



This is a repository copy of *Relationship between interoception and stress in patients with functional neurological symptom disorder*.

White Rose Research Online URL for this paper:
<http://eprints.whiterose.ac.uk/147908/>

Version: Accepted Version

Proceedings Paper:

Williams, I.A. orcid.org/0000-0003-4224-0056, Reuber, M. orcid.org/0000-0002-4104-6705 and Levita, L. (2019) Relationship between interoception and stress in patients with functional neurological symptom disorder. In: Journal of Neurology, Neurosurgery, and Psychiatry. The British Neuropsychiatry Association – Annual Meeting, 07-08 Mar 2019, London, UK. BMJ Publishing Group , A11-A11.

<https://doi.org/10.1136/jnnp-2019-BNPA.24>

© 2019 The Author(s). No commercial re-use. This is an author-produced version of a paper subsequently published in Journal of Neurology, Neurosurgery and Psychiatry. Uploaded in accordance with the publisher's self-archiving policy. Published online at: <http://dx.doi.org/10.1136/jnnp-2019-BNPA.24>

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



eprints@whiterose.ac.uk
<https://eprints.whiterose.ac.uk/>

Relationship between interoception and stress in patients with Functional Neurological Symptom Disorder

Authors: Dr. Isobel Anne Williams, Prof. Markus Reuber, and Dr. Liat Levita

Objectives / aims

Self-report studies of alexithymic traits in individuals with Functional Neurological Symptom Disorder (FND), suggest that emotion dysregulation in this population is characterised by an impaired ability to detect and identify their own emotions (identification impairments) (1). This regulatory deficit might be particularly problematic for a patient group with an increased incidence of stressful life events relative to healthy controls (2), for whom the ability to regulate emotions might therefore be more crucial. Examining sensitivity to changes in physiological cues associated with emotional experience (interoception) is a way of assessing one aspect of participants' capacity to identify their own emotions. However, no studies have yet experimentally investigated how stress might interact with interoception in this population. Therefore, the aim of this study was to investigate patients' interoceptive sensitivity both at baseline and under stress.

Methods

Twenty-six patients with FND and twenty-seven healthy controls performed the Heartbeat Detection Task (HBDT) pre- and post- stress-induction with the Cold Pressor Test. The HBDT is a behavioural paradigm, measuring participants' sensitivity to a physiological cue associated with emotional experience - the heartbeat. Participants also completed a self-report measure of emotion dysregulation (The Emotional Processing Scale-25) which includes a subscale capturing 'a detached experience of one's emotions due to poor emotional insight', and a measure of Major Depressive symptomology (The PHQ-9).

Results

Relative to healthy controls, patients with FND performed more poorly on the HBDT both at baseline and following stress-induction ($p = .032$). Patients also reported greater impairments across all domains of the EPS-25 and higher scores on the PHQ-9 than healthy controls (both $p < .001$). Group differences on HBDT performance were not explained by group differences in age or depressive symptomology.

Conclusions

Impaired HBDT performance suggests that patients with FND lack sensitivity to their heartbeat, both under 'normal' conditions and following stress-induction. Physiological cues (like the heartbeat) are an important source of interoceptive information for emotional experience, for example during stress. Our findings therefore represent a form of identification impairment that may contribute to stress-vulnerability in this population. Raised levels of self-reported 'impoverished emotional experience' corroborate the suggestion that patients with FND have difficulty identifying and understanding their emotions. These findings have direct implications for understanding and treating emotion dysregulation in FND.

References

1. Williams IA, Levita L, Reuber M. Emotion dysregulation in patients with psychogenic nonepileptic seizures: A systematic review based on the extended process model. *Epilepsy & Behavior*. 2018;86:37-48.
2. Ludwig L, Pasmán JA, Nicholson T, Aybek S, David AS, Tuck S, et al. Stressful life events and maltreatment in conversion (functional neurological) disorder: systematic review and meta-analysis of case-control studies. *The Lancet Psychiatry*. 2018;5(4):307-20.