



THE
Compassionate Mind
FOUNDATION

8th International Conference

*The Compassionate Mind in Its Social
Context: From the Body to the Social
World*

8-11 October 2019 in EDINBURGH

SYMPOSIUM: *Compassion and the Body*

Heart rate variability (HRV), an index of the vagal regulation of the heart is a central element of the physiological underpinnings of compassion, and is related to mental health problems, with important implications for psychotherapy. In the present symposium, the link between HRV, the experience of inter- and intrapersonal safeness and the inhibitory function of the prefrontal cortex will be explored in the context of prosocial motives, such as compassion.

- 1) How social connectedness inhibits the default stress response -
Prof. Jos Brosschot

In this talk, Prof. Brosschot, will describe the main elements of Generalized Unsafety Theory of Stress (GUTS). According to GUTS, the stress response is a default response that is always 'on', but under prefrontal inhibition when people feel safe. Relevantly for the CFT

therapists and researchers, GUTS clarifies why a chronic stress response arises in many conditions such as loneliness, low social economic status and discrimination.

- 2) “Can’t get it out of my head....and my body”: The impact of perseverative cognition on HRV and the buffering role of compassionate interactions – *Dr Cristina Ottaviani*

In this talk, Dr Ottaviani will focus on perseverative cognition (worry and rumination) and will present an overview of studies conducted in different settings, clinical populations, and age groups that consistently replicated that the cognitive inflexibility that characterizes perseverative cognition is reflected in both our body (by increased autonomic nervous system rigidity assessed by heart rate variability; HRV) and our brain (by reduced prefrontal-amygdala functional connectivity). Importantly, such maladaptive consequences can be moderated by the valence of social interaction (i.e., a compassionate interaction will counteract the effects of perseverative cognition on HRV). The presentation will end with meta-analytic findings on the positive association between compassion and HRV.

3) Heart Rate Variability as a psychophysiological biomarker of affect regulation – Testing the tripartite affect regulation systems in both community and forensic adolescents – *Rúben Sousa*

In this talk, Sousa will describe his research aimed to test the tripartite affect regulation systems in both community and forensic adolescents (young male offenders). His talk will shed light on the associations between HRV and measures of emotion regulation, compassion and social safeness in both samples.

Key learning points

- Heart rate variability (HRV) is a central element of the physiological underpinnings of compassion, and is related to mental health problems.
- The stress response is a default response that is always 'on', but under prefrontal inhibition when inter- and intrapersonal safeness is perceived.
- Mind wandering (MW) is a common experience that can become maladaptive, and take the form of perseverative cognition (worry and rumination)
- A compassionate interaction will counteract the effects of perseverative cognition on HRV.
- The tripartite affect regulation systems in both community and forensic adolescents (young male offenders)

Useful Reading

Brosschot, J. F., Verkuil, B., & Thayer, J. F. (2017). [Exposed to events that never happen: Generalized unsafety, the default stress response, and prolonged autonomic activity](#). *Neuroscience and Biobehavioral Reviews*, **74**(B): 287–296.

Makovac, E., Meeten, F., Watson, D. R., Herman, A., Garfinkel, S. N., Critchley, H. D., & Ottaviani, C. (2016). [Alterations in amygdala-prefrontal functional connectivity account for excessive worry and autonomic dysregulation in generalized anxiety disorder](#). *Biological Psychiatry*, **80** (10):786–795.

Sousa, R., Castilho, P., Vieira, C., Vagos, P., & Rijo, D. (2017). [Dimensionality and gender-based measurement invariance of the Compassion Scale in a community sample](#). *Personality and Individual Differences*, **117**: 182–187.

Symposium speakers



Professor Jos F. Brosschot is professor by special appointment of 'psycho-physiological mechanisms of stress in daily life' at Leiden University. His research has always focused on the mechanisms that are responsible for the effects of the mind on the body. He has performed various laboratory- and field projects into the relation between worrying, heart activity and physical complaints. Over the years he received various grants, i.e., a KNAW grant and several NWO grants. Together with psychologists and immunologists from Utrecht, he proved as one of the first that stress affects the immune system.



Dr Cristina Ottaviani, Ph.D, is Assistant Professor of Clinical Psychology at the Department of Psychology, Sapienza (Rome). Her research activity focuses on Brain-body interactions underlying prolonged stress responses in daily life, in particular the role of perseverative cognition (e.g., worry and rumination) as a transdiagnostic factor in psychopathology. She has been recently awarded as Distinguished Scientific Award for an Early Career Contribution to Psychophysiology by the Society for Psychophysiological Research.



Rúben Sousa, is a Ph.D. candidate at the Cognitive and Behavioural Center for Research and Intervention of University of Coimbra. His research focuses on testing the tripartite affect regulation systems in both community and forensic adolescents (young male offenders).