Emotion Regulation, Conversive Disorder and EMDR

Anabel Gonzalez, MD, PhD

Trauma and Dissociation Program.
University Hospital of A Coruña.
Asociación EMDR España

anabelgonzalez@outlook.com

Emotion regulation and dissociation

Table 1: Main findings linking the different clinical conversion manifestations with their associated neurobiological and physiological patterns, as well as emotion regulation predominant strategies.

Conversion symptoms	Clinical subtypes	Neurobiological pattern	Physiological predominant pattern	Emotion regulation predominant strategy
Motor loss	Paralysis and paresis	Global frontal hyperfunction with reduced connectivity between dlPFC and premotor areas. Increased activation in OFC and ACC.	Hipoarousal at baseline, associating decreased habituation. Low basal sympathetic tone.	Overregulation of affect
Immobility/ freezing	Attentional freezing/ aware immobility	Increased dopaminergic transmission at mesolimbic circuits and at the bed nucleus of the stria terminalis.	Sympathetic activation. Hyperarousal state.	Overregulation of affect
	Fight or flight freezing	Increased cannabinoid and noradrenergic transmission Alteration of ACC and HPA axis.	Sympathetic activation. Hyperarousal state.	Underregulation of affect
	Tonic immobility/ immobility with fear	Amygdala hyperactivation causing frontal lobe disinhibition and projecting to the PAGM (it activates the reticular ascendant system and inhibits spinal cord motor neurons).	Simultaneous parasympathetic and sympathetic activation Hypo/ hyperarousal; Arousal instability.	Cycling between under- and overregulation strategies
	Fainting and atonic immobility	Endogenous opioids release (autoanalgesia) that activates vlPAGM and its connections to the medulla and the OFC.	Dorsovagal parasympathetic activation. Hypoarousal.	Overregulation of affect
Sensorial loss	Anesthesia, deafness, blindness and aphony	OFC and dlPFC hyperfunction, as well as other frontal and limbic areas show similar hyperactivity. Sensory cortical areas deafferentation.	Initial hyperreactivity, activating top-down inhibitory responses later on. Hypoarousal.	Overregulation of affect
Positive motor conversion	Tremor, gait disturbances and abnormal movements	Increased amygdala-supplementary motor area connectivity.	Sympathetic activation. Hyperarousal state.	Underregulation of affect
Pseudoseizures	Pseudoepileptic seizures	Hyperconnectivity between the insula, inferior frontal cortex, parietal cortex and precental sulcus. Desynchronization and decoupling between cortical areas.	Decreased parasympathetic tone. Sympathetic activation. Hyperarousal.	Underregulation of affect

More information:

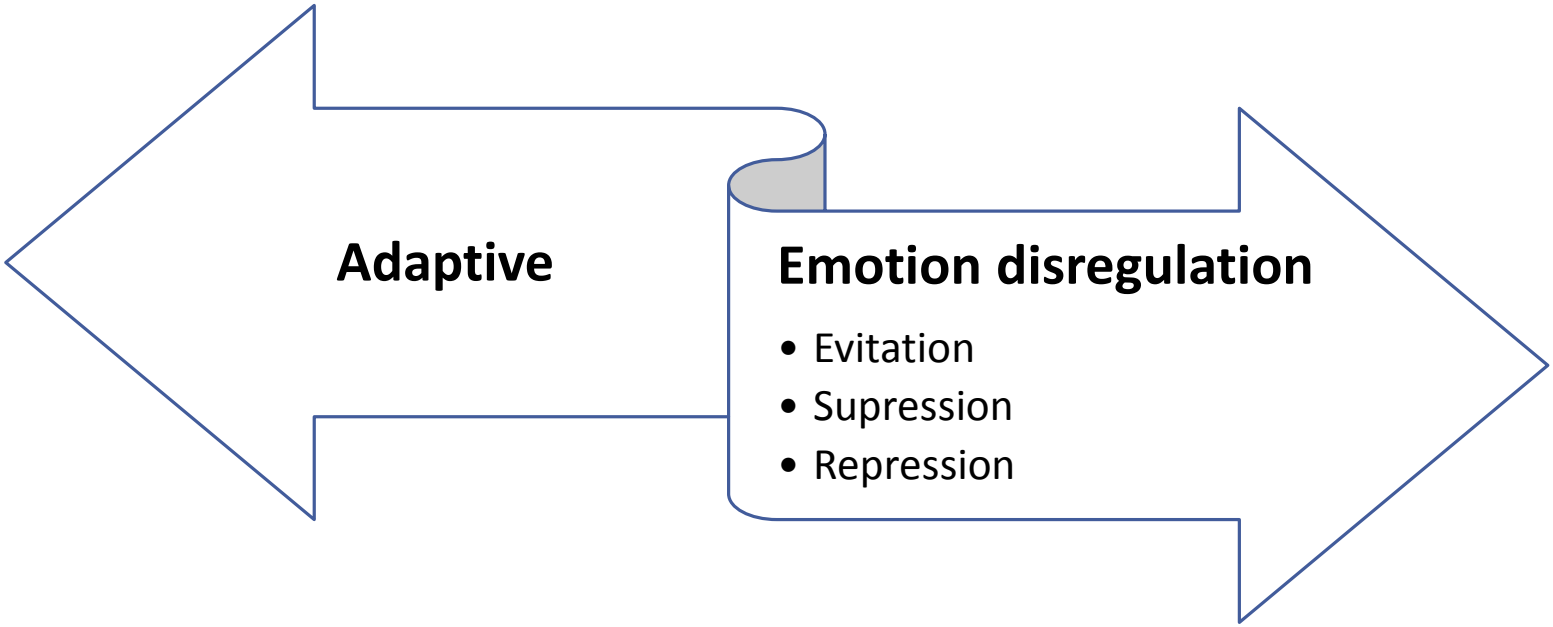
Del Río-Casanova, L.; Gonzalez, A.; Páramo, M.; & Brenlla, J. (2016). Excitatory and Inhibitory Conversive Experiences: Neurobiological Features Involving Positive and Negative Conversion Symptoms. *Rev. Neurosci.* 2016; 27(1): pp 101–110.

Del Río-Casanova, L.; Gonzalez, A.; Páramo, M.; Van Dijke, A.; & Brenlla, J. (2016) Emotion Regulation Strategies in Trauma-related Disorders: Pathways Linking Neurobiology and Clinical Manifestations. *Rev. Neurosci*. aop. DOI 10.1515/revneuro-2015-0045

Emotion regulation

- Internal and external processes
- Monitorize, valuate and modify our emotional reactions to achieve our goals (Thompson)
- Authomatic vs consciouss

Adaptive and desadaptive emotion regulation (Gross)

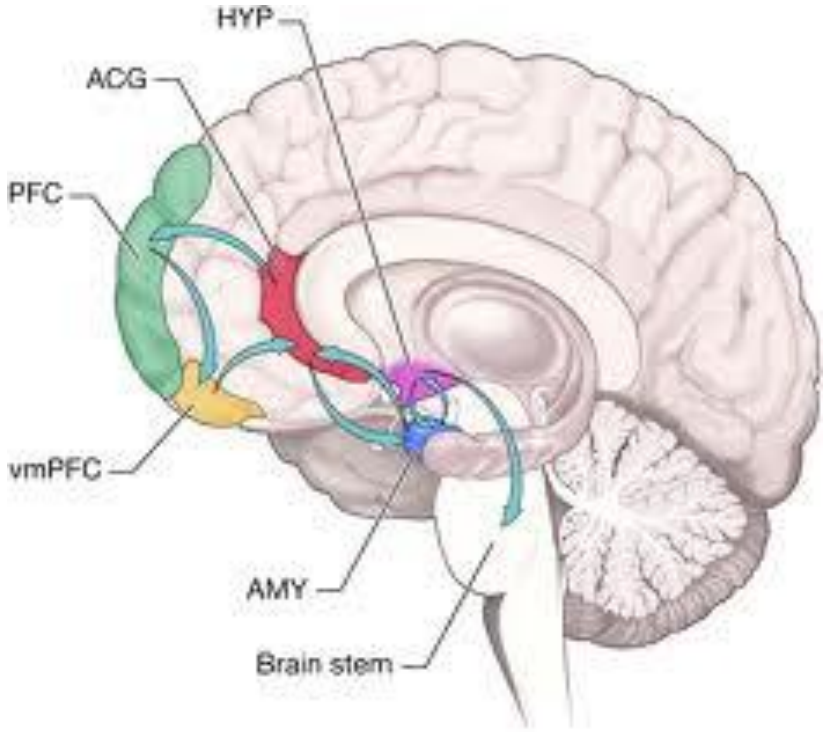


Brain structures involved in emotion regulation

Trauma induces a deficiency in the orbito-frontal system (amygdala regulation)

Prefrontal lobe is related to reflective and metacognitive capacities

Some prefrontal areas are involved in emotion regulation (top-down)

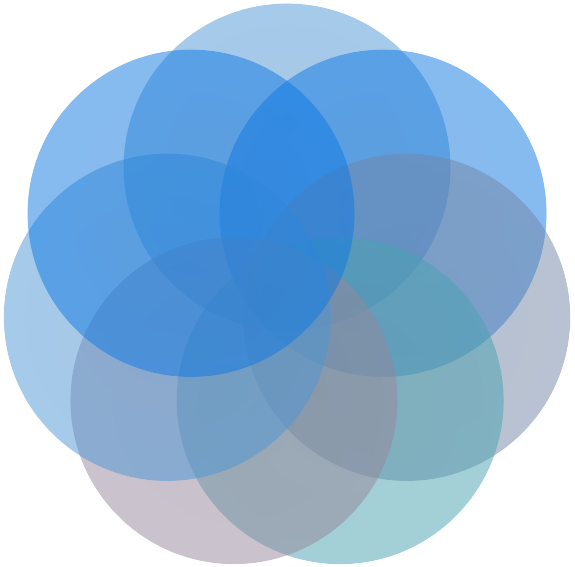


Emotion regulation: beyond the tolerance window

Modulation of emotional responses (both positive and negative emotions)

Authomatic (unconsciouss) and **explicit** (consciouss) processes

Reduction of intense emotional states



Connection with emotions

Dysfunctional strategies: **Supression, avoidance**

Awareness of emotional states

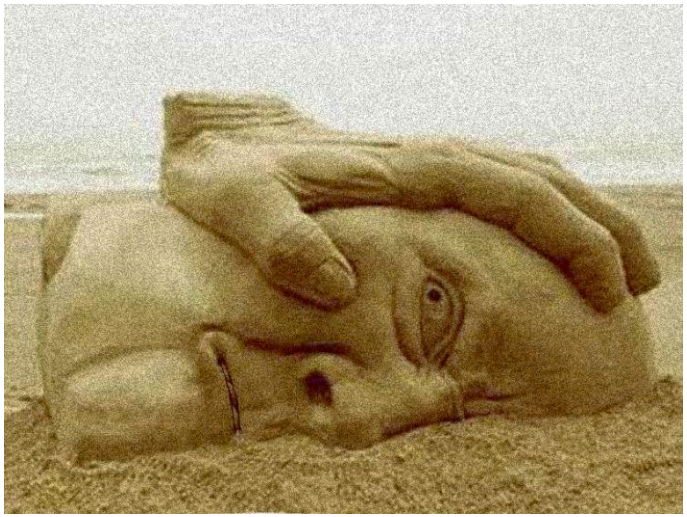
Activation in underarousal states

Top-down regulation: over and underregulation

UNDERREGULATORY STRATEGIES

Extreme emotional lability, letting emotions without any control (affective inertia): I don´t know what to do with my emotions, I cannot do anything with them

OVERREGULATORY STRATEGIES



Excessive control on emotions: I don´t want to feel this, or I don´t want to feel anything

Lanius et al, 2010

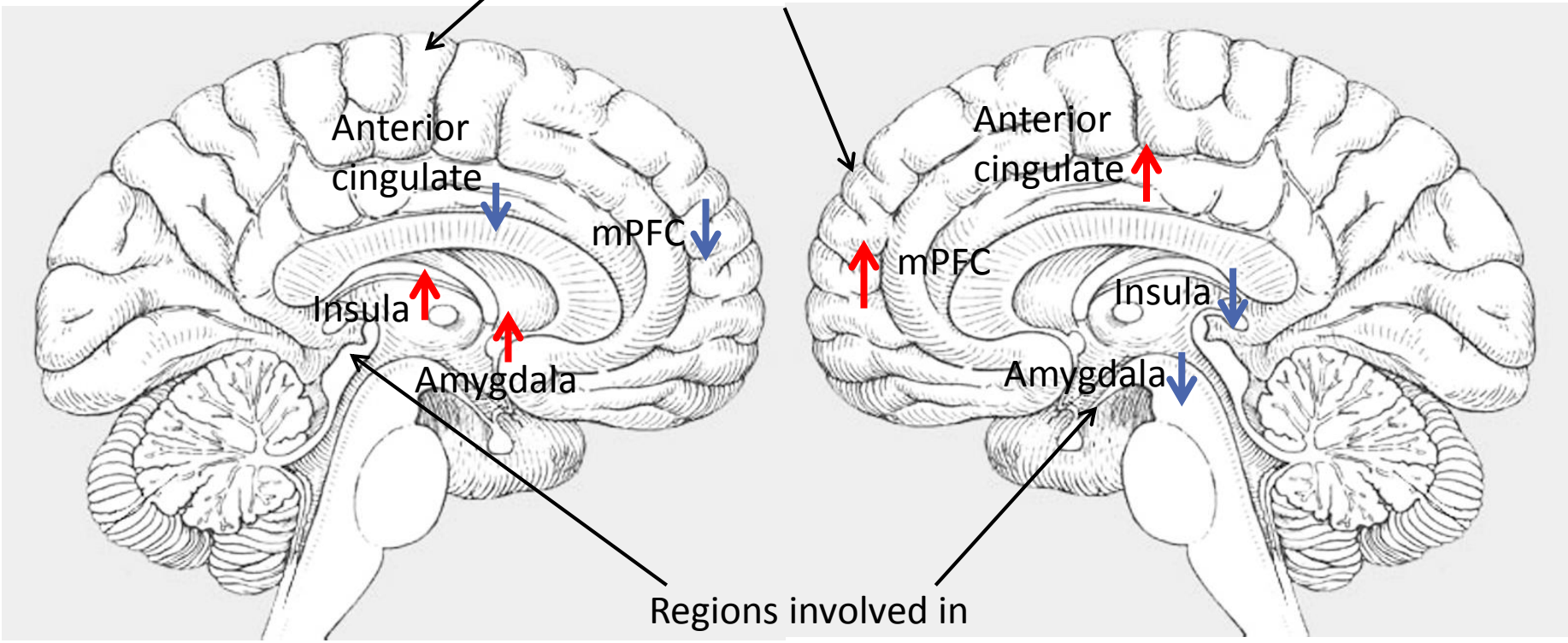
Undermodulation

Overmodulation

Reexperiencing

Dissociation

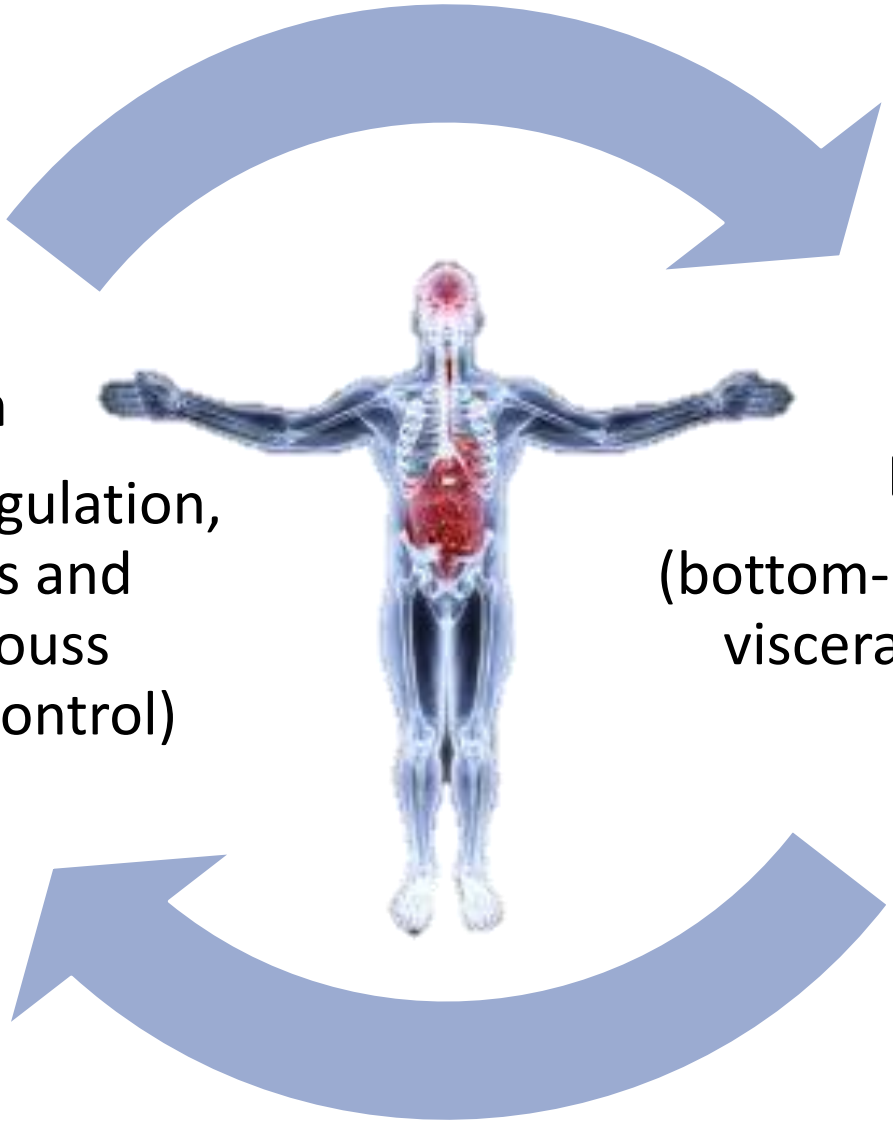
Brain regions involved in emotion regulation and arousal



Regions involved in body awareness

Disorders	Alterations	In therapy
Undercontrolling strategies	Prefrontal ↓ Amygdala ↑	When “go with that is not enough”
PTSD BPD Overaroused DD	Hyperemotionality Patients do not know what to do with their emotions Compensatory strategies: evitation, external regulation	The therapist should “train prefrontal activity” Change compensatory strategies
Overcontrolling strategies	Prefrontal ↑ Amygdala ↓	When “go with that is not enough”
Dissociative TEPT Dissociative BPD DD with more disconnection and/or somatoform dissociation	Hypofunctioning (underarousal) or hyperfunctioning amygdala (attempt of cognitive control on overarousal)	The therapist promotes connection and/or modulates cognitive intervention on emotions

Brain-body interaction



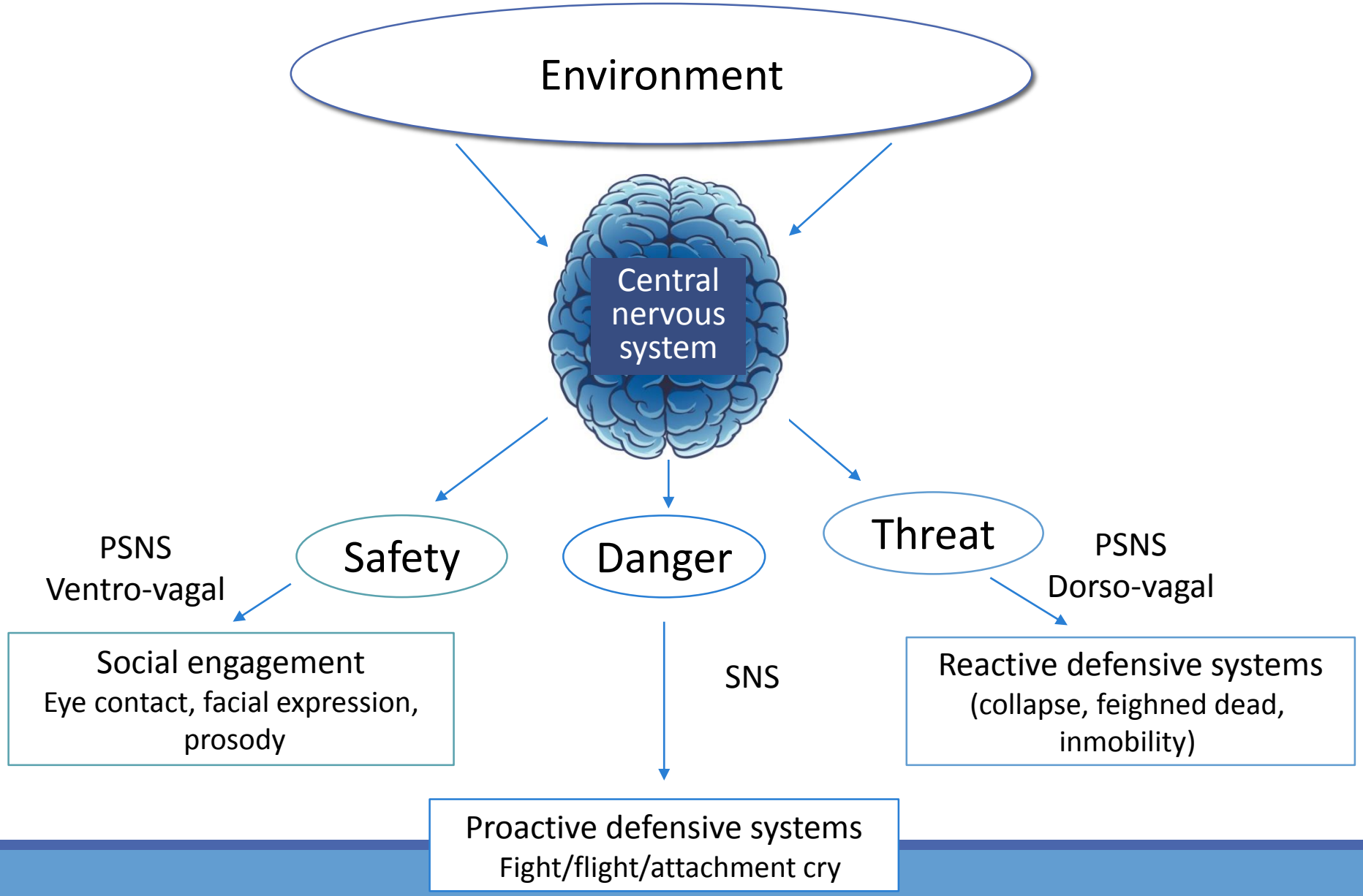
Brain

(top-down regulation, consciouss and unconsciouss prefrontal control)

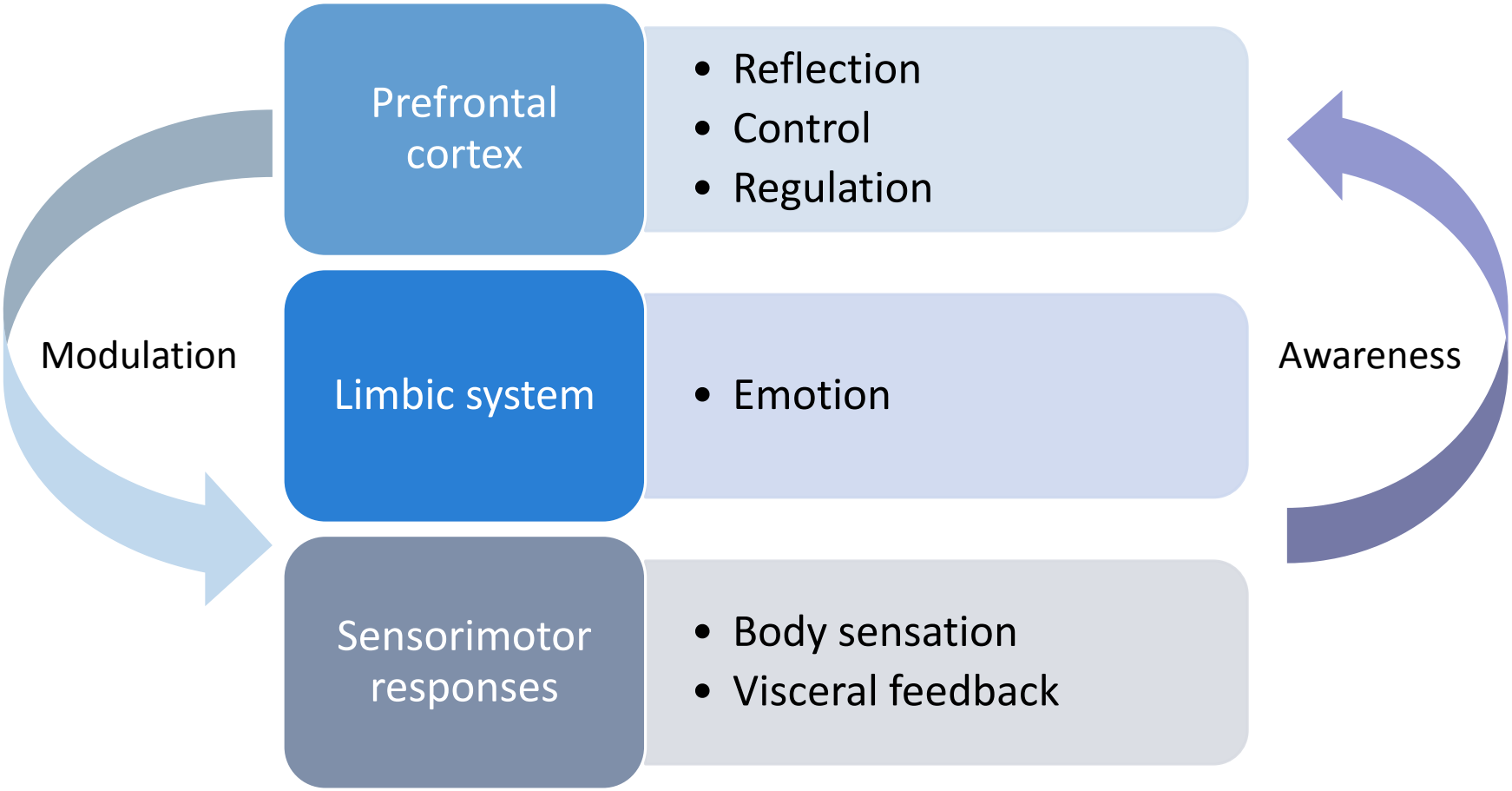
Body

(bottom-up regulation, visceral feedback)

Polivagal theory(Porges)



Levels of processing



Auto and heterorregulation: emotional resonance

Emotion regulation is interactive in human beings

I need to be aware of my emotions and differentiate them from other´s emotions

Emotion regulation in phase 1

Is **social engagement** a source for emotion regulation or a traumatic trigger?

There is **hyper or under-arousal** at a basal functioning level?

Are emotion regulation strategies based on **over or under-control**?

There is **avoidance or suppression** usual styles for coping with emotions?

How is the patient looking at the self and at the different emotions?

Where do we learn emotion regulation? Exploring it from attachment experiences

Growing in early trauma: chronic hyper and hypo arousal

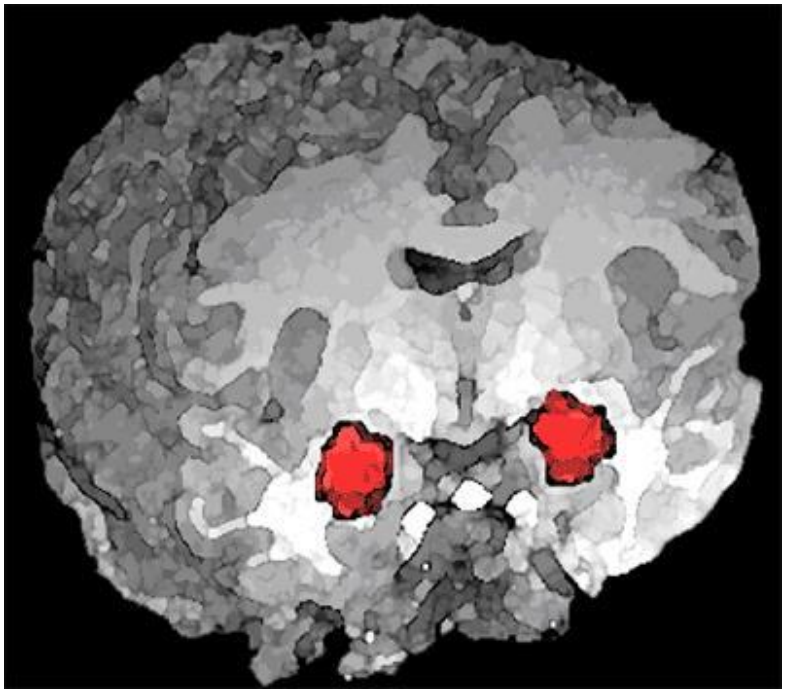
Alert
Danger detection
Hyperreactive

Collapse, paralysis
Giving up, submission

Over and undermodulation

OVERMODULATION OF EMOTIONS

UNDERMODULATION OF EMOTIONS




Learning emotion regulation

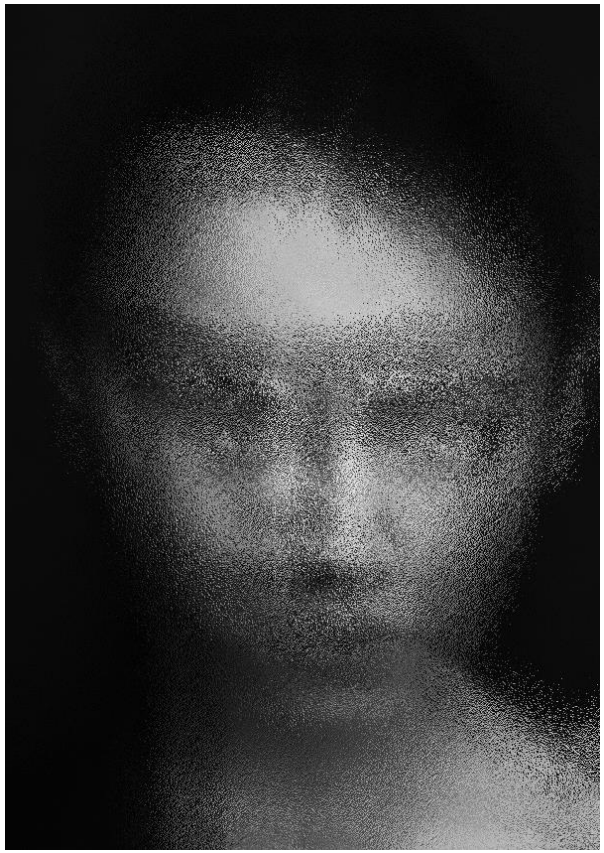
The safe place

Is the secure basis of a good enough caregiver

Positive Cognitions and Self-care patterns

Regulating all the different emotional states

Where do we learn emotion regulation?



Reflections from a clinical case

Questions?

Contact us:
anabelgonzalez@outlook.com

Remember: next year

18th EMDR Europe Conference

Barcelona

June 30th – July 2th 2017