

Is that my body? The influence of body size and body appreciation on the sense of ownership over a virtual body

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The sense of ownership over a virtual body in virtual reality (VR) depends on several factors, including the perceived similarity between the avatar and the user. However, one aspect that has received little attention is the specific role of the avatar's body size. This pilot study investigated whether embodying an avatar with a different body size from one's perceived body affects ownership, and whether this effect is influenced by levels of body appreciation. Additionally, we explored emotional responses associated with the experience (e.g., eeriness, unease, disgust), as well as participants' intention to use the avatar to interact in virtual environments.

Fifteen participants (10 women and 5 men, age: 27.6 ± 4.62) first completed the Body Appreciation Scale and then performed a motor task in VR, observing their avatar in a virtual mirror under four experimental conditions: similar virtual body non-congruent (user's movements were not mirrored by the avatar), similar virtual body congruent (users' movements were mirrored by the avatar), dissimilar virtual body non-congruent, and dissimilar virtual body congruent.

Results revealed that body size similarity significantly increased ownership. Body appreciation showed a marginal effect, suggesting a possible protective role against the negative impact of body dissimilarity. Data on emotional reactions and usage intention indicate greater resistance to accepting avatars with dissimilar body shapes.

These preliminary results highlight the importance of virtual body size in the embodiment process and offer valuable insights for designing more personalized, inclusive VR experiences that are sensitive to users' body-related perceptions.

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