

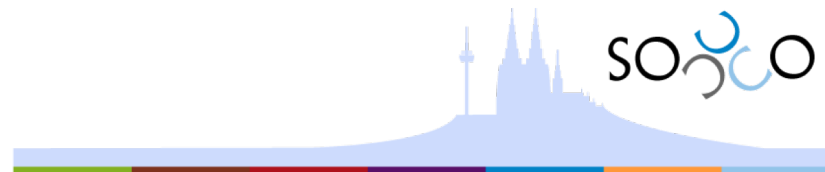
Experiences with Registered Reports

Oliver Genschow

Social Cognition Center Cologne
University of Cologne



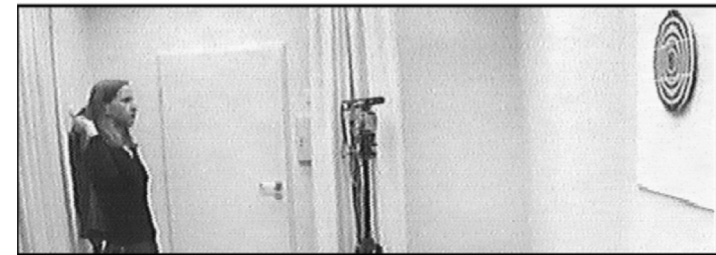
FONDS NATIONAL SUISSE
SCHWEIZERISCHER NATIONALFONDS
FONDO NAZIONALE SVIZZERO
SWISS NATIONAL SCIENCE FOUNDATION



Accurate anticipation

- Past research: accuracy of anticipated action

- Dart throwing (Knoblich & Flach, 2001)



- Simple actions (Lewkoicz et al., 2013, 2015)

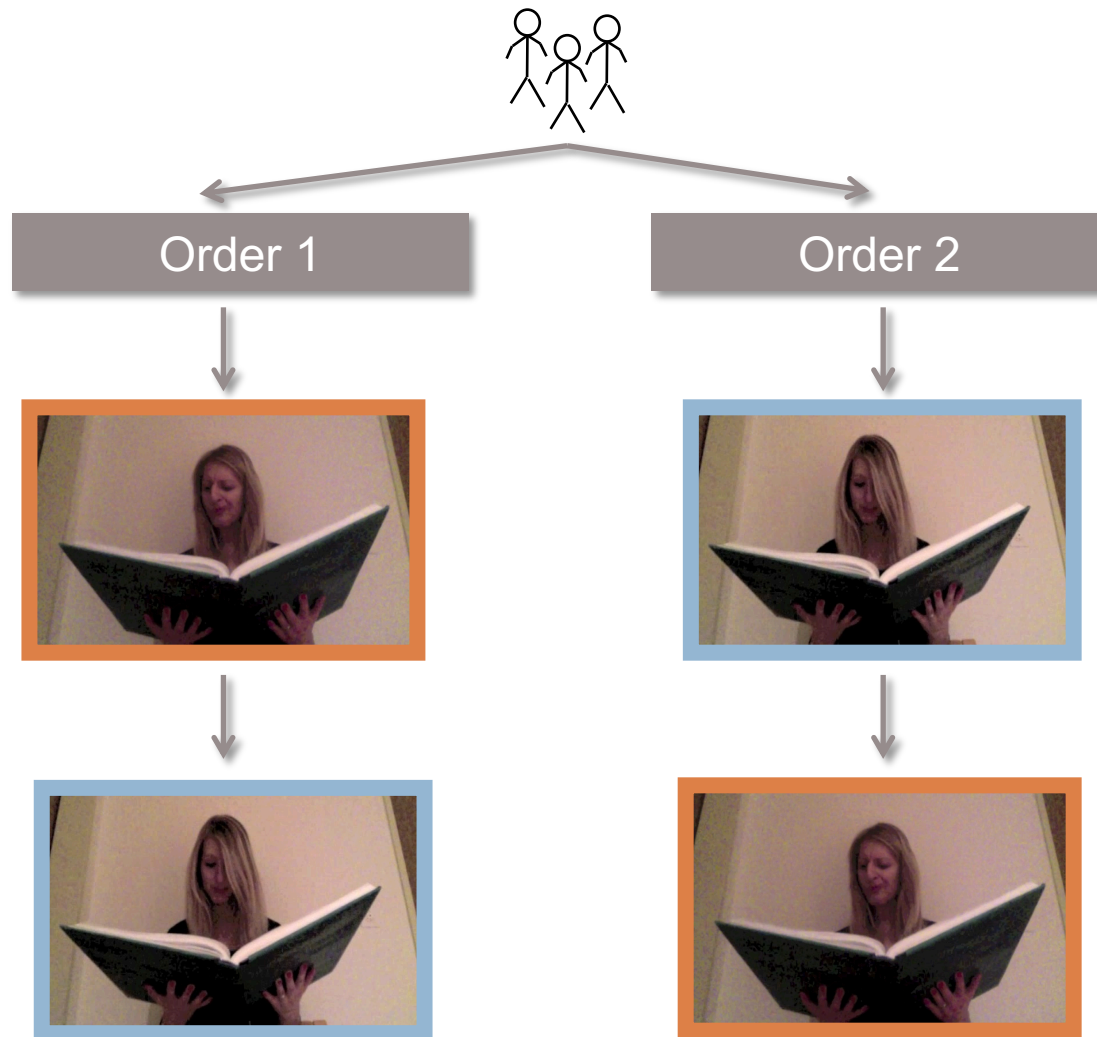


Research Question

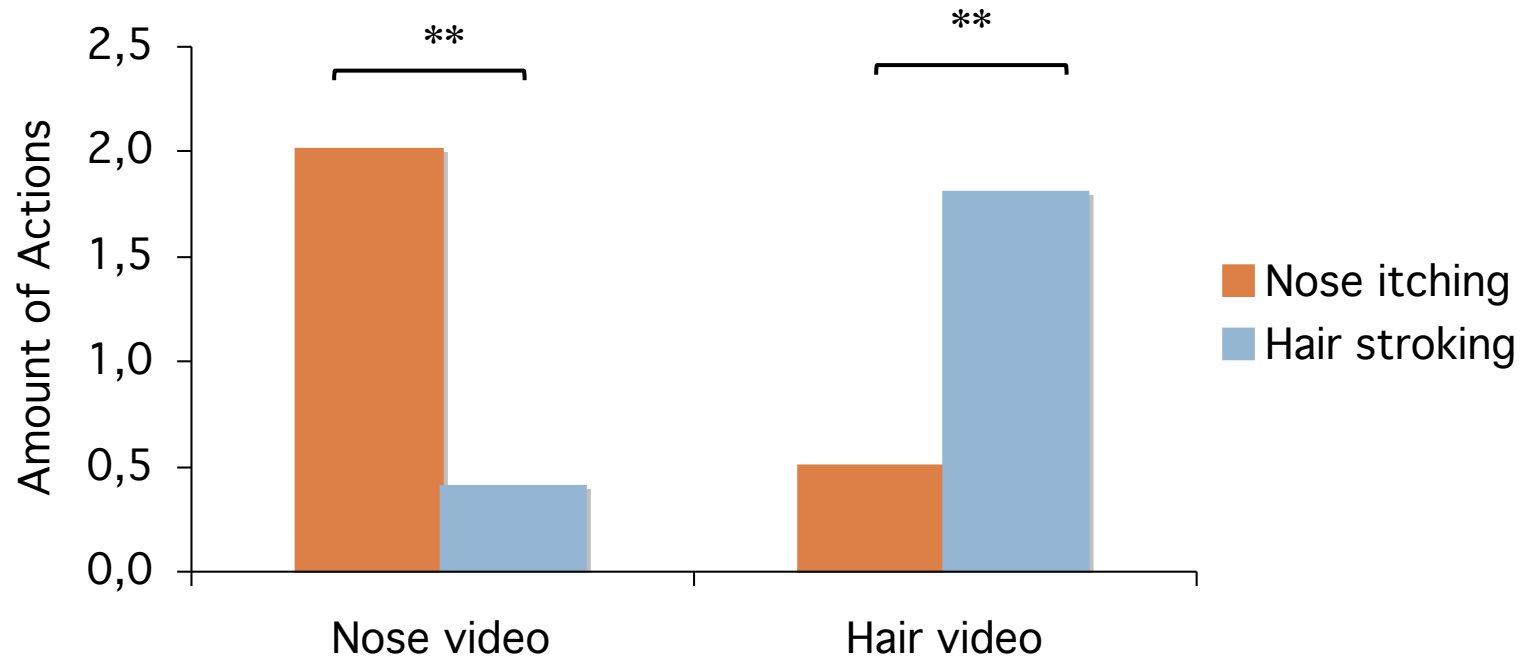
Do individuals not only anticipate, but also engage in anticipated action?



Method (Genschow & Brass, 2015; JEP: HPP)



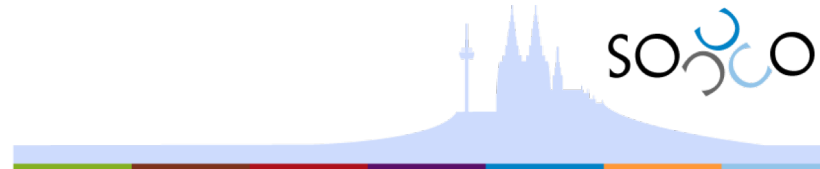
Results (Genschow & Brass, 2015; JEP: HPP)



- No main effects
- Significant interaction Video x Action: $F(1, 37) = 81.45, p < .001$

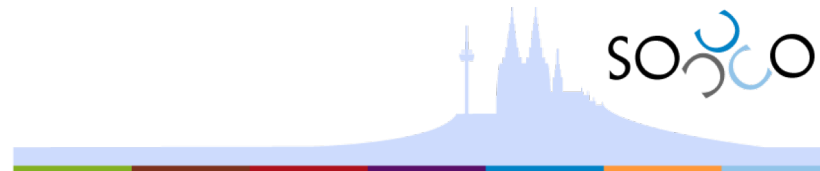
Follow-up studies

- Anticipated action is
 - due to inferred desired to act (Genschow et al., 2015; JEP: HPP)
 - correlated with mimicry (Genschow et al., 2018; PLOS ONE)
 - increased for people high in social information processing (Genschow et al., 2018, PLOS ONE)

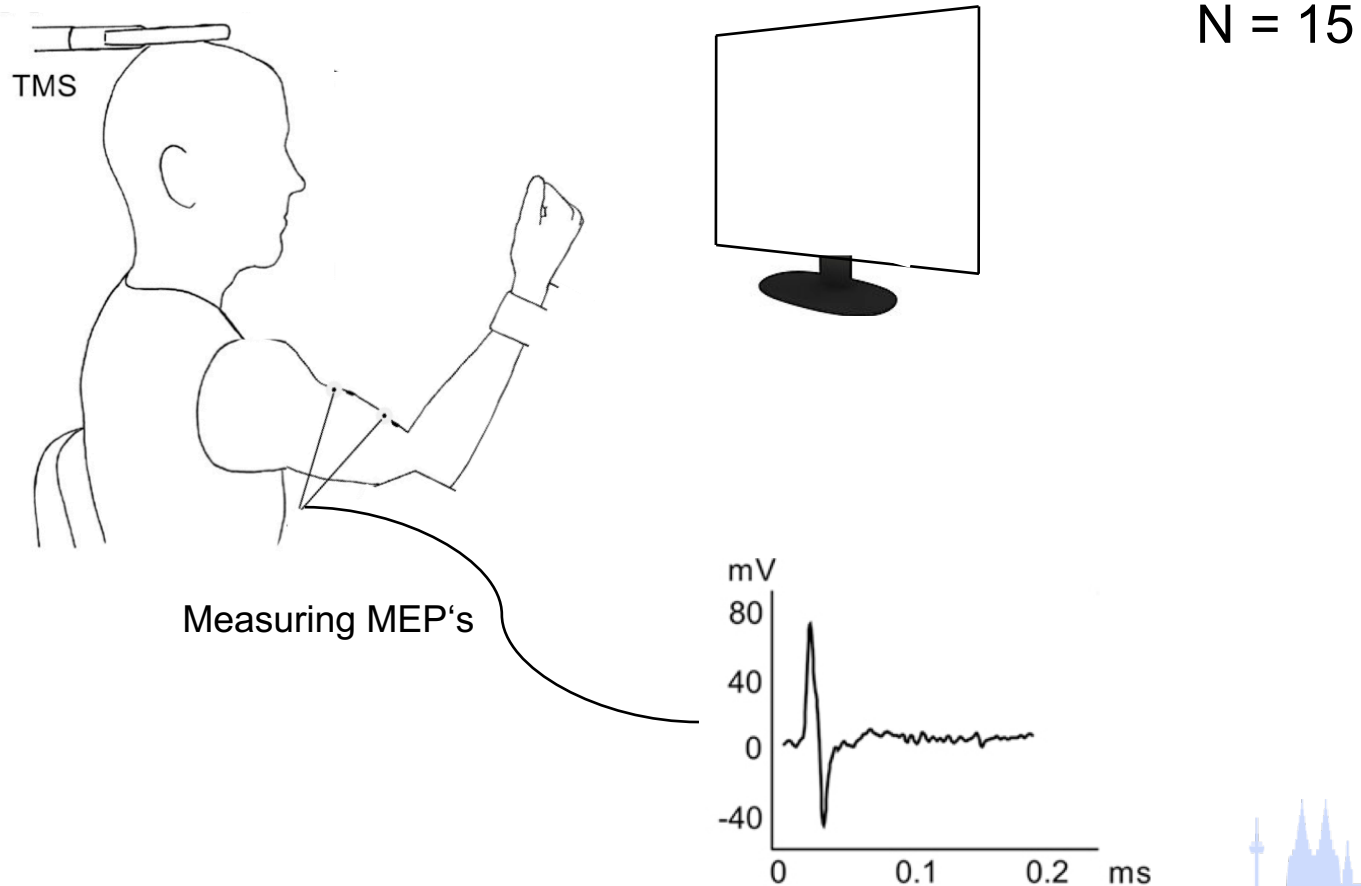


Registered report (Genschow, et al., 2018; Cortex)

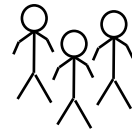
- Idea: Investigating neuro-physiological correlates of anticipated action
- Step 1
 - Pilot study
- Step 2
 - Suggestion of a high powered replication
 - Based on power analysis of pilot study
 - Submission at Cortex as Stage 1
- Step 3
 - Multiple review rounds
 - Paper in principle accepted
- Step 4
 - Data collection
 - Submission at Cortex as Stage 2



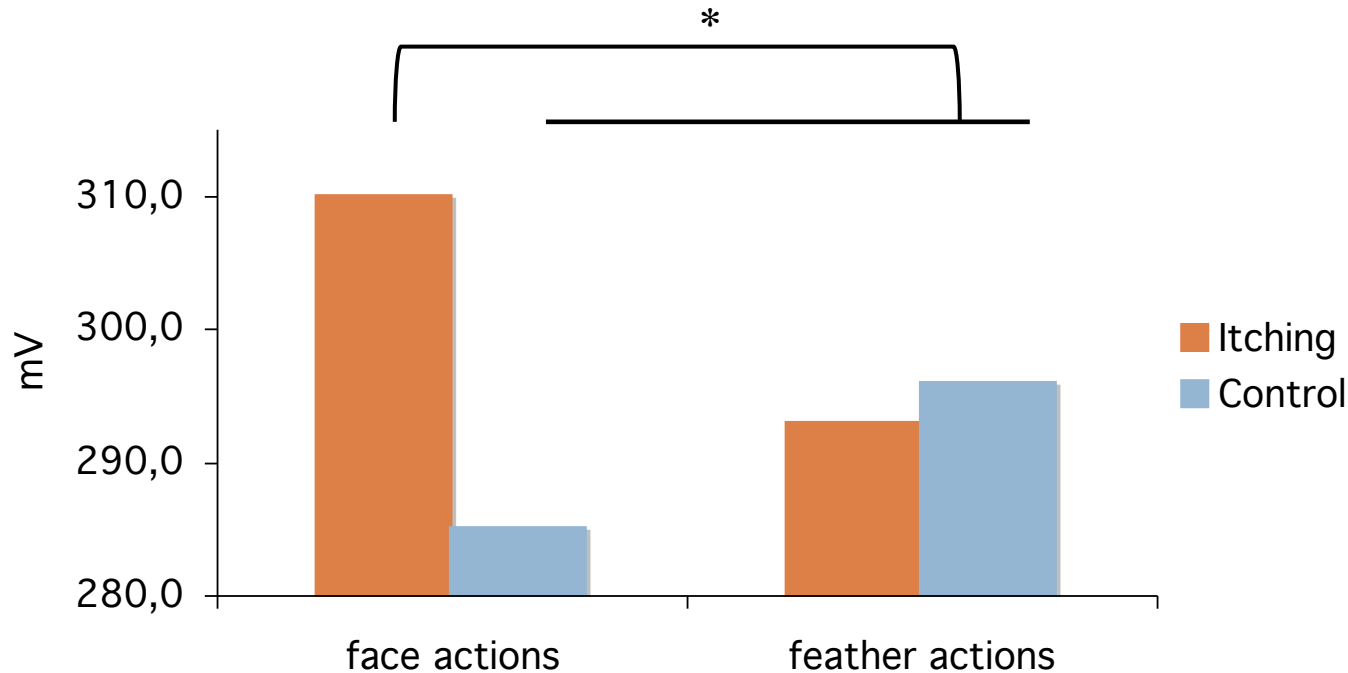
Pilot study: Method (Genschow, et al., 2018; Cortex)



Pilot study: Method (Genschow, et al., 2018; Cortex)



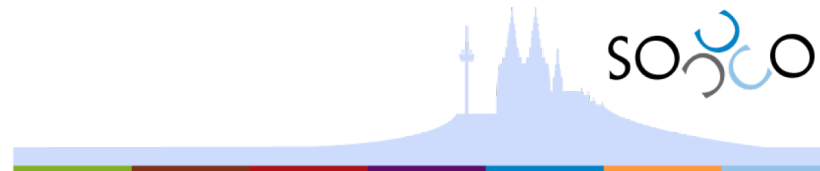
Pilot study: Results (Genschow, et al., 2018; Cortex)



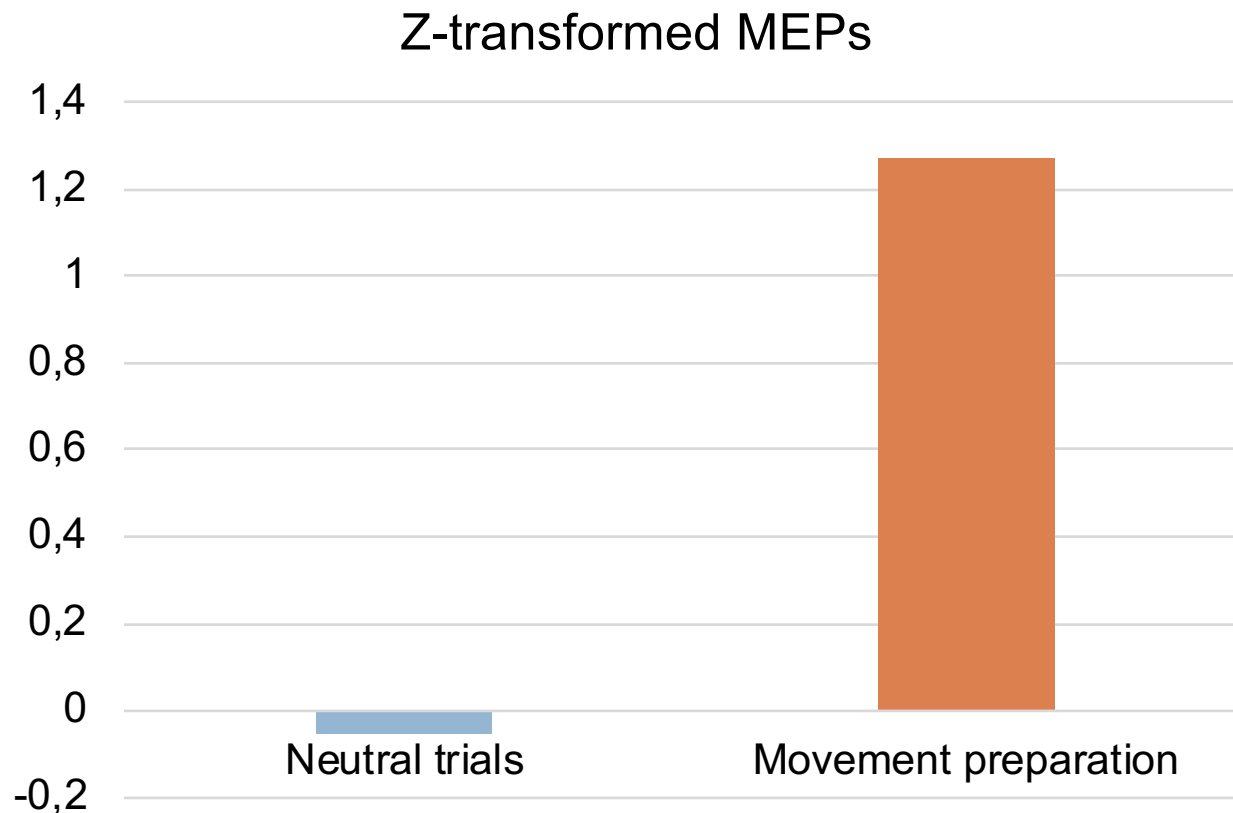
- Interaction Triggering Event x Applied Induction: $F(1, 14) = 4.76, p < .05$
- No significant main effects

Modifications (Genschow, et al., 2018; Cortex)

- Larger Sample ($N = 35$)
- Reality check:
 - Do we actually measure the muscle related to touching the nose?
 - Preparation of actual movement
- Additional neutral condition as baseline
- Additional anticipated condition
 - Unrelated to arm lifting
 - Spoon to mouth

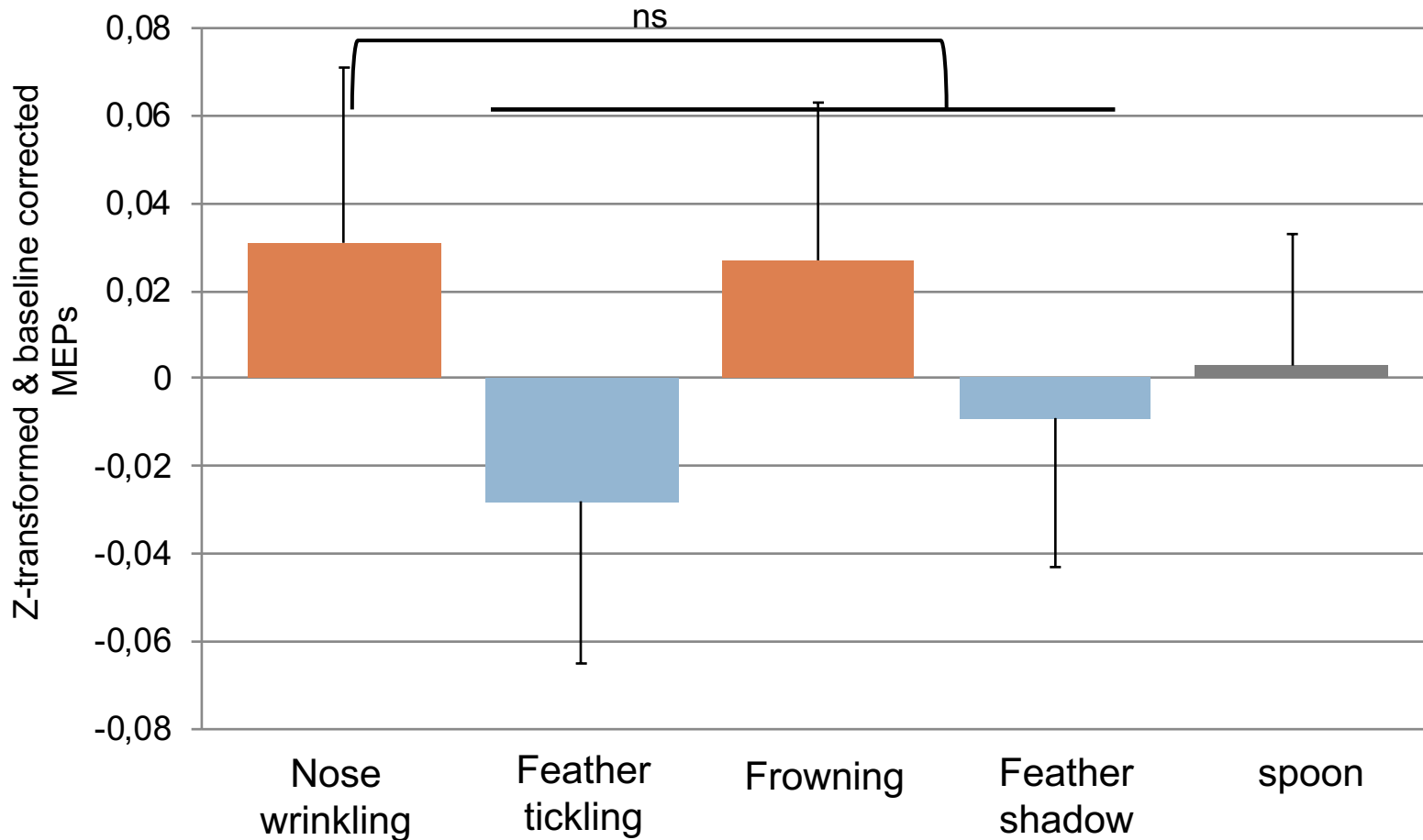


Results I: Reality check (Genschow, et al., 2018; Cortex)



$t(34) = 8.64, p < .0001, dz = 1.45$

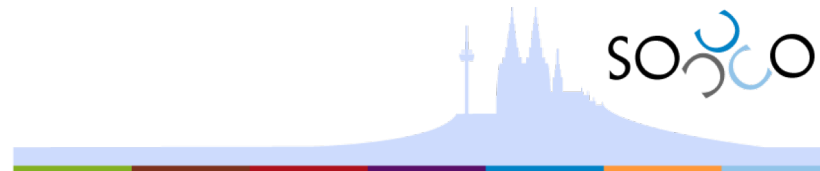
Results II: Hypothesis test (Genschow, et al., 2018; Cortex)



Interaction triggering event x displayed actions, $F(1, 34) = .38, p = .54$.
Main effect for displayed action, $F(1, 34) = 7.71, p = .009, \eta p^2 = .19$,

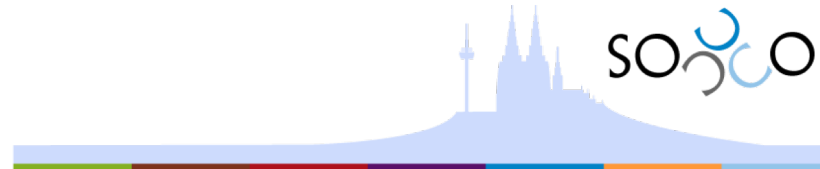
Additional explorative analyses (Genschow, et al., 2018; Cortex)

- Bayesian statistics asserting the strength of evidence in favor of H_0
 - $BF_{01} = 0.44$ for the interaction
 - $BF_{01} = 1.27$ for the specific contrast



Discussion

- Inconclusive evidence
- Possible reasons for non-replication
 - Pilot study was a false positive
 - Changed methodological setup
 - Power



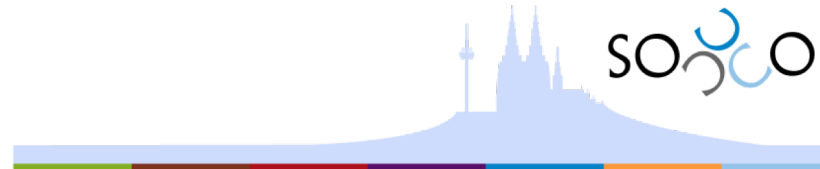
Advantages and disadvantages for authors

Advantages

- Publication
- Expert feedback before data collection
- Contribution to open science

Disadvantages

- Final design may deviate from original idea
- Risk: Effortful and time consuming
- Possibility of inconclusive data



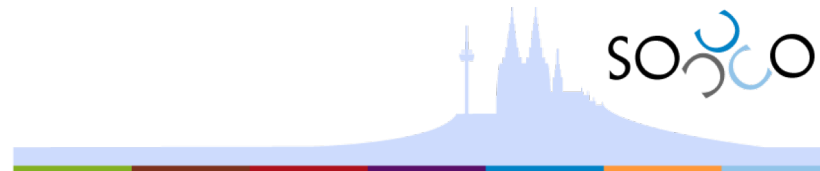
Advantages and disadvantages for scientific community & journals

Advantages

- Reducing file drawer
- Contribution to open science
- Reputation
- Depiction of the actual state-of-the-art

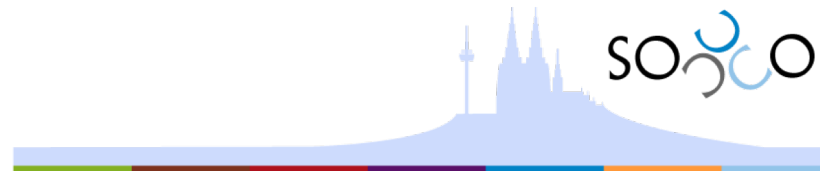
Disadvantages

- Risk: Effortful and time consuming
- Possibility of inconclusive data
- Unclear main message



Tips

- When is a registered report advisable?
 - Ideal for PhD students
 - For costly experiments
 - For criticized topics
 - Example: Money priming (Genschow et al., Experimental Psychology, in principle accepted)
- What should be further considered?
 - Piloting the paradigm
 - Time



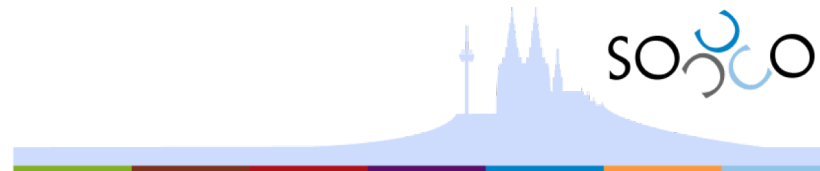
Further open science consideration

- Making open accessible scientific findings
 - Preprints of accepted manuscripts
 - Reports of non-published projects
 - Communication with laypeople



In-Mind Magazine (de.in-mind.org)

- Psychologists write for the public interest
- Peer-reviewed
- More readers than most scientific journals



Thank you for your attention!!!

