(Dis)Embodied Joint Agency in Human-VR Agents Interactions

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Résumé

The sense of agency –feeling of being in control of one's actions– is a fundamental aspect of the human mind. Previous work showed that the Joint sense of agency(JSoA)-sense of control experienced when acting with others- depends on the embodied agent we are acting with(1). However, the effect of interacting with human versus artificial bodies remains an open question. Here we investigate the effect of Depersonalisation(DP) –condition making people feel detached from theirself and body- on embodied JSoA in Human/Human versus Human/Robot avatar dyads, using the Joint Simon Task(2) with the Intentional Binding task(3). We designed the task in Virtual Reality where participants with High versus Low DP levels embody either a Human or a Humanoid Robot Pepper avatar, performing the task either with a Human or Pepper avatar.

People who feel less connected to their bodies and feel as 'machines' or 'automata'(4) may develop a higher JSoA while doing a task with a robotic body opposed to a human body. We hypothesize for HighDP group a higher Joint Simon Effect embodying Pepper performing the task with Pepper avatar co-agent opposed to the Human co-agent. For LowDP group we hypothesize higher effect in the Human/Human avatars dyad condition.

Our study investigates for the first time the effect of the human embodiment on JSoA in human versus robotic avatar in VR. A better understanding of how feelings of being (dis)connected from one's body impacts how people feel (dis)connected from human and artificial others may help design better human/artificial agents' interactions.

Mots-Clés: Depersonalisation, Embodiment, Virtual Reality, Sense of Agency, HRI

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