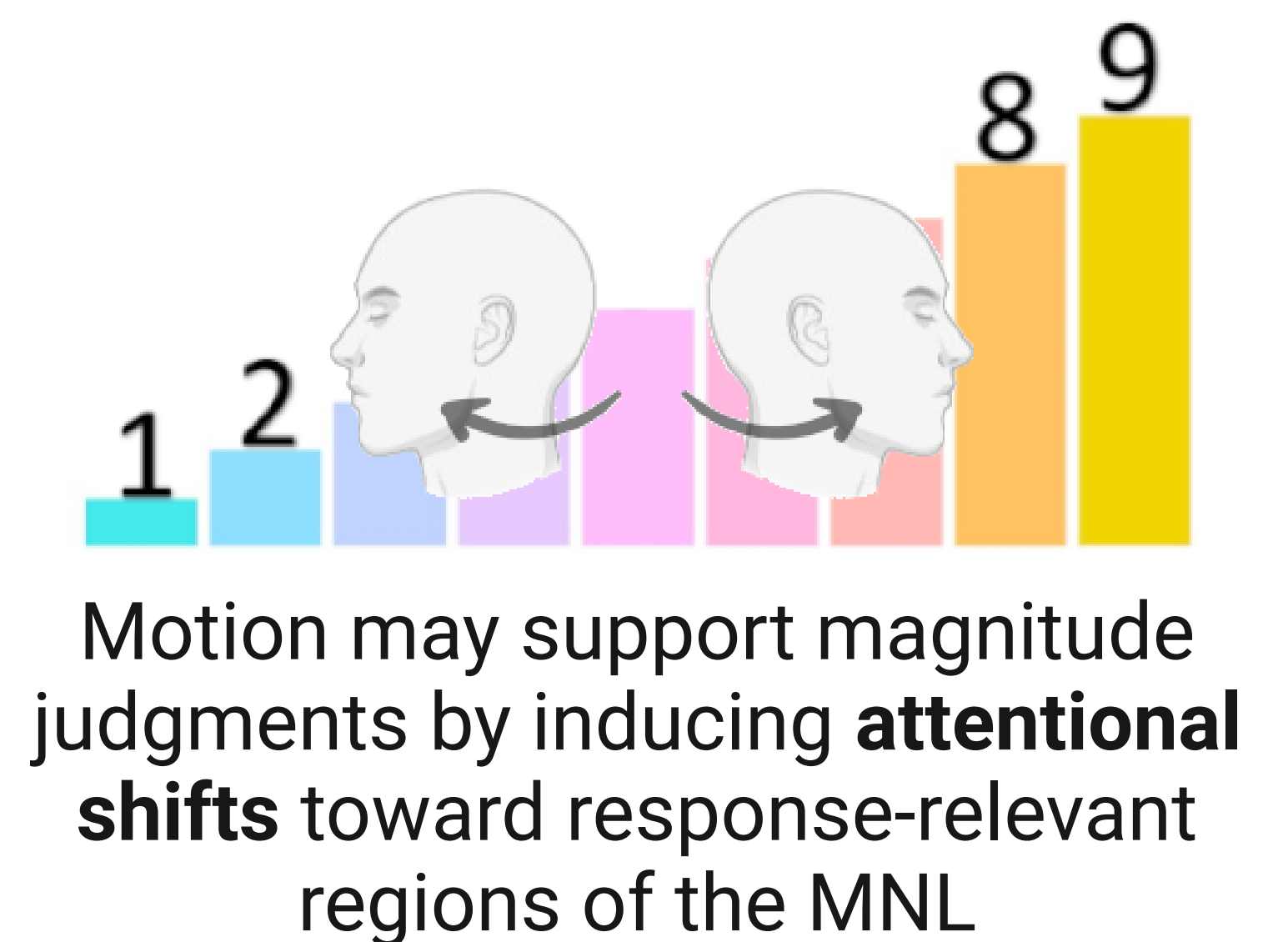


To-be-performed motion speeds up magnitude judgments when endpoint is compatible with the magnitude's position on the MNL

DISCUSSION

- Replication of SNARC
- **Novel evidence for motion-numerical compatibility effects in magnitude judgments** (Cheng et al., 2015 *Front Psychol*; Shaki & Fischer, 2014, *Exp Brain Res*)
- To-be-performed > performed motion
- **No evidence for VERTICAL effects** (Setting? Lack of power? Lack of effect?)

CONCLUSION



Motion may support magnitude judgments by inducing **attentional shifts** toward response-relevant regions of the MNL

CONTACT

volpivittoria@gmail.com
zona@uni-potsdam.de