

Bodily self-consciousness: The Limits of Agency in Walking Humans

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I will present new data investigating brain correlates of bodily self-consciousness through manipulation of agency generally, and of visuo-motor and audio-motor conflicts in particular. Whereas the large majority of previous research in cognitive neuroscience on agency has focussed on the actions of the upper extremity, we have over the last years applied these techniques to the study of locomotion, the active displacement of the subject in extrapersonal space. Merging techniques from virtual reality, full-body tracking, and cognitive science of conscious action monitoring, we thus manipulated consciousness during locomotion in three studies. I will present research using mostly visuo-motor (but also audio-motor) conflicts in walking human agents, present related neurological conditions, and discuss their relevance for neurobiological models of self-consciousness.