

WP6 2015:


Mechanisms of instrumental learning
and the conscious experience of agency

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Main activities

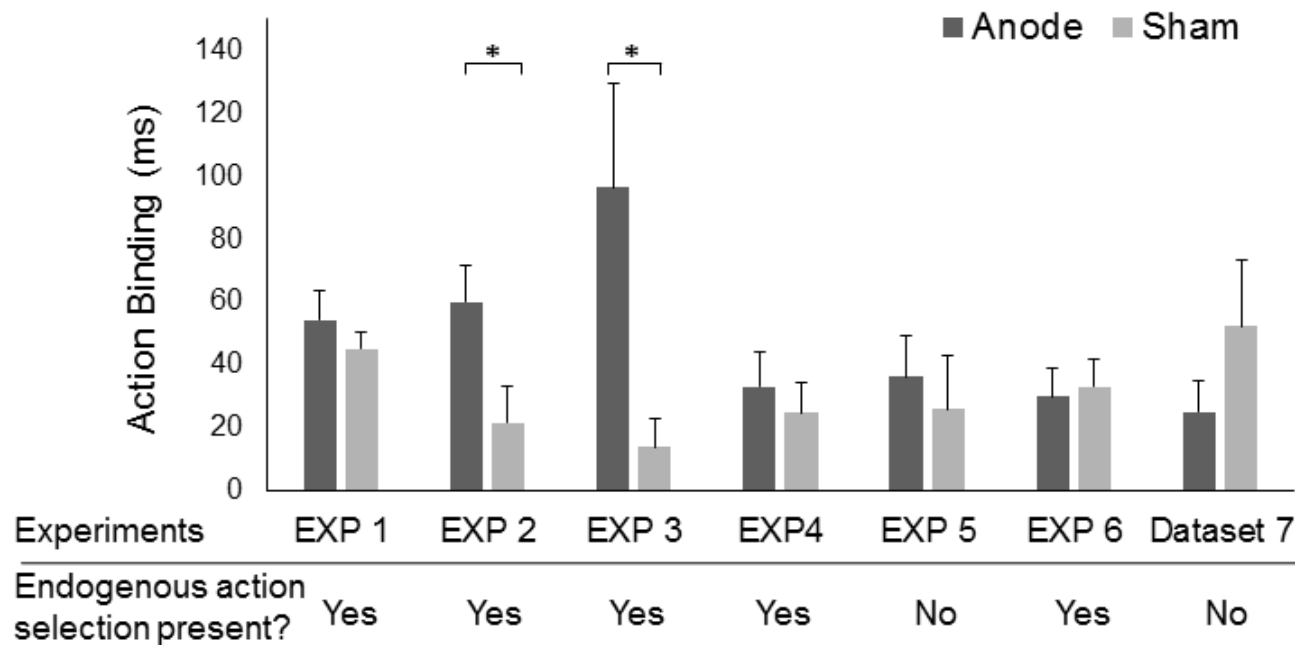
1. Metacognitive fluency and sense of agency (Nura Sidarus)
 - Collaborative visit to Columbia (Metcalfe Lab)
 - COOL work presented at ASSC, Psychonomics...
 - First designs combining explicit agency attribution and implicit measures
 - PhD ends 2/2016. No more money 
2. Freedom, coercion and responsibility (Emilie Caspar/WP7)

Action selection processes in dorsolateral prefrontal cortex contribute to sense of agency: a meta-analysis of tDCS studies of 'intentional binding'

Brain Stimulation, (resubmission review)

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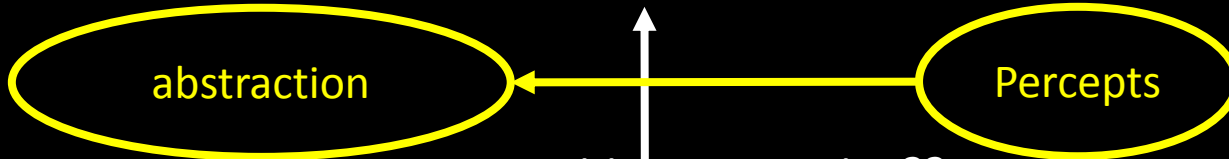


2016 Research Questions, Future directions

- Metacognition v2.0
 - How does metacognition differ from other states?
 - How can we measure it?

Source focus

External attribution



abstraction

Percepts

cognitive progression??

Content/source
clarity

Non-specific

Specific

Should we define metacognition by its internal attribution, or by its lack of specificity?



Metacognitions

Somatic
Feelings/
Emotions

cognitive progression??

Internal attribution

Measuring metacognition

- “How confident are you?” Perception
- “How easy was it?” Cognition
- “Did you do it?” Agency

- Do people understand the question?
- What dimensions of experience do people report?
- Can we separate these dimensions by our questions?
(Probably not)
- Is metacognitive “Semantic Differential” feasible?
Evaluation, potency, activity (EPA scale)
- How do we make sure we study the experience, rather than getting stuck in studying our own measurements?
(cf Neuropsychology)

Experiment	Design	tDCS montage conditions	Dependent variables
Exp. 1 <i>Endogenously selected actions</i> <i>Different outcome identities</i>		Anode Cathode Sham	Action binding
Exp. 2 <i>Endogenously selected actions</i> <i>Same outcome identity</i>		Anode Sham	Action binding Tone binding
Exp. 3 <i>Rule-based endogenously selected actions</i> <i>Different outcome identities</i>		Anode Sham	Action binding Tone binding
Exp. 4 <i>Endogenously selected actions</i> <i>Different outcome values</i>		Anode Sham	Action binding Tone binding
Exp. 5 <i>Exogenously selected actions</i> <i>Same outcome identity</i>		Anode Sham	Action binding Tone binding
Exp. 6 <i>Endogenously selected actions</i> <i>Uncertain outcomes</i>		Anode Cathode Sham	Action binding
Dataset 7 <i>Fixed action</i> <i>Fixed outcome</i>		Anode Sham	Action binding Tone binding