Functional somatic disorders and (embodied) mentalization: A mentalization-based approach to the understanding and treatment of functional somatic complaints

Patrick Luyten, PhD
University of Leuven, Belgium
University College London, UK
Overview

• Functional Somatic Syndromes (FSS)
• Causation of FSS
  ▫ Biological
  ▫ Psychosocial
    • Personality
    • Embodied mentalization
• Implications for treatment
  ▫ Implications for body and mind in therapy
  ▫ New treatment: DIT-FSD

=> Building on basic research concerning the emergence of the embodied mind
Research Team

• **University of Leuven** (Belgium): Boudewijn Van Houdenhove, Stefan Kempke, Nicole Vliegen

• **University College London and the Anna Freud Center** (UK): Peter Fonagy, Alessandra Lemma, Mary Target

• **Tavistock Clinic**, London: Brian Rock

• **Yale University** (USA): Linda Mayes, Sidney J. Blatt, Michael Crowley
Functional Somatic Disorders (FSS)

- Spectrum of disorders
  - High comorbidity
  - High familial co-aggregation
- Pain- and fatigue-related conditions
  - Chronic Fatigue Syndrome
  - Fibromyalgia
  - Irritable Bowel Syndrome
  - Temporomandibular Pain Syndrome
Part of Spectrum of Stress-Related Disorders?

Example
Chronic Fatigue Syndrome (CFS)

- Medically unexplained fatigue for at least six months that does not improve with rest
- Other symptoms
  - Muscle pain
  - Sore throat
  - Headaches
  - Tender glands
  - Unrefreshing sleep
  - Impaired memory or concentration
  - Post-exertional malaise
Causation

• Precise causation remains **elusive**
• However
  ▫ **Biological abnormalities** have been identified
    • HPA axis (stress system)
    • Immunological systems
    • Neurotransmitter systems
  ▫ **Psychological factors** have been shown to influence the onset and course of CFS
    • Personality
    • (embodied) Mentalization
    • Early childhood adversity/attachment disruptions

Early life stress (ELS) and morning cortisol in CFS patients and normal controls

Early Adversity and Inflammation

Treatment

• Controversies about treatment
  ▫ Treatment effects of “evidence-based” treatments are relatively limited
  ▫ Often known as “difficult” patients: major transference-countertransference problems


Working model

• ‘Switch' of the stress system from a state of 'overdrive' to 'under-drive’ as a result of prolonged physical and/or psychological stress
• Often triggered by physical/emotional event
• Leading to persisting impairments in the stress response involving disturbances in:
  ▫ Disturbed balance between glucocorticoid and inflammatory signaling pathways
  ▫ Pathological cytokine-induced sickness response effort/stress intolerance and pain hypersensitivity
  ▫ (embodied) mentalization


Working model

• Several of these factors are more likely to be consequence, rather than cause of FSS!! (e.g., “alexithymia”, interpersonal features)
  ▫ CFS as “internal object” that threatens the self from within (Schattner, Shahar, & Abu-Shakra, 2008)
• Research program aimed at studying various factors involved and their interaction
• Focus today is on
  ▫ attachment and (embodied) mentalization

Attachment, personality, and (embodied) mentalization in FSS
Attachment Deactivating, Self-Critical Perfectionistic (SCP) features

- FSS patients often described as hard-working, overactive, over-achieving
- High personal standards + high self-criticism
- Assert autonomy and independence as defense against underlying attachment needs (wish to be cared for, loved, recognized)
- Typical attachment deactivating strategy

Figure 3. Hierarchy of relationships associated with attachment avoidance in self-critical/autonomous depressed individuals
Attachment Deactivating, Self-Critical Perfectionism

- Developmental origins: high parental demands and/or a (defensive) reaction against harsh parenting
- “dominant-goal oriented”: overactivity as overcompensation, effort to affirm the self and soothe negative introjects by an often excessive focus on achievements
- May in part and in interaction with other (genetic) vulnerabilities explain “biopsychosocial crash”
• Associated with dysfunctional interpersonal transactional cycles
  -> Interpersonal Affective Foci (IPAF)

  ▫ Self-fulfilling prophecies
  ▫ Contribute to active stress-generation
  ▫ Also recur in the transference-countertransference
  ▫ Bring specific needs and expectations into treatment
1. A self-representation (eg. Demanding but neglected, misunderstood, unloved)

2. An object representation (eg. Rejecting others)

3. An affect linking the two (eg. Helplessness)

4. The defensive function of this configuration (eg. avoidance of own aggression)
SCP features and CFS

- SCP features are associated with CFS in both cross-sectional and longitudinal studies*
- Is clearly distinct from adaptive perfectionism**
- SCP is associated with low self-esteem, which explains higher levels of depression***

---


SCP features and CFS

- SCP is associated with stress generation in the daily flow of life, leading to exacerbation of symptoms*
- SCP mediates the relationship between early adversity and stress reactivity in the daily flow of life**
- SCP is negatively associated with treatment outcome***

(Embodied) Mentalizing and FSS

• **Dissociation** between stress channels?
  ▫ Typically associated with attachment deactivating strategies

• **Paradox:** hypo- and hypermentalizing in FSS patients -> “hyperembodiment”-”disembodiment”
  ▫ **Hypomentalizing:**
    • Prementalizing modes of experiencing subjectivity
    • Importance of “somatic markers” in patients with FSS
  ▫ **Hypermentalizing:** “mentalization on the loose”

Four polarities

- Automatic – controlled
- Internal – external
- Self – other
- Cognitive - affective


Dissociation between stress channels

- Stress response to experimental stress in CFS (Trier Social Stress Test; TSST and personalized stress test: Sinha)
  - T1: Baseline
  - T2: pre-test (10min)
  - T3: post-test
  - T4: +10min
  - T5: +10min
  - T6: +10 min
  - T7: +15min
  - T8: +45min

Kempke, Luyten, Van Houdenhove, Claes et al. (2011).
Figure 1 | The stress system. When the brain detects a threat, a coordinated physiological response involving autonomic, neuroendocrine, metabolic and immune system components is activated. A key system in the stress response that has been extensively studied is the hypothalamus–pituitary–adrenal (HPA) axis. Neurons in the medial parvocellular region of the paraventricular nucleus of the hypothalamus release corticotropin-releasing hormone (CRH) and arginine vasopressin (AVP). This triggers the subsequent secretion of adrenocorticotropin hormone (ACTH) from the pituitary gland, leading to the production of glucocorticoids by the adrenal cortex. In addition, the adrenal medulla releases catecholamines (adrenaline and noradrenaline) (not shown). The responsiveness of the HPA axis to stress is in part determined by the ability of glucocorticoids to regulate ACTH and CRH release by binding to two corticosteroid receptors, the glucocorticoid receptor (GR) and the mineralocorticoid receptor (MR). Following activation of the system, and once the perceived stressor has subsided, feedback loops are triggered at various levels of the system (that is, from the adrenal gland to the hypothalamus and other brain regions such as the hippocampus and the frontal cortex) in order to shut the HPA axis down and return to a set homeostatic point. By contrast, the amygdala, which is involved in fear processing, activates the HPA axis in order to set in motion the stress response that is necessary to deal with the challenge. Not shown are the other major systems and factors that respond to stress, including the autonomic nervous system, the inflammatory cytokines and the metabolic hormones. All of these are affected by HPA activity and, in turn, affect HPA function, and they are also implicated in the pathophysiological changes that occur in response to chronic stress, from early experiences into adult life.
Affect & Self Regulation Through Mirroring

Psychological Self: 2nd Order Representations

Physical Self: Primary Representations

Constitutional self in state of arousal

Representation of self-state: Internalization of object’s image

symbolic organisation of internal state

Expression

Reflection

Resonance

Infant

CAREGIVER

With apologies to Gergely & Watson (1996)
Fonagy, Gergely, Jurist & Target (2002)
Re-emergence of non-mentalizing modes under increasing arousal = maladaptive attempts at affect regulation

- Teleological mode
- Psychic equivalence mode
- Extreme pretend mode
Psychic equivalence mode

- What is thought is felt as real
- **Everything becomes too real** (e.g., thoughts, feelings)
- Decoupling of Mz or de-symbolization (concreteness of thought): Rejection literally hurts (Eisenberger et al., 2003)
- No room for “pretend”, “play”, symbolization, or inner security of mental exploration
- Particularly in **traumatized patients**
Psychic equivalence mode

- **Very painful feelings** of shame, sadness, emptiness, badness, which threaten to disintegrate the self -> evacuation by means of projection, projective identification, dissociation, self-harm
- **Psychological pain means bodily pain**, worries feel like a painful weight on one’s shoulders, and depressive thoughts literally “de-press” the self
- “hyperembodiment” => de-symbolization
- Risk of fundamental “mis-understanding”, that can be interpreted as unresponsive, rejecting, but also as a re-traumatization, and wilful misunderstanding by a cruel, sadistic therapist
“Somatic markers” of inner mental states*

• Hand clenching, tension, sighing, transpiration, cramps, head ache, dizziness, pseudoseizures, fainting, throwing up
• Face, Voice (inflections, speech-like vocalizations, ...)
• Moving away or towards (e.g., moving head away, closing eyes, mouth, sitting back)
• Little or no awareness of link with inner mental states and interpersonal relationships

Psychological Self: 2nd Order Representations

Physical Self: Primary Representations

Constitutional self in state of arousal

Representation of self-state: Internalization of object’s image

Expression

Reflection

Resonance

symbolic organisation of internal state

contingent display

expression of understood affect

signal

non-verbal expression

Infant

CAREGIVER

Fonagy, Gergely, Jurist & Target (2002)
Teleological mode

- Behavior and thoughts are equated
- Primacy of the physical/observable
- “I only believe it when I see it”
  - Only what you see is real
  - Strong belief in biological causes of disorder (“somatic attributions”)
Extreme pretend mode and intellectualisation

• Cognitive hypermentalization and intellectualization/rationalisation
  ▫ Mentalization severed from reality
    (“the educated neurotic”, “canned language”)
  ▫ May lead to wrong impression of therapeutic work and progress

• Affective hypermentalization
  ▫ Elaborate, overwhelming, confusing narratives (e.g., on TAT, Rorschach)

• Dissociation/”driving oneself crazy”
Hypo-hypermentalizing in FSS

- “Hypomentalizers”: Sometimes derogation of mental life as such (“alexithymic”)
- Sometimes “hypermentalizers”: may look as highly sophisticated, insightful on first impression, but this often reflects cognitive hypermentalization

= collapses under increasing stress, leading to resurgence of symbiotic needs and negative self-views that are defended against


A biobehavioral switch model of the relationship between stress and controlled versus automatic mentalization (Based on Mayes, 2000)
Evidence for hypomentalizing

• **Alexithymia***
  ▫ Only small subsample, mainly traumatized/patients with attachment disorganization
  ▫ In others patients more likely to be a consequence rather than cause under high arousal conditions

• Subic-Wrana et al.**: reduced theory of mind assessed with a computer animation task in 30 hospitalized SFD patients compared to 30 healthy controls

Evidence for hypomentalizing

• Leithner-Dziubas et al. (2010):*
  ▫ low RF (M=2.3)
  ▫ But chronic pelvic pain patients, with high rates of Axis I and axs II comorbidity (54.5% and 36.4% respectively), and high rates of affectionless and neglectful parenting

Figure 2. SCORS Dimension of Understanding of Social Causality as Moderated by the Level of Personality Organization

Figure 1. SCORS Dimension of Complexity of Representations of Others in Both Groups by the Level of Personality Organization

hypomentalizing

• Rudimentary insight into social interactions based on stimulus-response causality logic
• Extreme difficulty in describing other people in terms of inner mental states, or character dispositions
• Instead generally ‘stick’ to external attributes
Figure 3. SCORS Dimension of Emotional Investment in Relationships by Level of Personality Organization
Investment in social relationships

- SFD patients are preoccupied with their own need-fulfilment in relationships, and are unable to hold conflicts and discrepancies in mind
Figure 4. SCORS Dimension of Affective Quality of Interactions as Moderated by the Level of Personality Organization
Affective quality

• Scores for the SFD patients approached normality, in that their expectations from others and relationships are relatively neutral, as opposed to hostile and malevolent
Hypomentalizing with regard to self?

• Oldershaw et al. (2011)
  • 45 patients with chronic fatigue syndrome (CFS), 50 healthy controls
  • CFS patients had no impairments in different ToM tasks, but did have impairments with regard to social cognition pertaining to the self (levels of emotional awareness) = more complex social cognition
  • No impairments in mentalizing outside interpersonal relationships (eg. music emotion test)
  • These impairments were associated with lower ability to establish interpersonal relationships
Hypomentalizing with regard to self?

- CFS patients are less likely to interpret physical sensations as emotions (Dendy et al., 2001)
- Have negative beliefs about emotions, and the control and expression of emotions which are highly correlated with SCP ($r=0.59$) (Rimes & Chalder, 2010; Maher et al., in press)
- Associated with socially compliant attitude with underlying hostility (Hambrook et al., 2010)
- Changes in CBT in beliefs about emotions are correlated with decreases in SCP (Rimes & Chalder, 2010)
Hypomentalandizing with regard to self?

- consistent with general findings concerning MUS patients in that these are less interoceptively accurate in a symptom-related context (Bogaerts et al., 2008, 2010)
Hypermentalizing?

- Dziobek et al. (in press)
  - Fibromyalgia participants did not differ from controls on overall theory of mind as measured by the Movie for the Assessment of Social Cognition (MASC)
  - But did have higher scores on one subscale which taps into overly elaborated/interpreted social cognition (so called ‘exceeding theory of mind’).
Developmental roots?

- Attachment trauma, and particularly emotional neglect, is associated with mentalizing impairments

- In FSS?
  - High levels of insecure attachment and emotional neglect in particular
  - Only emotional neglect predicted attachment deactivating strategies in CFS patients which in turn predicted worse clinical functioning
  - Poor “mind-reading” in parents of adolescents with CFS
Conclusions

- Impairments in (embodied) mentalizing related to combination of:
  - Early adversity (poor mirroring/emotional neglect)
  - Use of attachment deactivating strategies
  - High arousal (as a consequence of disorder and current interpersonal relationships) further impairs mentalizing
  - Impairments in self versus other mentalizing
  - Impairments in cognitive versus affective mentalizing
Four polarities

• Automatic – controlled
• Internal – external
• Self – other
• Cognitive - affective

Shared neural circuits for mentalizing about the self and others (Lombardo et al., 2009; J. Cog. Neurosc.)

- Self mental state
- Other mental state
- Overlapping for Self and Other
Implications for Treatment

Dynamic Interpersonal Theory - FSD

- Builds on insights into the development of the embodied mind
- DIT-FSD assumptions:
  - Symptoms are related to threats to attachment system
  - Reflect impairments in stress/affect regulation associated with secondary attachment strategies and resulting mentalizing impairments

DIT-FSD

• Basic principles:
  ▫ Define and work through typical Interpersonal Affective Focus (IPAF)
  ▫ Starting from symptoms, “somatic markers” and often feeling of not being recognized/accepted/understood

• “Dangers” in SCP patients:
  ▫ Denial of role of psychological factors
  ▫ Pseudomentalization (“pseudoprofessional”)
  ▫ “pseudo-engagement”
Early Phase

• Validation
  ▫ Validation of negative experiences resulting from the illness and response by others ("understanding lack of understanding")
  ▫ Support the patient in seeking help for complaints

• Inquisitive, mentalizing stance
  ▫ Immediate interest in mental states concerning self and others, and the link between both
  ▫ Modeling curiosity about mental states
  ▫ Using own experience as example
  ▫ Focus on “somatic markers” of emotions
  ▫ Linking emotions to interpersonal relationships

• Modesty
  ▫ Apologizing for mistakes
  ▫ Being modest about therapeutic aims
Figure. Triangle of Conflict

Defense

Defended Emotion

Anxiety
Early Phase

• **Aims:**
  ▫ Engagement of patient
  ▫ Recovery of mentalizing, mainly through focus on symptoms and relationships -> sense of control and meaning
  ▫ Defining IPAF as focus of treatment
• Spectrum of interventions
  ▫ Supportive/empathic
  ▫ Simple mentalizing interventions focusing of affect: emotion recognition, emotion differentiation
  ▫ Linking inner mental states to symptoms and relationships
  ▫ Mentalizing the transference
  ▫ Directive

• Key role of IPAF
  ▫ Linking symptoms/mental states to relationships
  ▫ Identifying representation of self and other and linking affects and defensive strategy
Conclusions

• Impairments in (embodied) mentalization may play a role in onset and particularly course of FSS
• Has important implications for treatment, regardless of theoretical orientation
• May provide important insights into the origin of the embodied mind
• Current studies focus on
  ▫ Relationship with stress system (HPA axis), genetic polymorphisms, neural systems
  ▫ Intergenerational transmission
  ▫ Treatment development: process and outcome of DIT-FSD
For more information:

patrick.luyten@psy.kuleuven.be

http://ppw.kuleuven.be/psychotherapie/psychoanalyse/e/staff/patrickluyten.html

Password to download is psychoanalysis

New website:
http://ppw.kuleuven.be/klip/medewerkers/Luyten/patrick-luyten