

# Virtual bodies, real empathy:

behavioural, bodily, and neural reactivity to the observation of Pain and Pleasure on self and others in immersive virtual reality

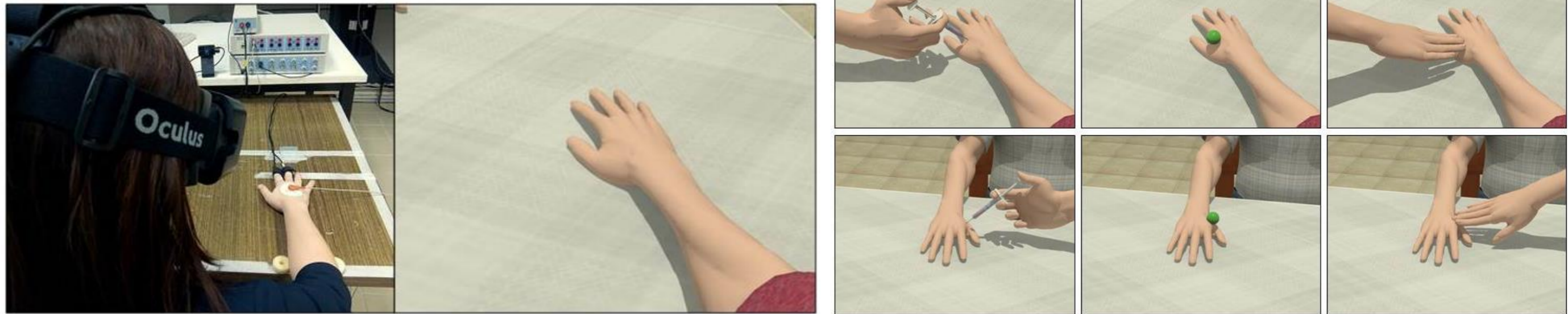
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Grant number: 218/2016



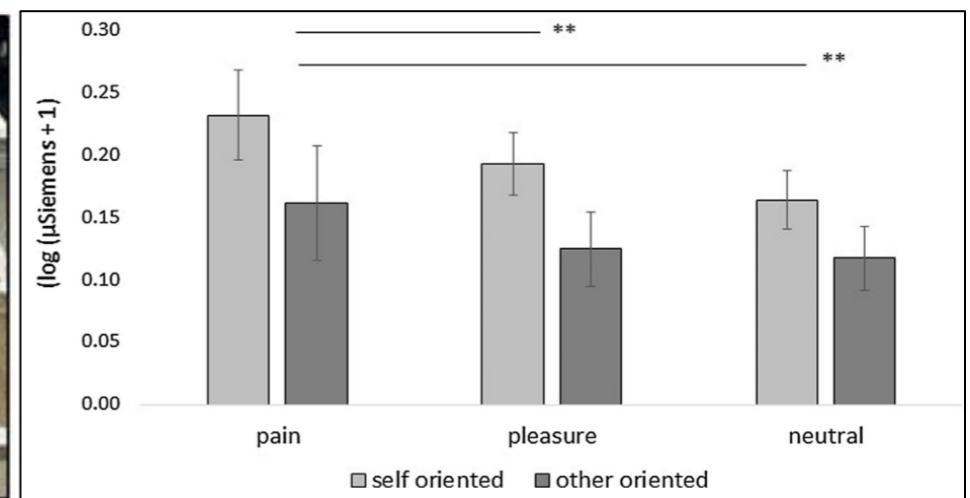
**GENERAL METHODS:** using **virtual reality** to induce illusion of being touched and threatened while observing similar stimuli on self and other



## STUDY 1: Recording behavioural and physiological activity (SCR)

### Main results:

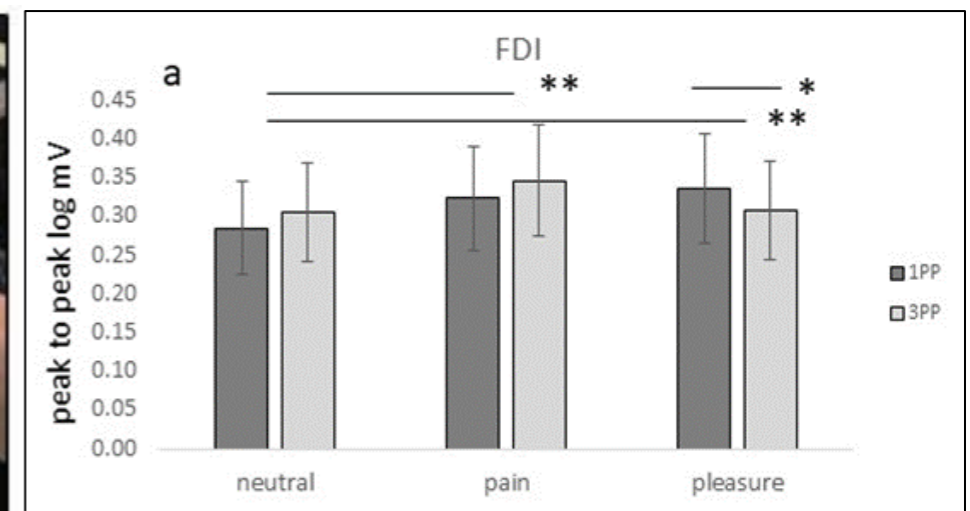
Pain and Pleasure scenarios induced unpleasant and pleasant illusory sensations; Pain increases SCR in 1PP and 3PP



## STUDY 2: Recording sensorimotor activity (TMS)

### Main results:

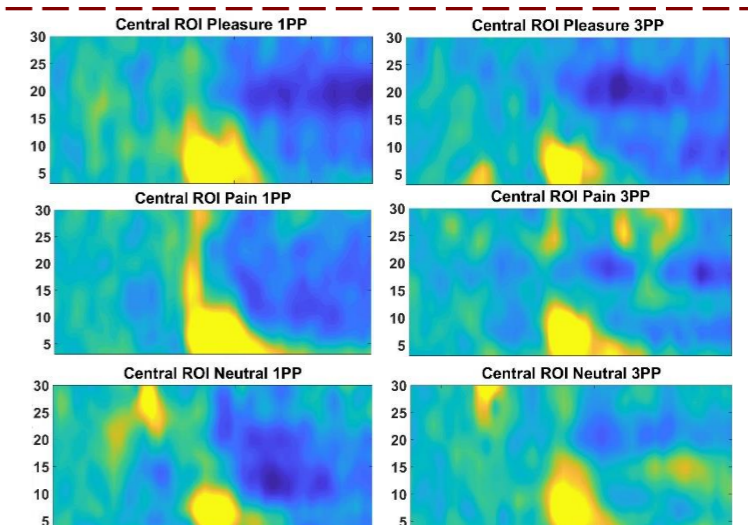
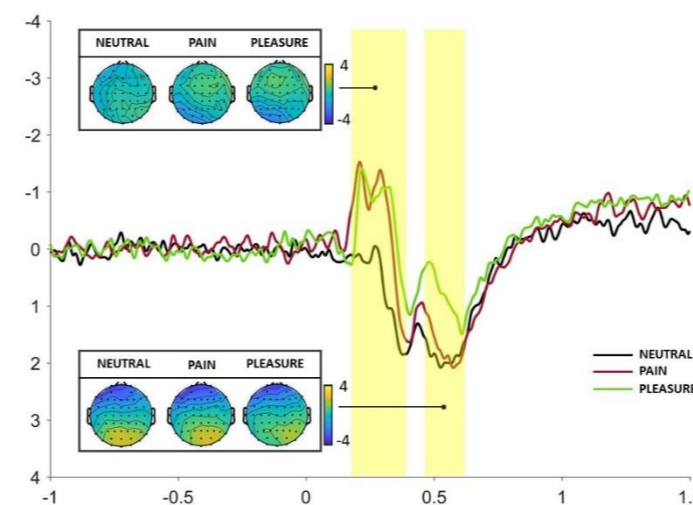
Pain and Pleasure scenarios elicited higher reactivity in the motor cortex compared to a neutral stimulus. Pain induces an inhibition of MEP only in 1PP



## STUDY 3: Recording neural activity (EEG)

### Main results:

Pain and Pleasure scenarios induces changes at cortical responses in both early and late ERPs, as well as in oscillatory responses



### List of publications:

Fusaro et al. 2019, *Consciousness and Cognition*  
 Tieri et al. 2018, *Expert Review of Medical Devices*  
 Fossataro et al. 2019, *Eur. Journal of Neuroscience*

Tieri et al. 2017, *Eur. Journal of Neuroscience*  
 Fusaro et al. TMS study - *in prep*  
 Tieri, Nicolardi et al. EEG study - *in prep*

F U N D A Ç Ã O

Bial

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