

# Body ownership of women with and without history of intimate partner violence

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## Introduction

Intimate-partner violence (IPV) is a major threat to women's life and health (WHO, 2021). A recent study showed altered embodiment-related characteristics in female victims of IPV, namely bodily dissociation and interoceptive sensibility (Machorrinho et al., in press). Body ownership, i.e., the feeling of the body as one's own, and as being part of the self, is one of the most representative features of embodiment, and is commonly assessed through the Rubber Hand Illusion (RHI) paradigm (Longo et al., 2008).

The aims of the present study were:

- (i) to compare the sense of body ownership between women with and without a history of IPV
- (ii) to analyze the relationship between body ownership and mental health variables (behaviors of self-injury, suicidal ideation, and diagnoses of Posttraumatic Stress Disorder (PTSD), Anxiety or Depression).

## Methods

The RHI protocol (Rabellino et al., 2016) was administered to twenty-seven women victims of IPV living in Portuguese shelters (IPV group; mean age  $39.7 \pm 10.6$  years), and to twenty-seven women non-victims of IPV living in the community (no-IPV group; mean age  $43.6 \pm 11.4$  years). For two minutes, the researcher synchronously brushed each of the fingers of the rubber hand and the participant's real hand.

 Subjective experience of ownership of the rubber hand (mean score of a nine-item questionnaire, where higher scores suggest a weakened sense of body ownership)

Figure 1. Apparatus of the RHI

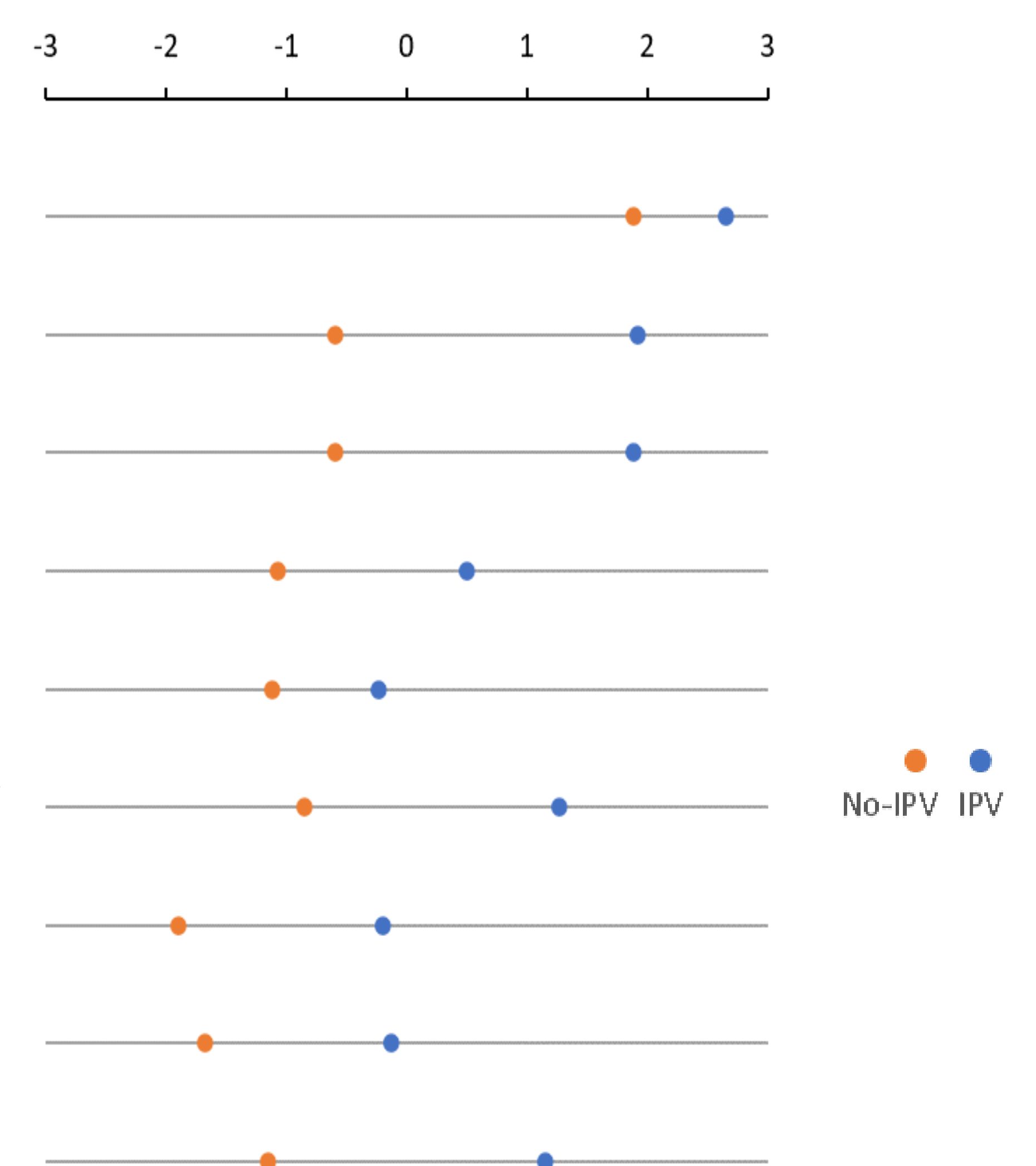


## Results

>>> Mann-Whitney test revealed that, in comparison with women without history of IPV, victims of IPV were significantly more prone to illusory ownership of the rubber hand (thus, have a weakened sense of ownership) ( $Mdn$  noIPV =  $-0.33$ ,  $Mdn$  IPV =  $2.67$ ;  $U = 204.5$ ,  $z = -2.86$ ,  $p = .004$ ).

Figure 2. Mean answers from both IPV and no-IPV Groups in the survey assessing subjective experience of the RHI, ranging from -3 (totally disagree) to 3 (totally agree)

- Q1. It seemed as if I were feeling the touch of the paintbrush in the location where I saw the rubber hand touched.
- Q2. It seemed as though the touch I felt was caused by the paintbrush touching the rubber hand.
- Q3. I felt as if the rubber hand were my hand.
- Q4. It felt as if my (real) hand was drifting towards the rubber hand.
- Q5. It seemed as if I might have more than one left/ right hand or arm.
- Q6. It seemed as if the touch I was feeling came from somewhere between my own hand and the rubber hand.
- Q7. It felt as if my (real) hand were turning "rubbery".
- Q8. It appeared (visually) as if the rubber hand were drifting towards my hand.
- Q9. The rubber hand began to resemble my own (real) hand, in terms of shape, skin tone, freckles, or some other visual feature.



>>> Moderate positive correlations ( $r = .239$ ,  $p = .03$ ) were found between subjective experience of ownership of the rubber hand and suicidal ideation. No significant relationships were found between body ownership and diagnoses of PTSD, Anxiety or Depression

## Conclusion

The results sustain the hypothesis of a weakened sense of body ownership in women victims of IPV, particularly related with suicidal ideation behaviors. Further research should explore other embodiment-related variables of victims of violence. We also suggest the development of therapeutic interventions for IPV victims, focused on their sense of body ownership, and on nurturing compassion towards the body-mind self.

## Acknowledgements

The present publication was funded by Fundação Ciência e Tecnologia, IP national support through CHRC (UIDP/04923/2020). Special thanks to all the women who enrolled in the study, as well as the managing entities of the victims' shelters.

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