



KONGRESSSEN

SÖDRA TEATERN STHLM

18-19 APRIL 2024

Trauma, Dissociation & Autonomic Dysregulation

- underlying mechanisms
in patients with complex problems

Eva Henje

Professor Umeå Universitet

Överläkare Region Västerbotten



UMEÅ UNIVERSITY

Agenda

1. What is a complex patient?
2. Context, etiology & mechanisms
 - Contextual impact
 - Autonomic regulation & threat responses
 - The impact of adverse events on brain development
 - Memory function
3. Implications for treatment
4. A potential new map of the territory
5. Q & As

1. What is a “complex patient”?

The complex patient

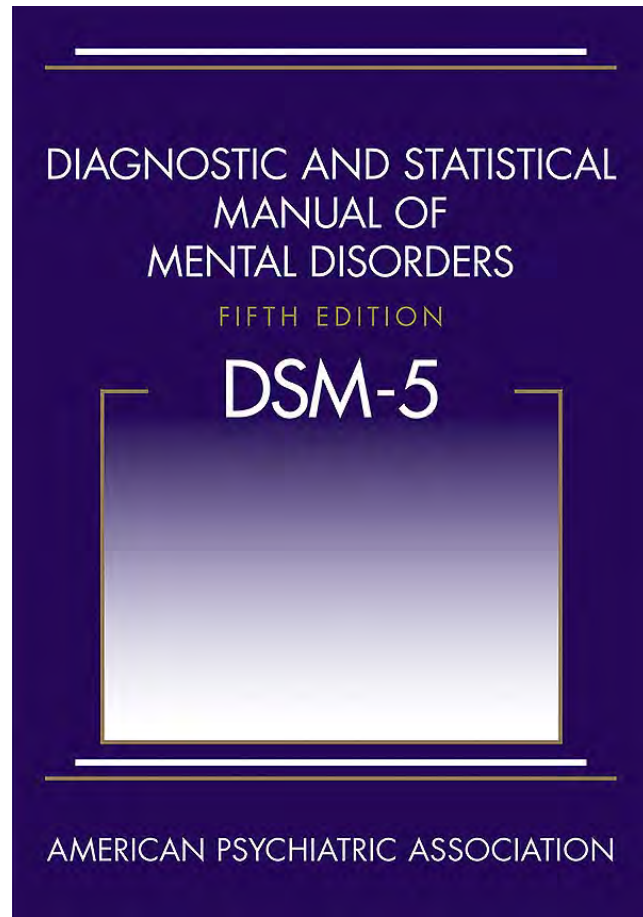
A person with complex symptoms & complex problems
- and often a complex life situation

Someone who has one or several DSM5-diagnosis/es,
- for which there is/are no effective treatments

Someone who doesn't fit our map of the territory

Is this because there is something wrong with our patients' symptoms or with our map of the territory?

Our map of the territory



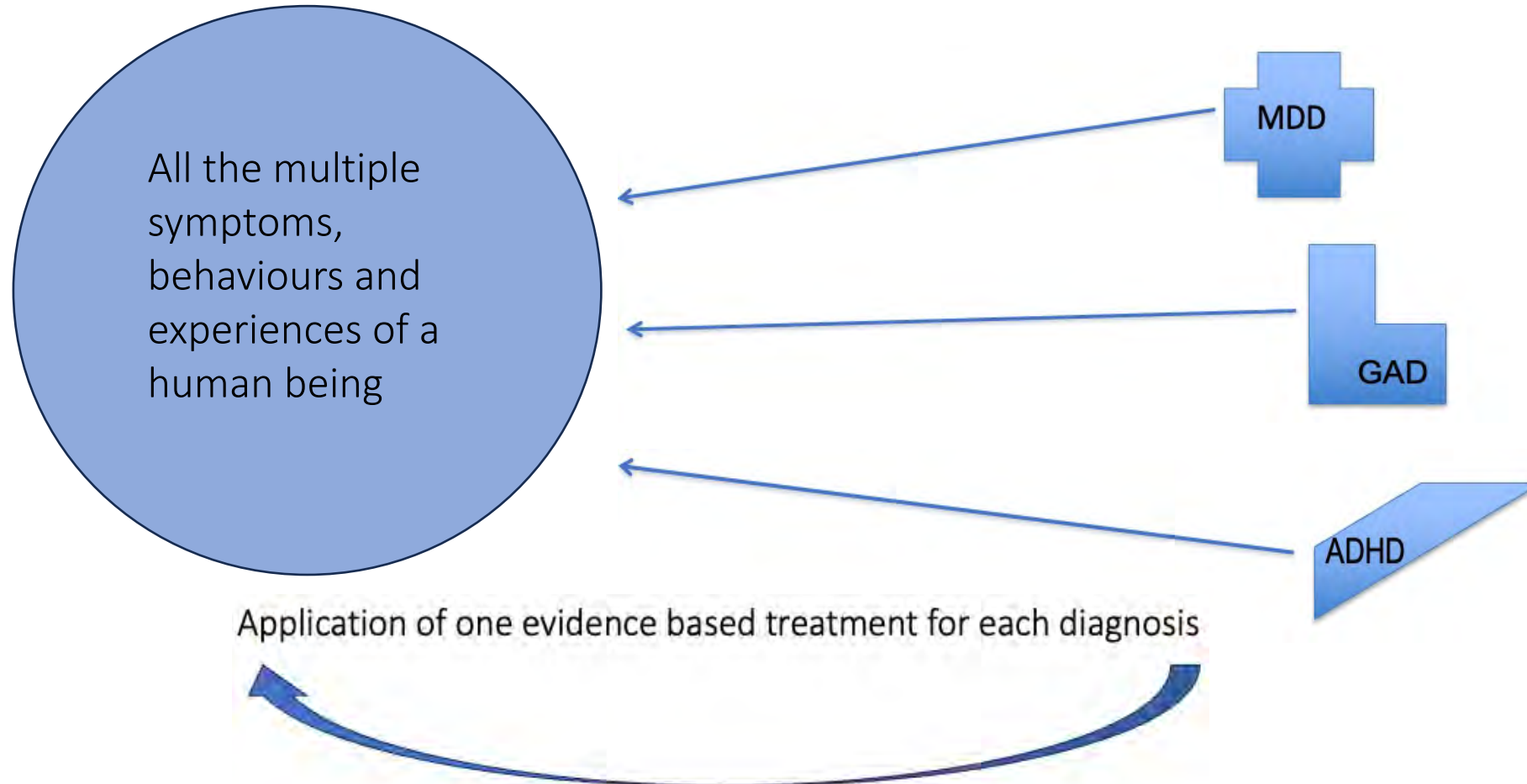
A Classification System

Systematic organization of symptoms based on predefined diagnostic entities

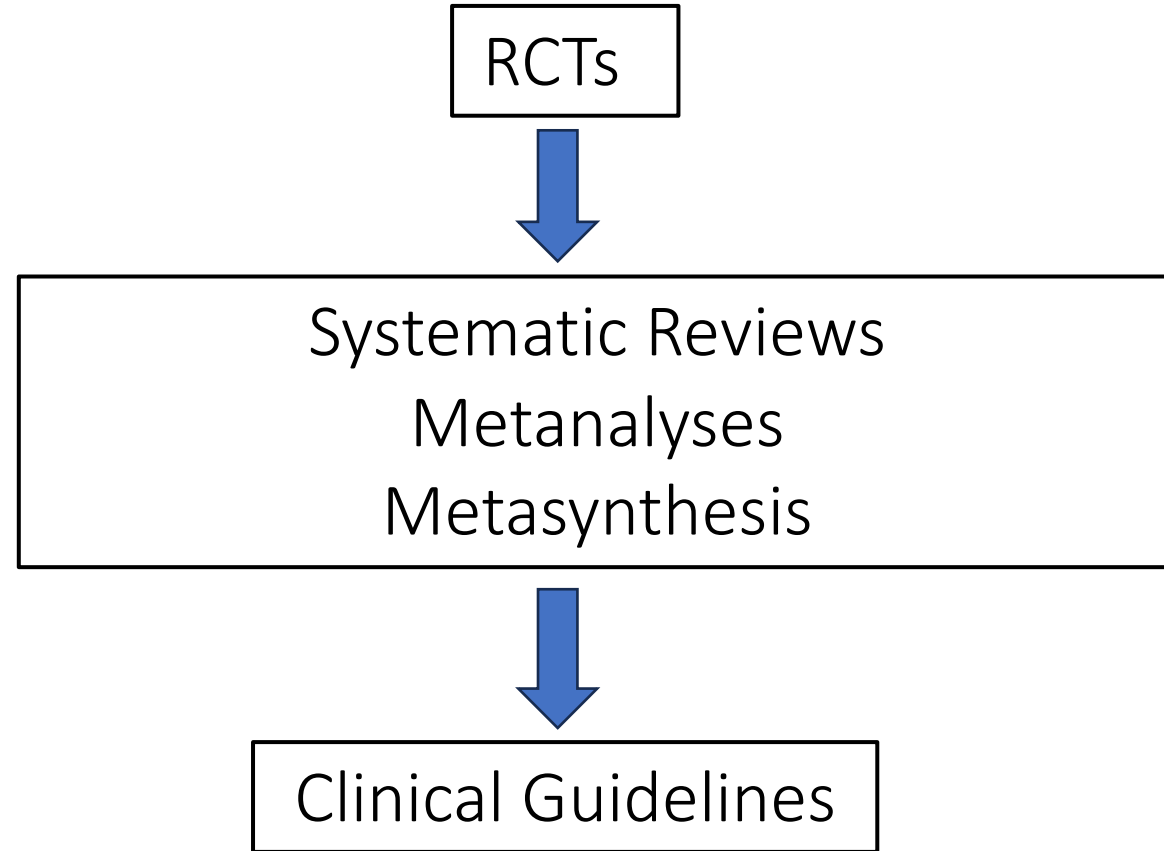
In order to match these diagnoses with evidence based treatments

What is wrong with you?

Which predefined diagnostic entities fit with your multiple symptoms?



Evidence based treatment is based on large scale
Randomized Controlled Trials (RCT)

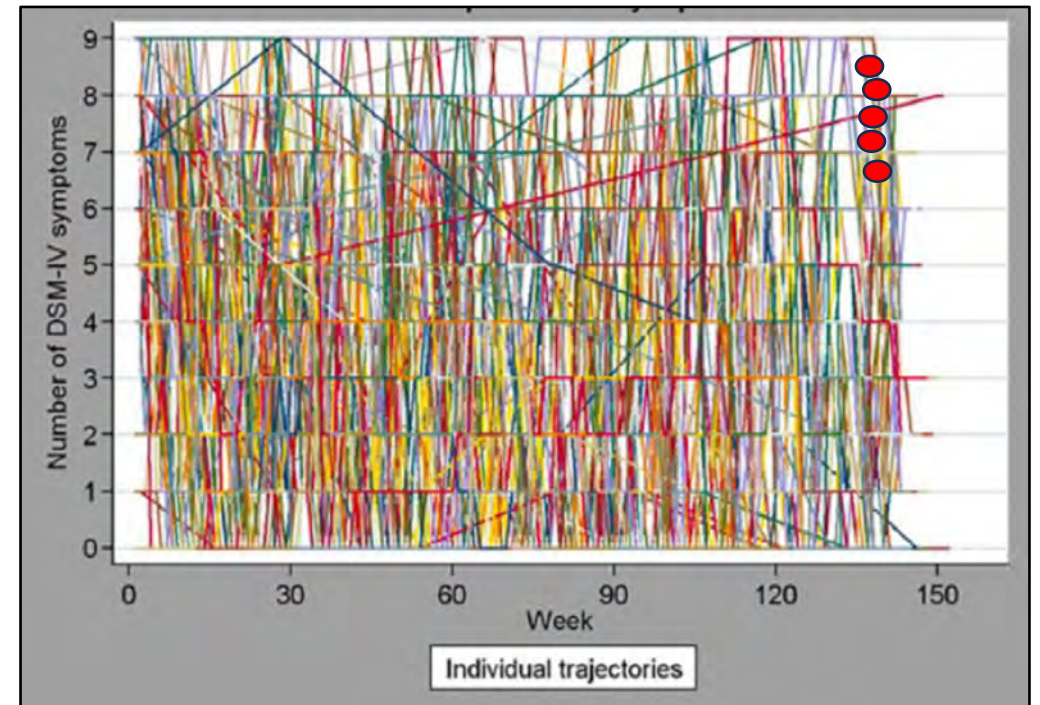
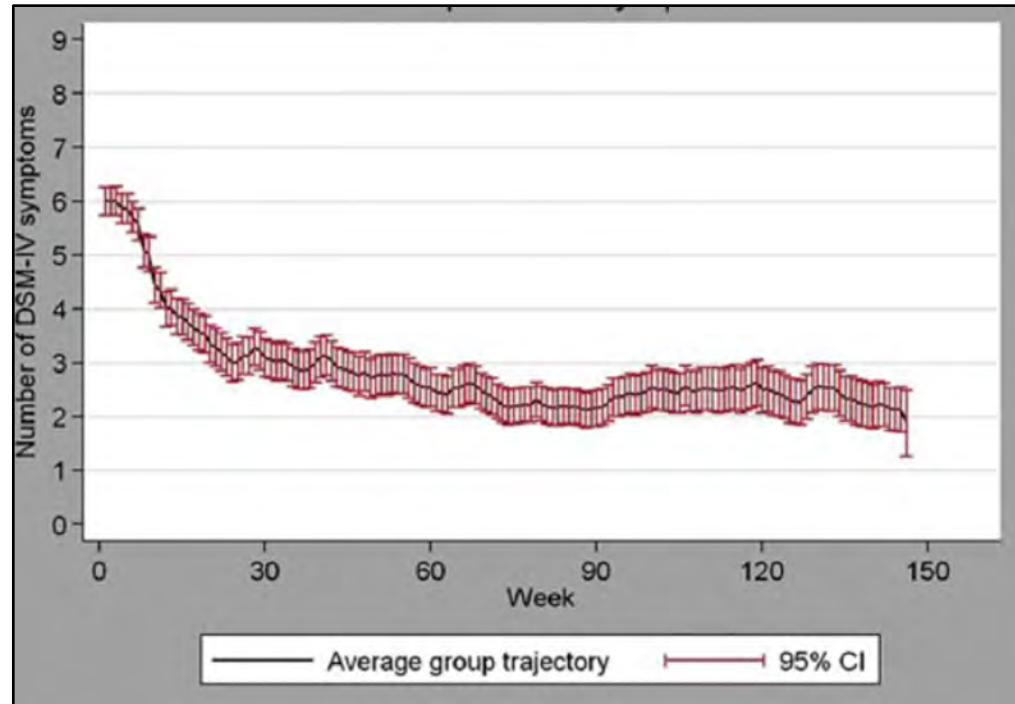


Assumption

Individual level variability is homogeneous and resembles variability at the group level

Can we cross levels?

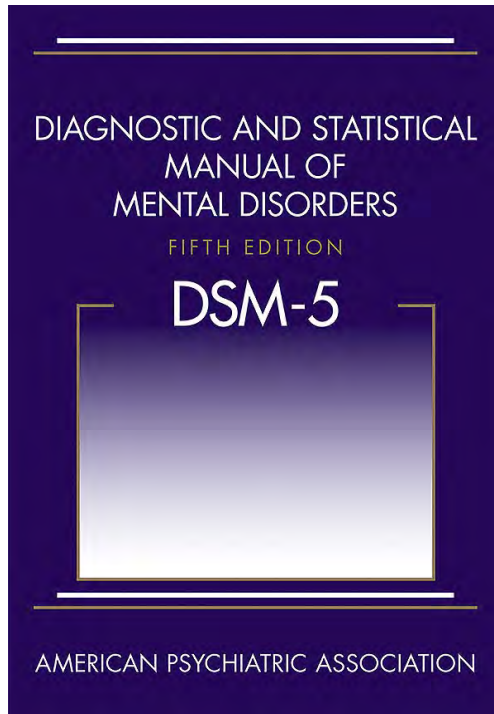
From mean values of a large groups to predictions of effectiveness in one individual





For photos thank you Casey Allen & Latrach Jamil at Unsplash

Classification



Systematic organization of elements based on predefined characteristics

Categorization



Context dependent syntheses of elements based on perceived similarity including **etiology and mechanisms**

2. Context, etiology & mechanisms

2.2 Contextual impact on mental health

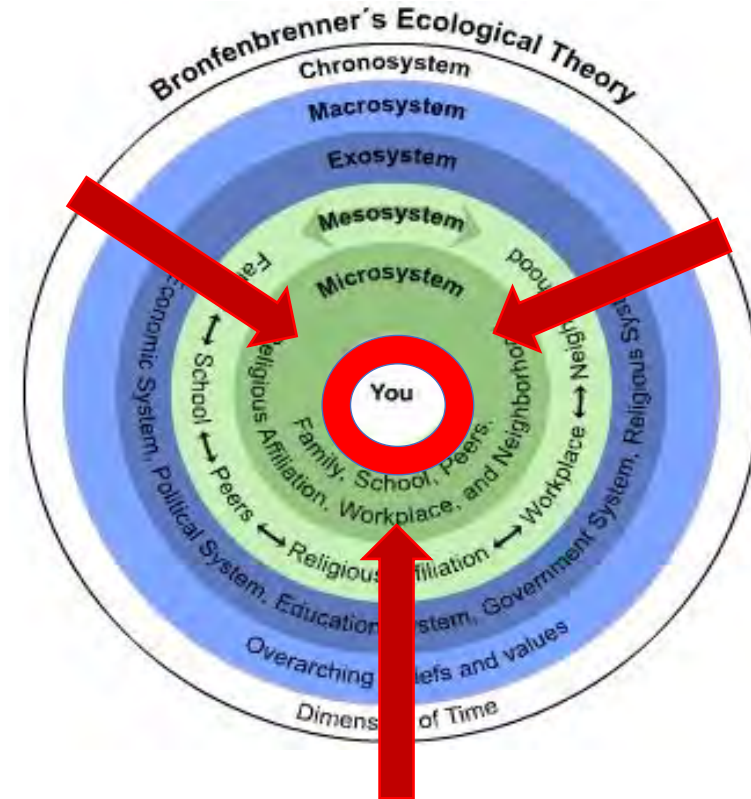
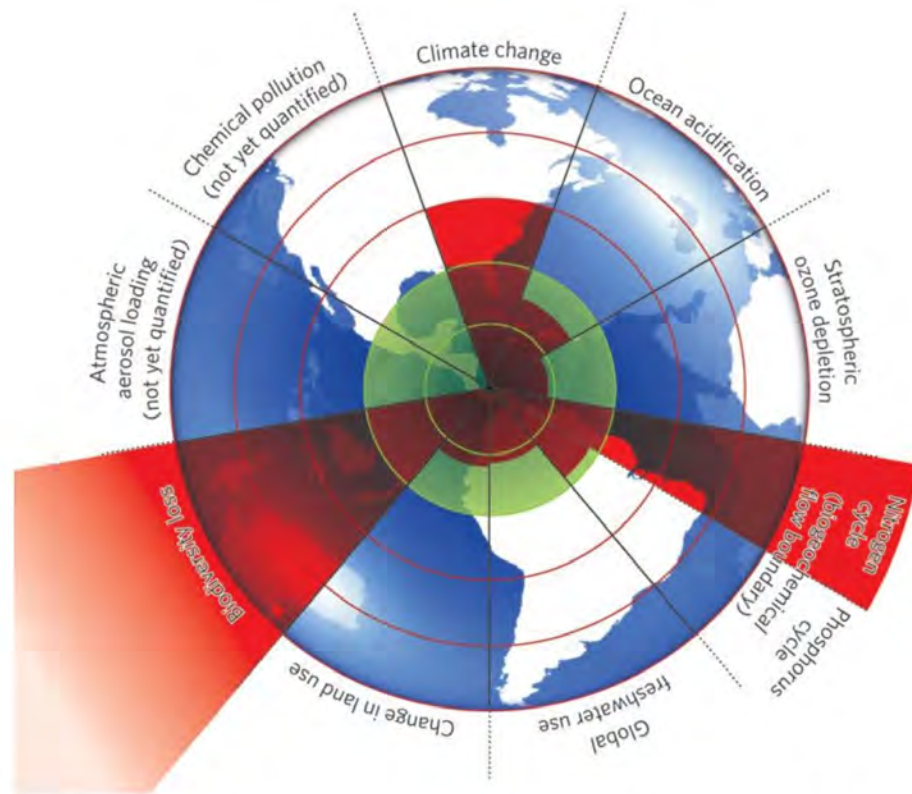
The impact of childhood abuse & neglect

Childhood abuse & neglect – from perinatal period and onward - is accounting for about 45% of the populations attributable risk for childhood onset psychiatric disorders

Other common experiences in our patients lives

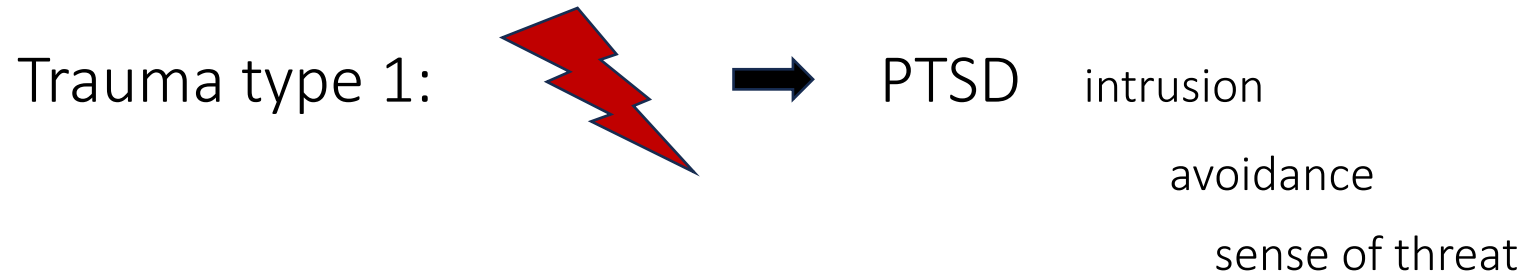
- Chronic violation of human needs:
safety, connection, autonomy
- Overwhelming life experiences:
loneliness, isolation, entrapment, social exclusion,
marginalisation, bullying, harassment, etc.
- **No solutions on board**

Today's children face enormous challenges, some unforeseen in previous generations



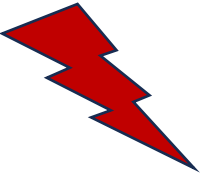
The inner green shading represents the proposed safe operating space for nine planetary systems. The red wedges represent an estimate of the current position for each variable. The boundaries in three systems (rate of biodiversity loss, climate change and human interference with the nitrogen cycle), have already been exceeded.

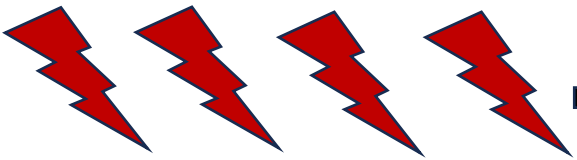
The impact of different types of trauma



DSM-5 & ICD-11

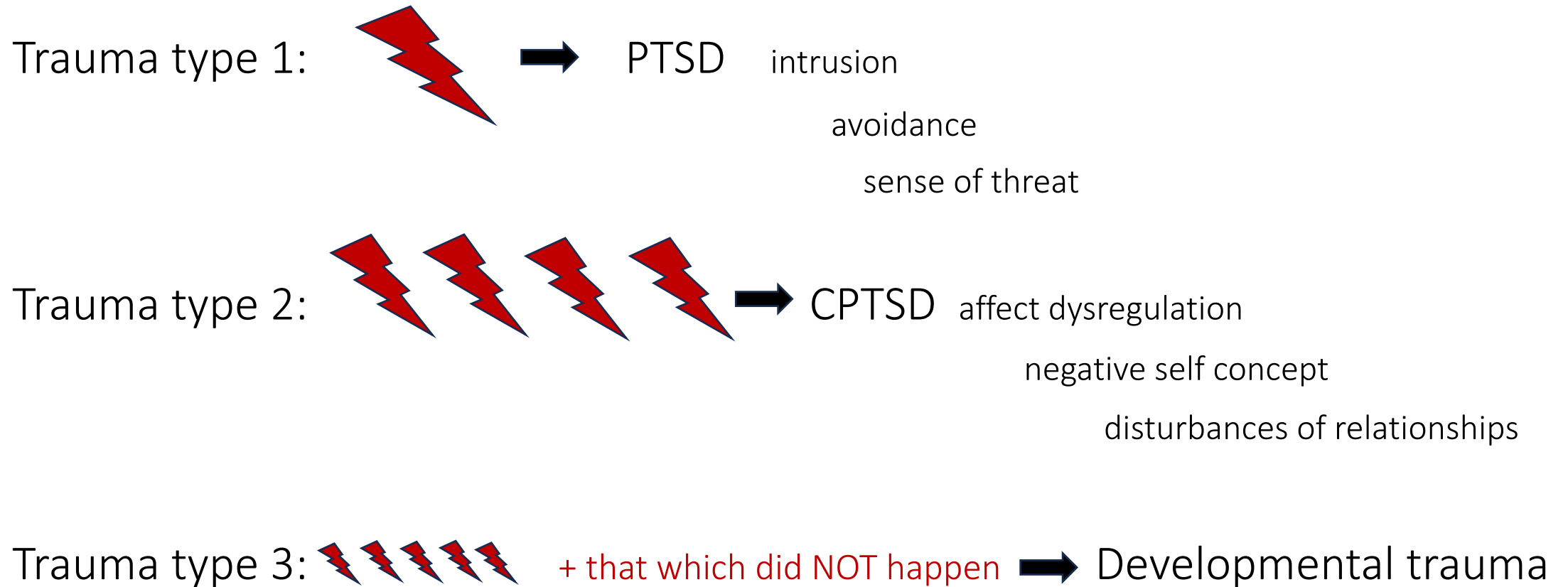
The impact of different types of trauma

Trauma type 1:  → PTSD intrusion
avoidance
sense of threat

Trauma type 2:  → CPTSD affect dysregulation
negative self concept
disturbances of relationships

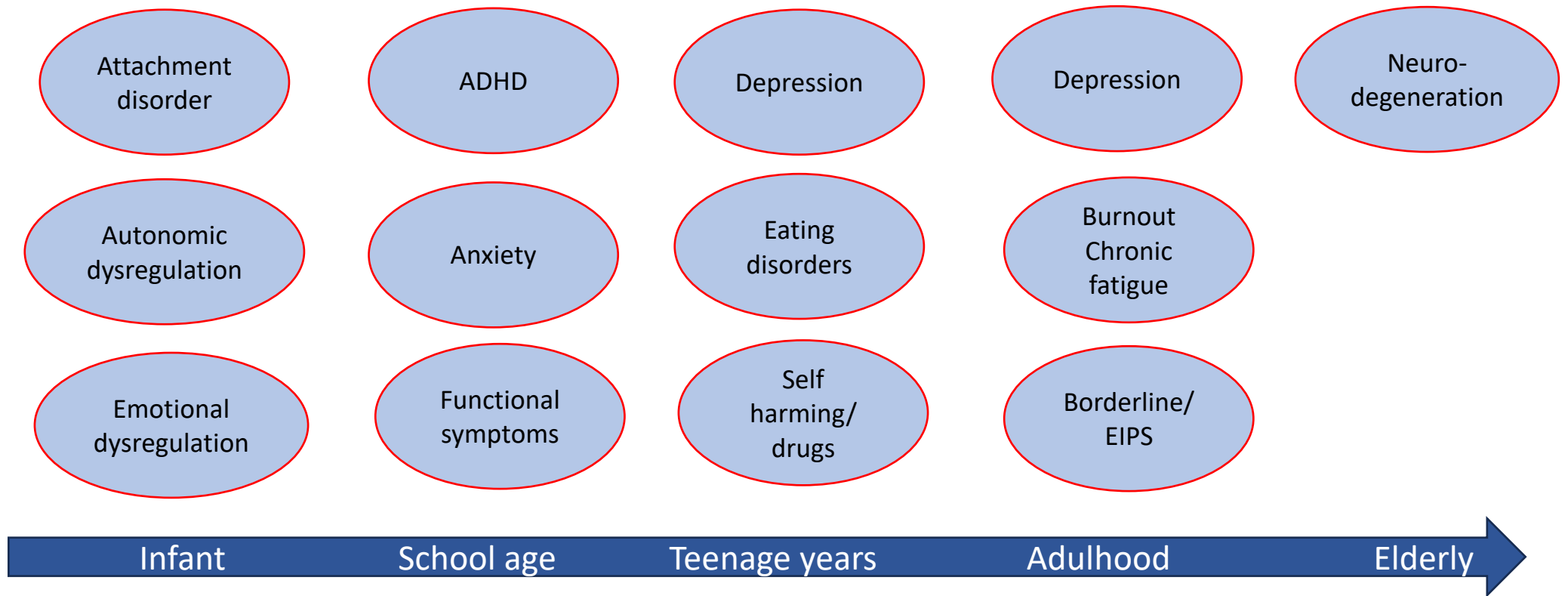
ICD-11

The impact of different types of trauma



NOT A DIAGNOSTIC ENTITY AT ALL

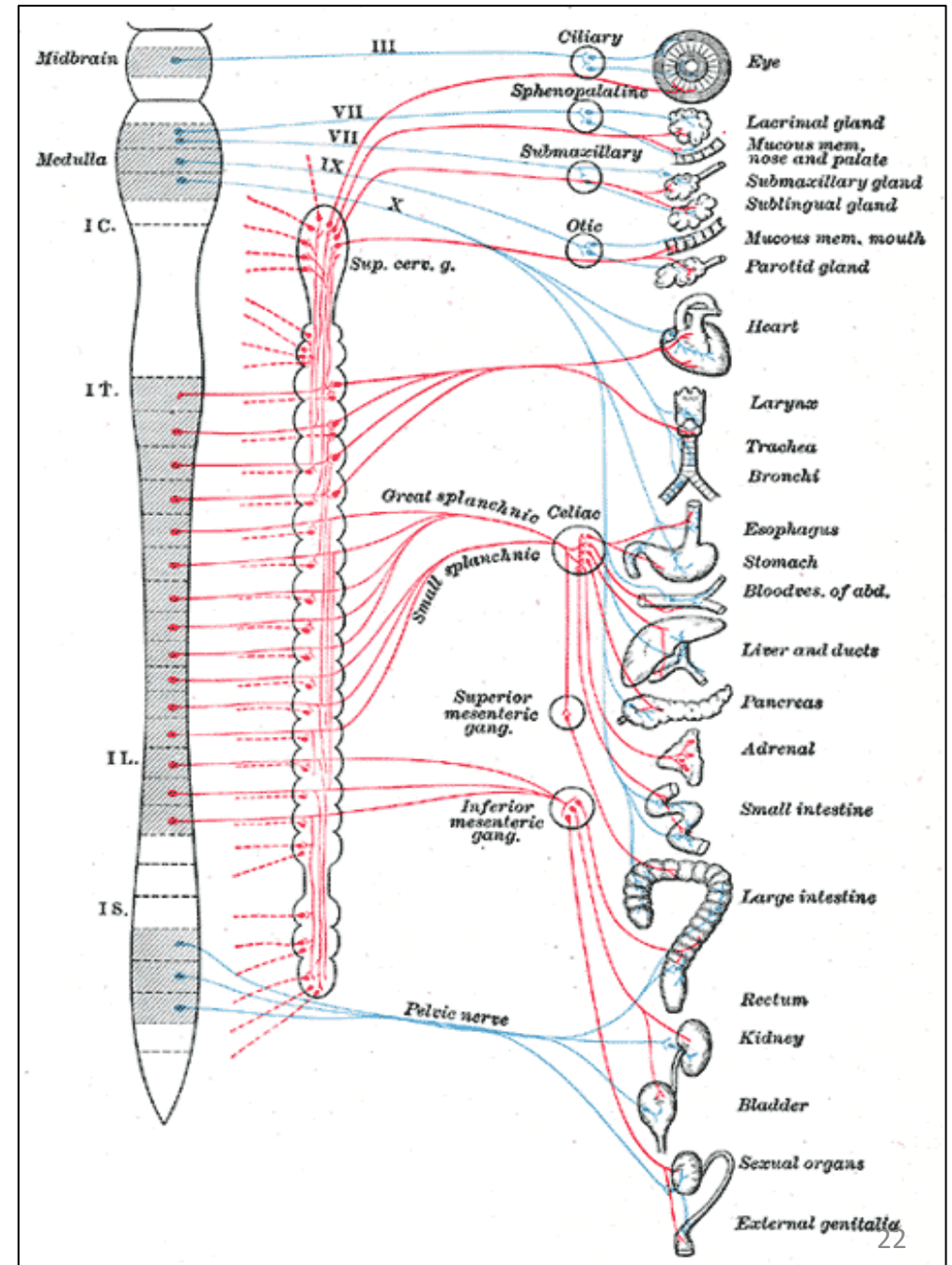
Developmental trauma across the life span?



2. Context, etiology & mechanisms

2.2 Autonomic regulation & threat responses

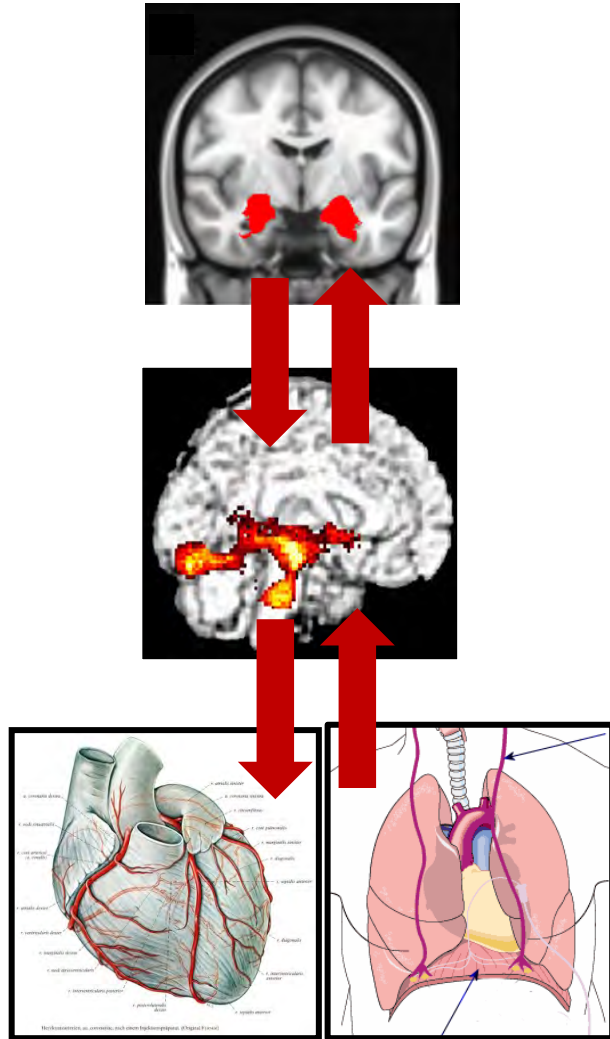
The autonomic nervous system



Henry Gray (1918) Anatomy of the Human Body Bartleby.com:
<https://commons.wikimedia.org/w/index.php?curid=792179>

Autonomic regulation

The amygdala is bi-directionally linked via the vagus nerve to the regulation of the systems involved in the stress response



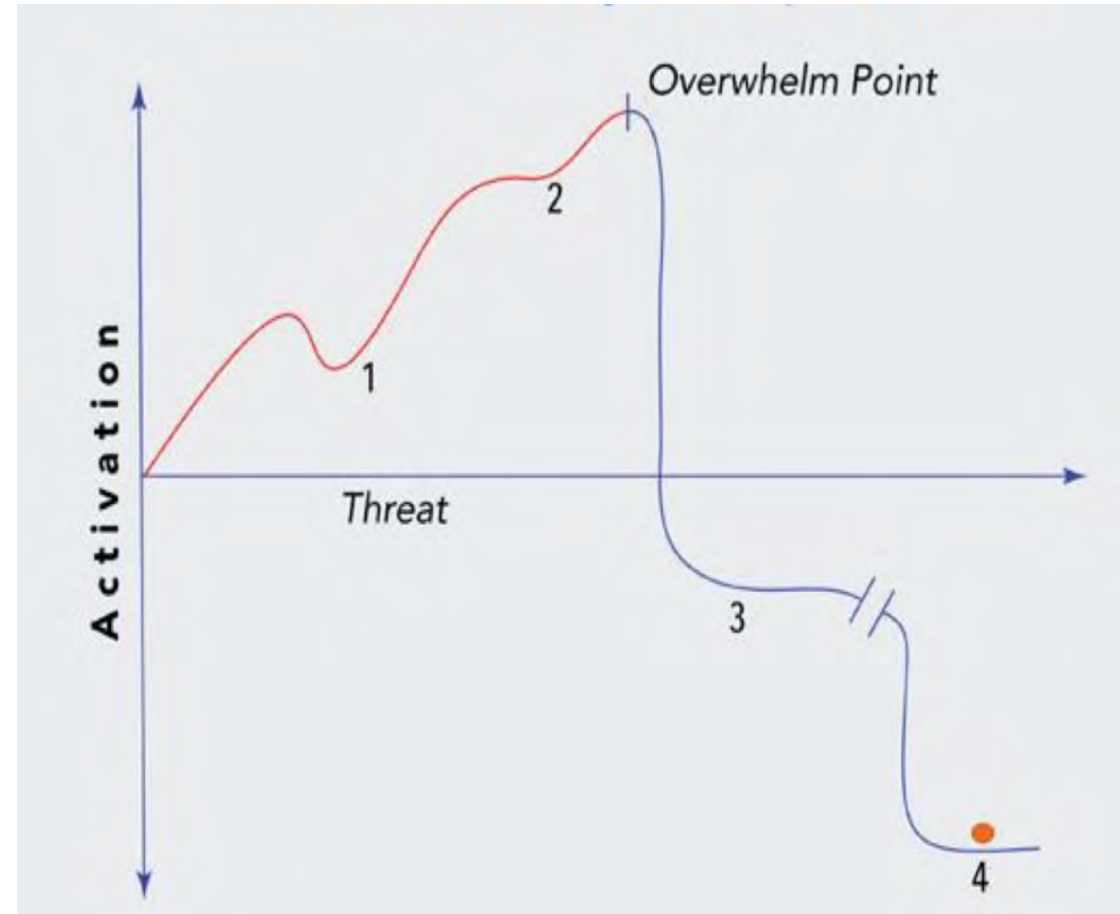
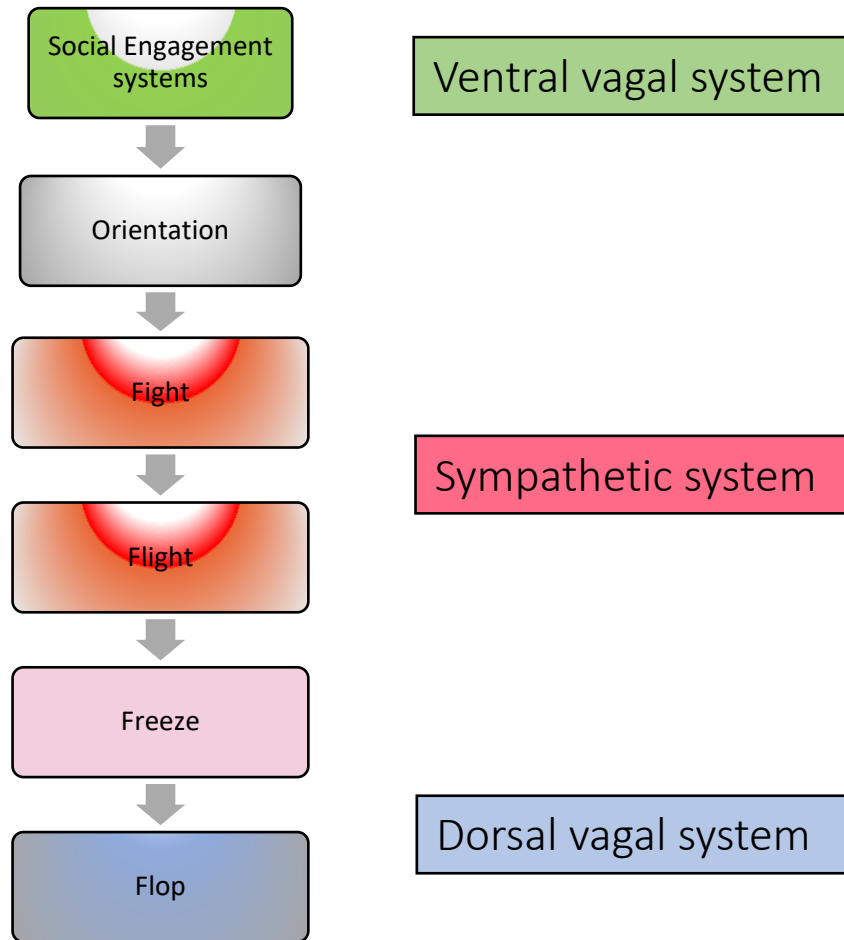
Benarroch EE. Mayo Clin Proc 1993; 10:988–1001

Autonomic regulation

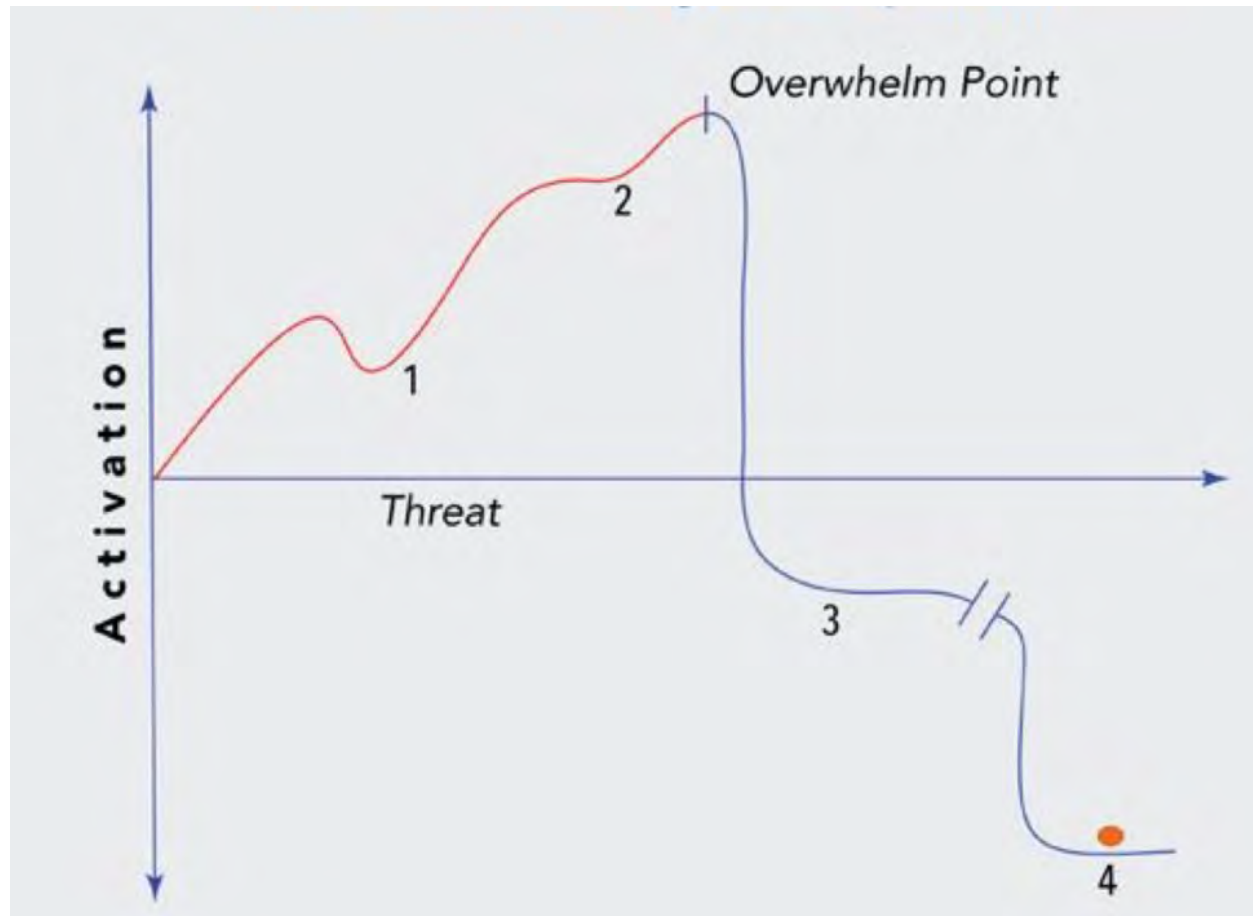


Researchers are unable to distinguish the vagal efferents originating from the Nucleus Accumbens (part of striatum) and the Dorsal Vagal Nucleus.

Acute threat responses

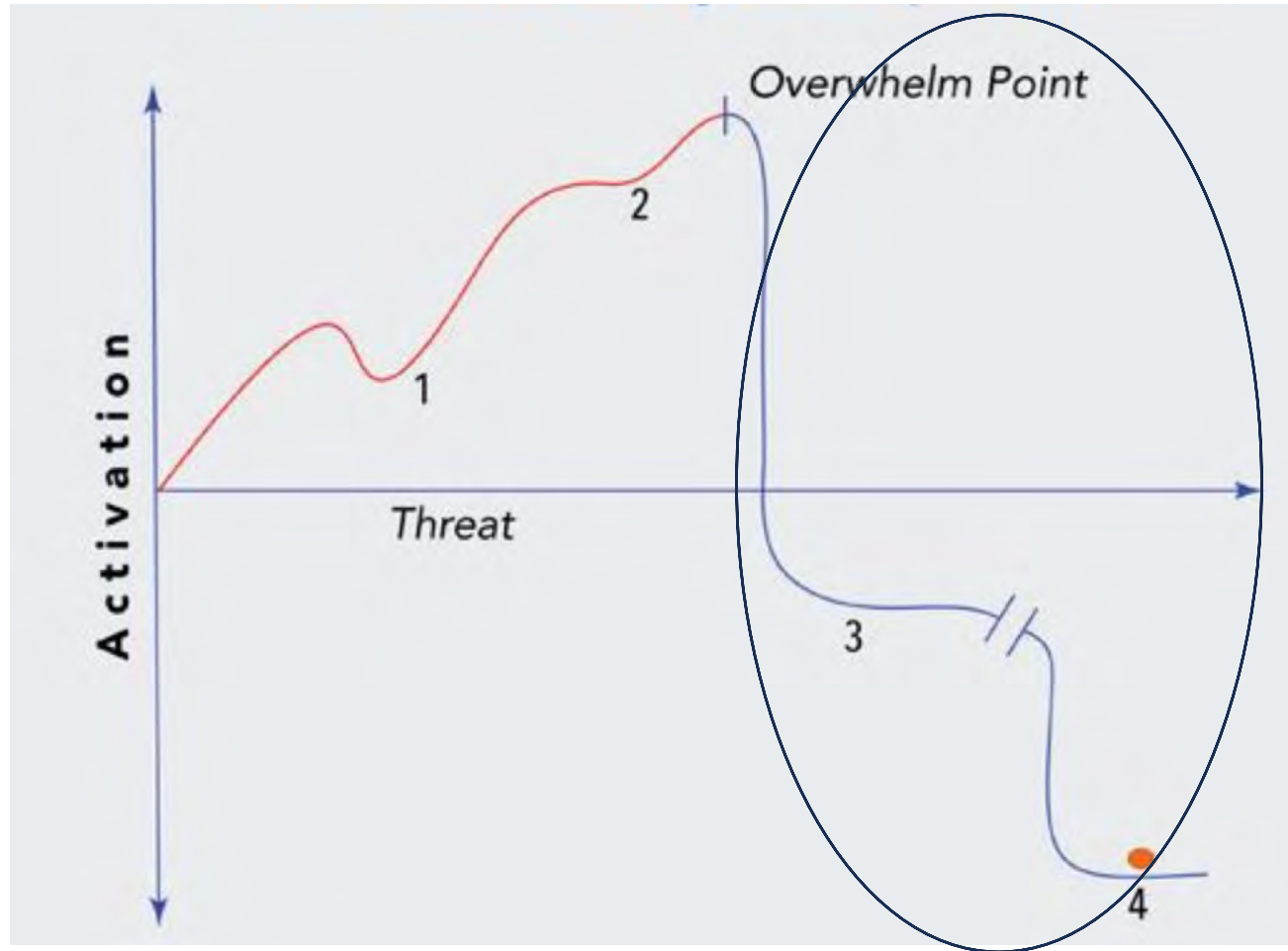


Autonomic Nervous System Response Model



Peter A. Levin, *Accumulated Stress, Reserve Capacity and Disease* (1976),
Eric Wolterstorff *Love and Trauma, Healing trauma and its effects on
ourselves and our relationships, A self-help and clinical manual for
psychotherapists and their clients* (2011). Thanks to **Saj Razvi** for the figure

Chronic dorsal vagal activation



Dissociative states

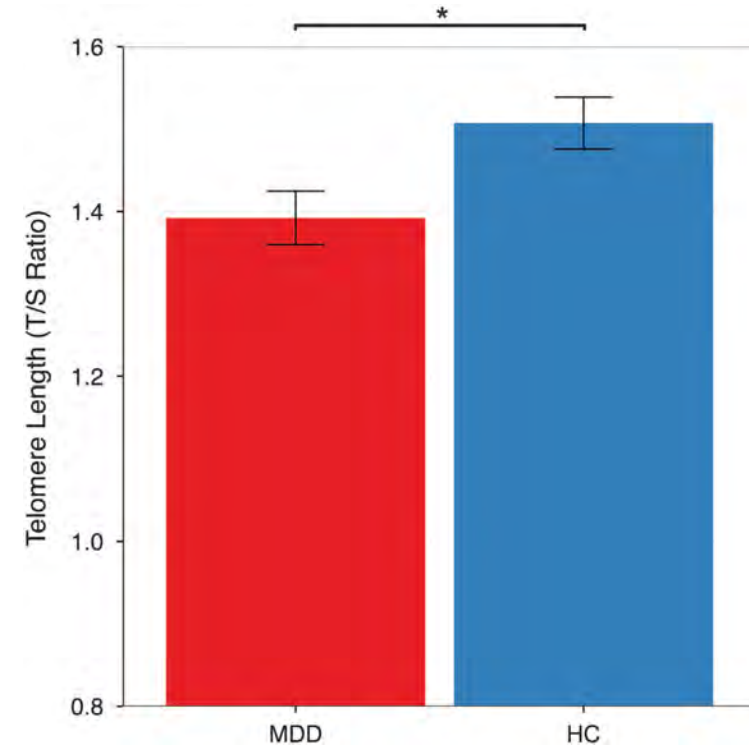
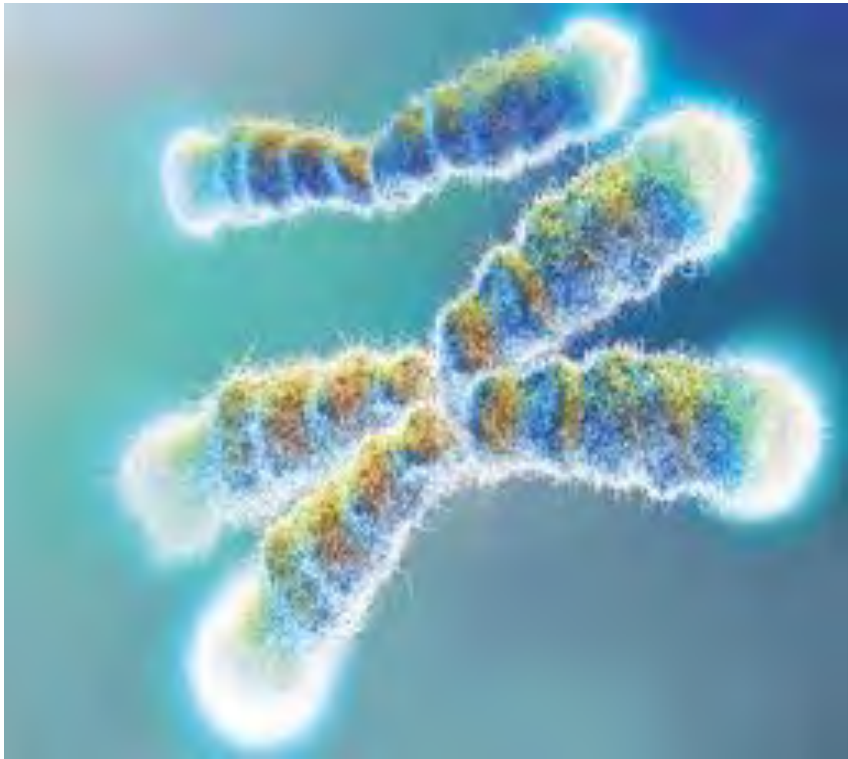
3. Immobilization, high levels of inner stress, depression-like

4. Severe dissociation, numbing, checked out, high endogen opiate release

Hyperinflammation & neuro-degeneration

- HPA-axis exhaustion, increased systemic inflammation
- Triggers the CNS inflammatory cascade with effects on neural plasticity

Accelerated biological aging

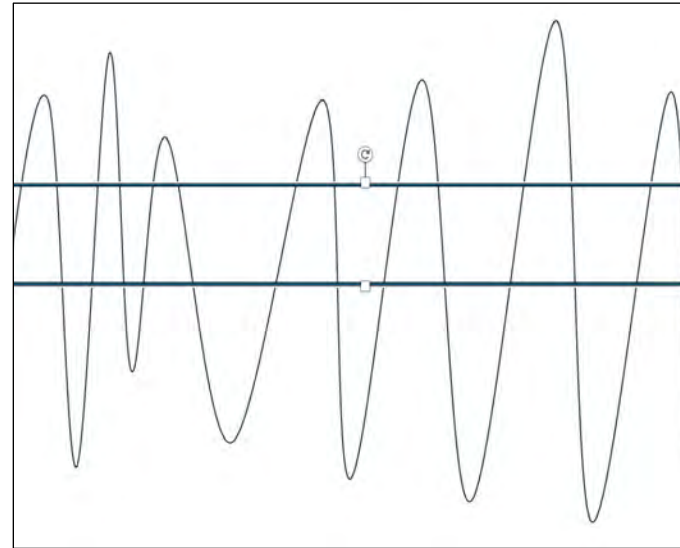
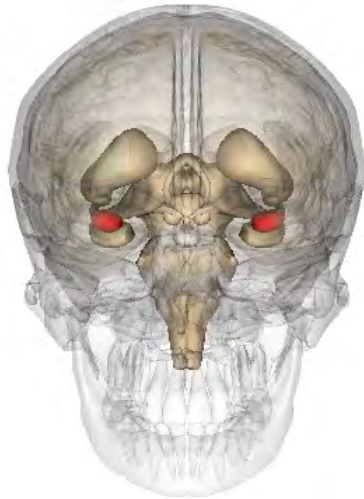


Henje et.al Translational Psychiatry (2015) www.nature.com/tp

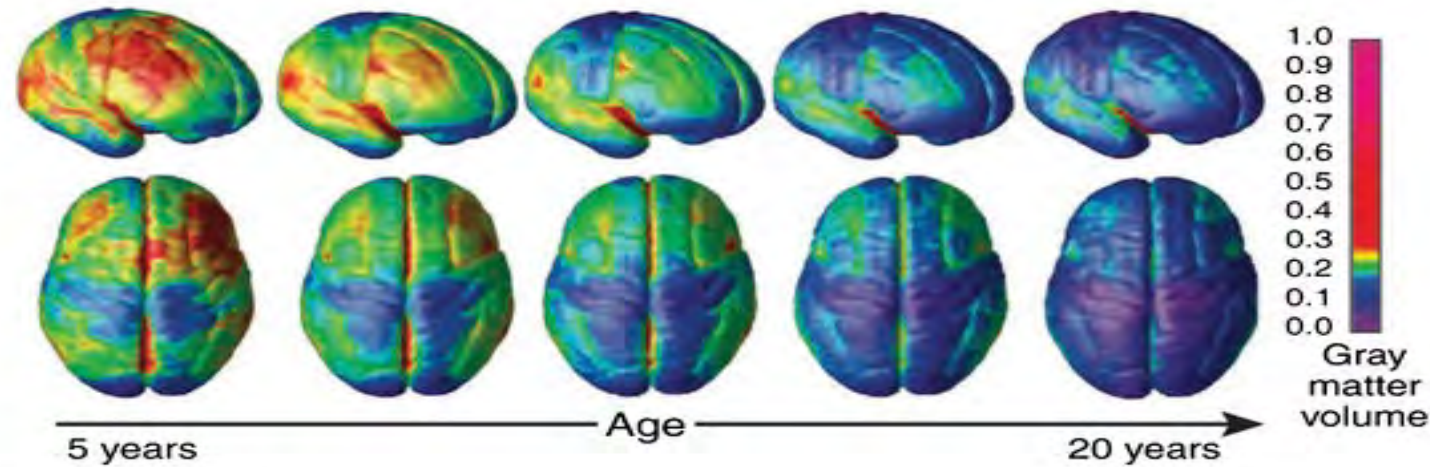
2. Context, etiology & mechanisms

2.3 The impact of adverse events on brain development

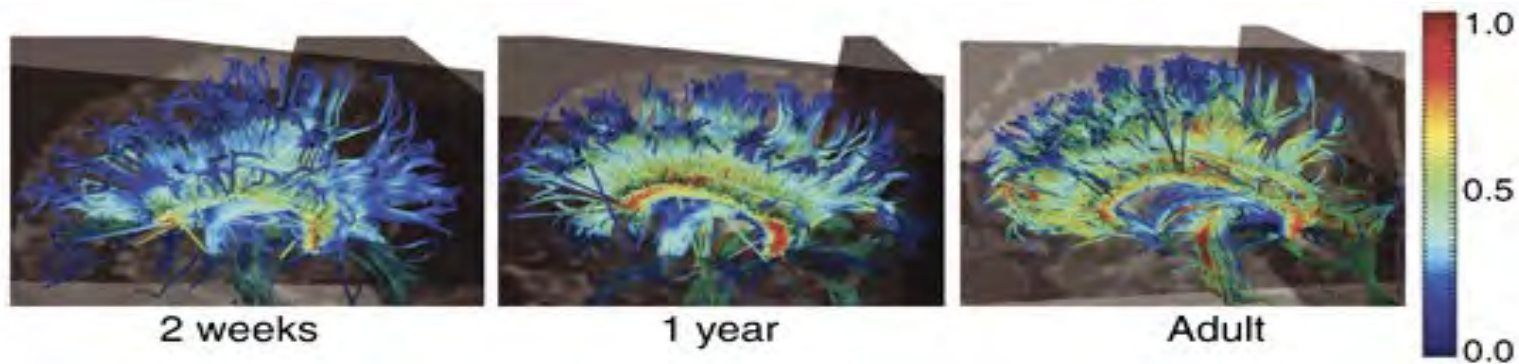
Toxic stress during development causes chronic limbic hyper- or hyporeactivity



Toxic stress disrupts normal neurodevelopment



Smaller gray matter volume in regions involved in regulation of stress, emotion & reward and impulse control.



Alterations in connectivity properties in areas involved in emotion and attention

The stress acceleration hypothesis

Aberrant neurodevelopment may represent an adaptive response rather than stress-induced damage

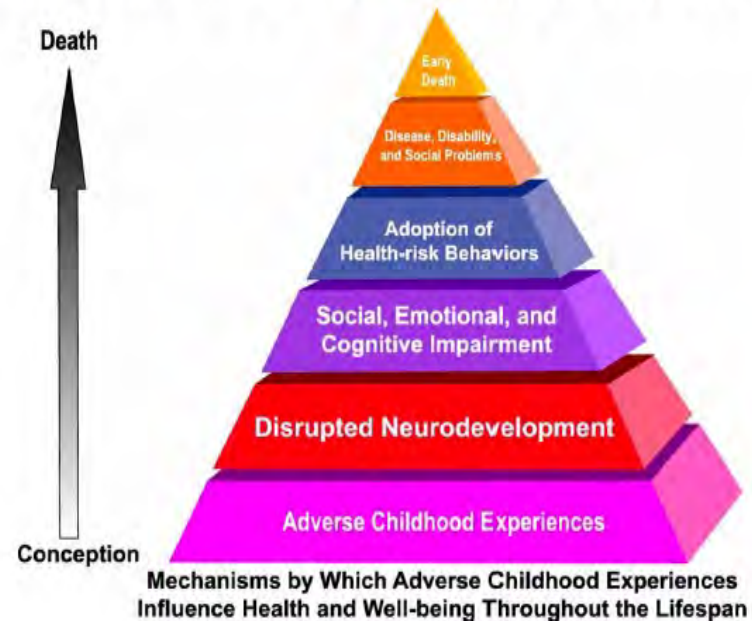
An accelerated development may be prioritized for survival, over extended neuroplasticity that would benefit the development of higher brain functions

Tooley, et al. Environmental influences on the pace of brain development. Nat. Rev. Neurosci. 2021

Callaghan et al.. The stress acceleration hypothesis Curr. Opin. Behav, 2016

Adversity in childhood is linked to social, emotional and cognitive impairment

The Adverse Childhood Experiences (ACE) Study

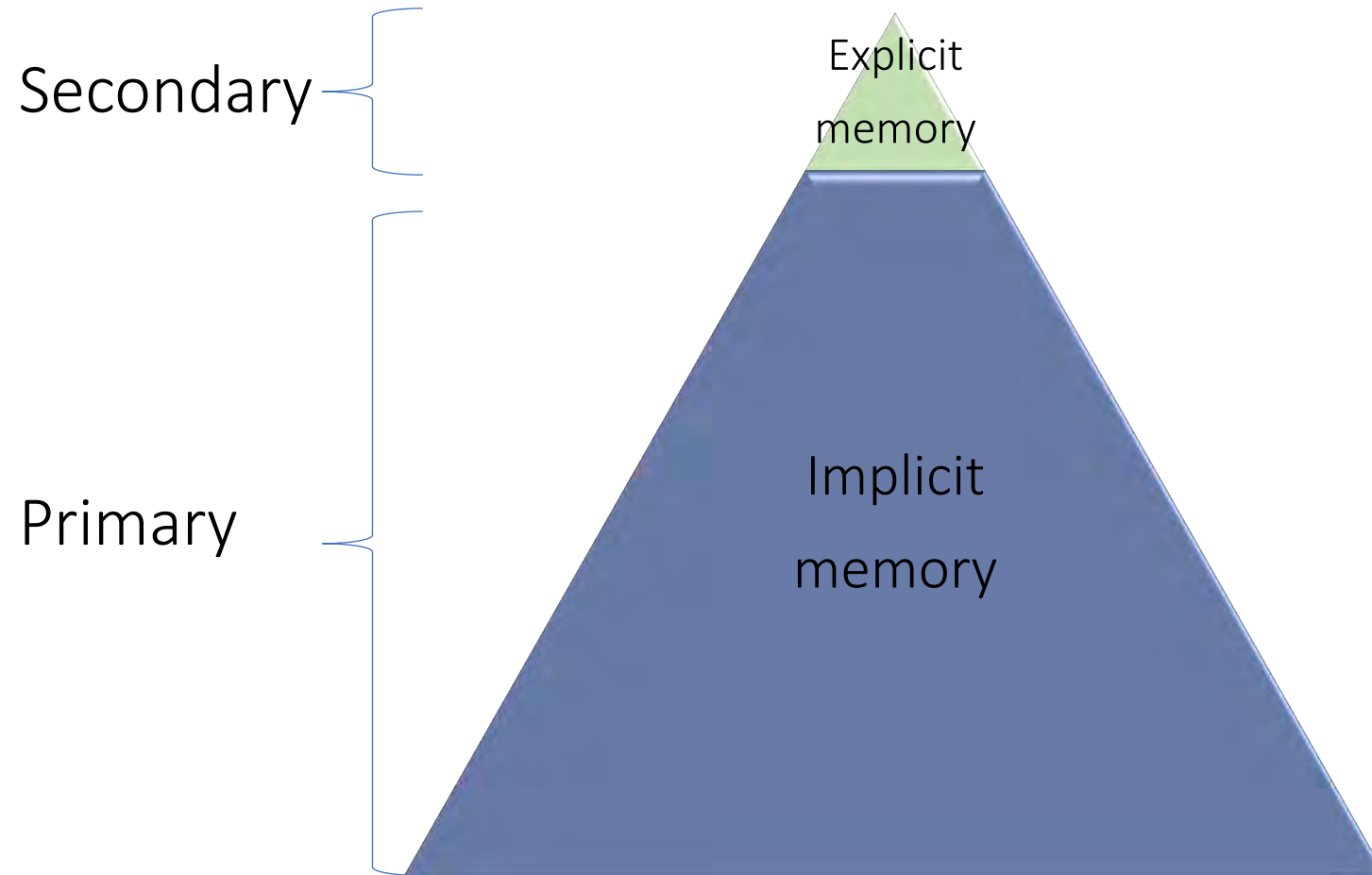


Nelson, C. A. et al. Adversity in childhood is linked to mental and physical health throughout life. *Br. Med. J.* **371**, m3048 (2020)

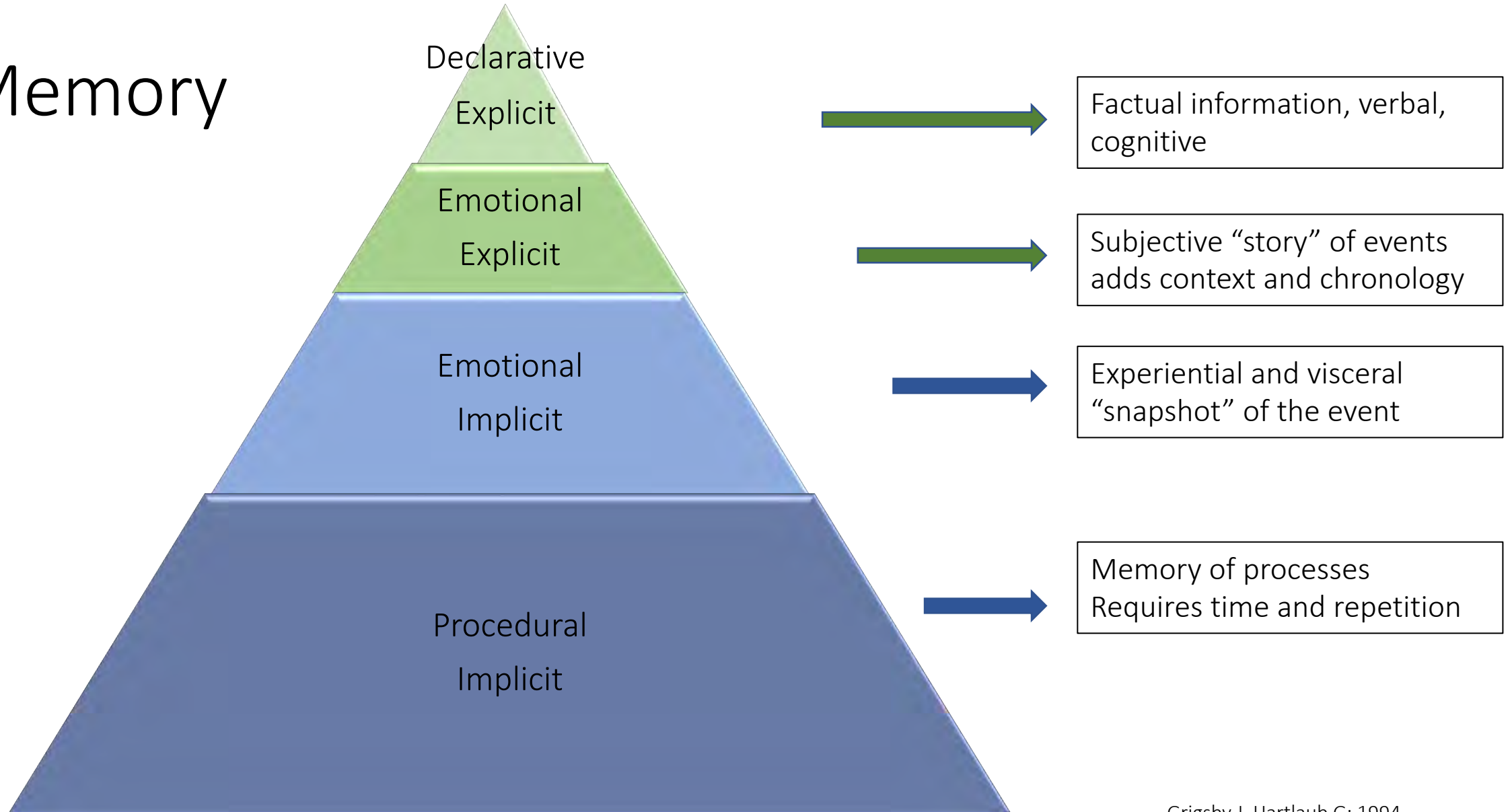
2. Context, etiology & mechanisms

2.4 Memory function

Consciousness described by memory function



Memory



Grigsby J, Hartlaub G: 1994

Declarative memory

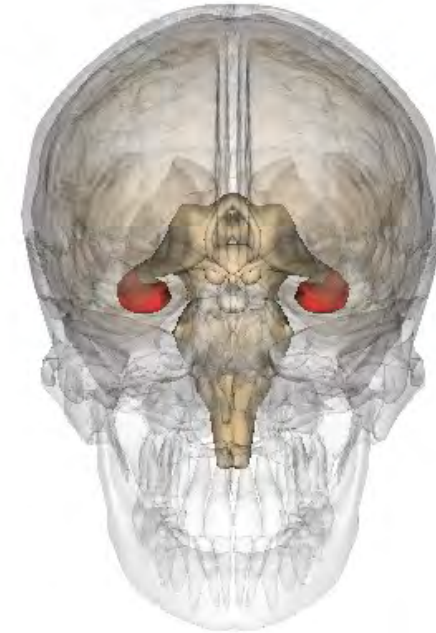
Involves prefrontal cortical regions



Images are generated by Life Science Databases(LSDB).
<https://commons.wikimedia.org/w/index.php?curid=7894854>

Explicit Emotional Memory

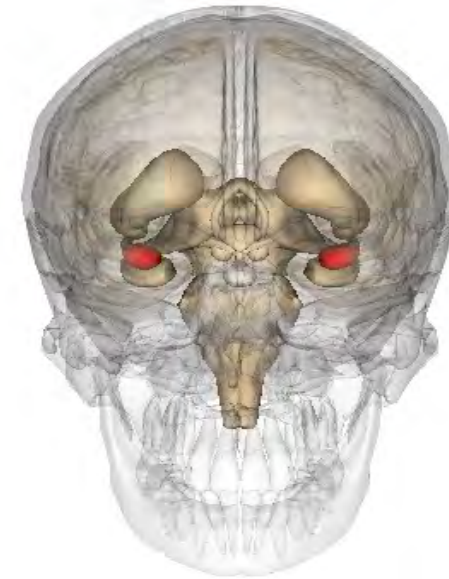
Involves hippocampal and cortical regions of the limbic system



Images are generated by Life Science Databases(LSDB).
<https://commons.wikimedia.org/w/index.php?curid=7894854>

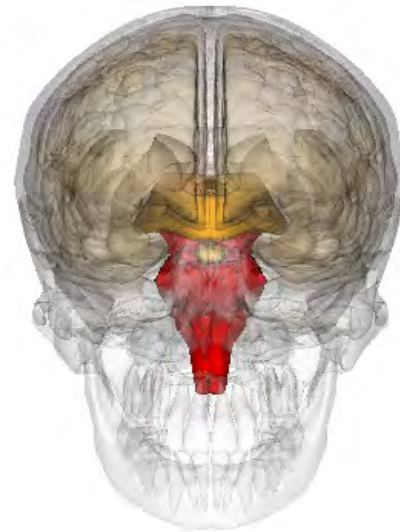
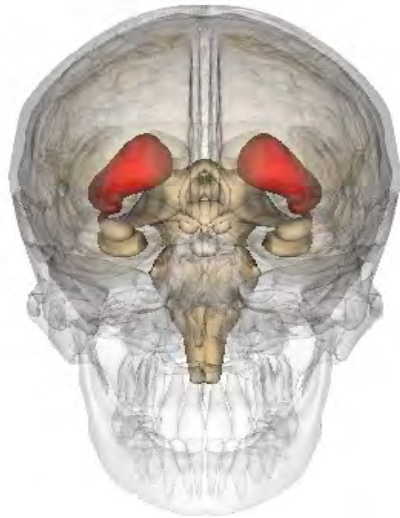
Implicit emotional memory

Involves amygdala & subcortical limbic system pathways

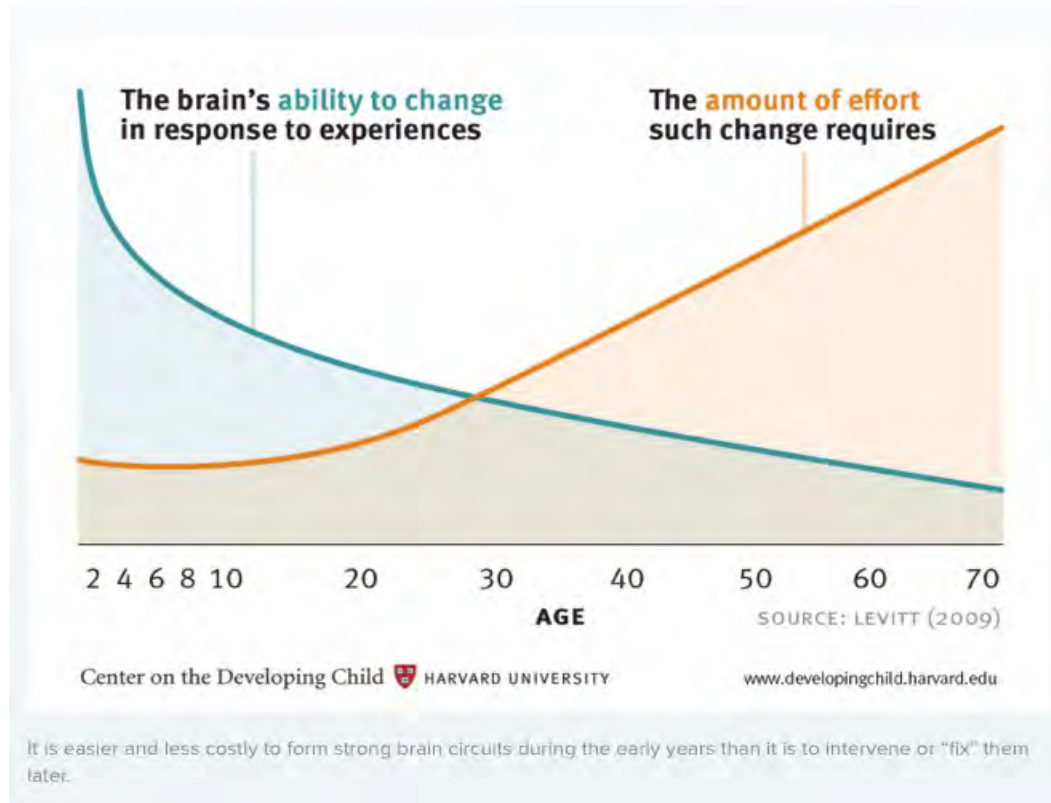


Images are generated by Life Science Databases(LSDB).
<https://commons.wikimedia.org/w/index.php?curid=7894854>

Procedural memory



The developing brain is scaffolded around attachment and relational context



Early relational emotional somatic/visceral experiences are encoded in the procedural memory - in deep parts of the brain - not accessed in normal waking states

3. Implications for treatment

Clinical relevance

1. Trauma memories are like a film from the past that overlap and distort the perception and interpretation of the present moment
2. The more traumatic experiences that are stored in the implicit memory the more the film will overlap with and distort reality
3. ...resulting in more stress, disconnection, dysregulation and suffering

Mild to moderate effects of psychotherapy

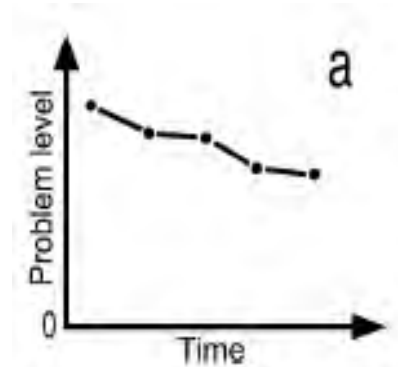
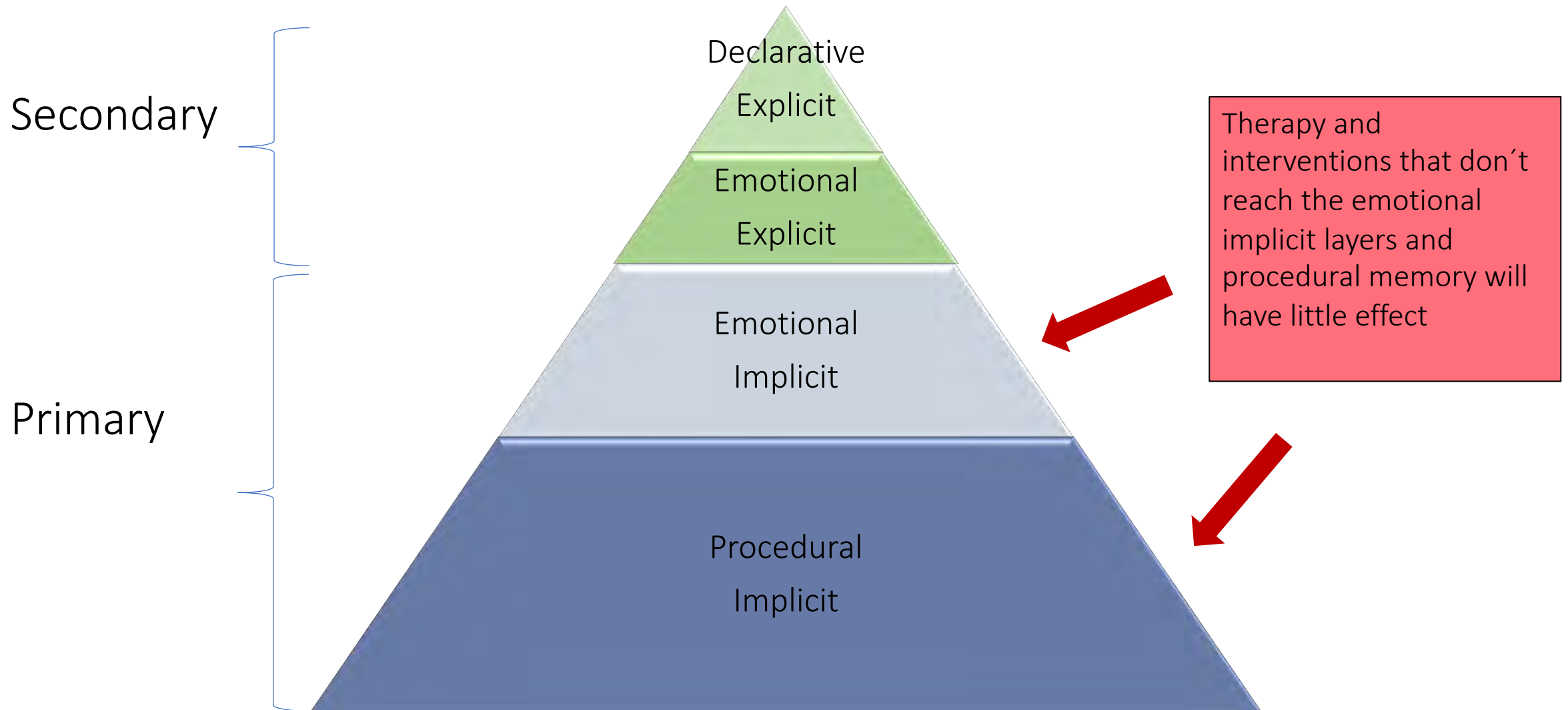


Fig. 1. Temporal development of the two types of change observed by psychotherapists. (a) Partial, incremental change, produced by methods that compete with symptom production and are termed counteractive. (b) Complete, permanent disappearance of symptoms, produced by methods that putatively facilitate profound unlearning through memory reconsolidation and are termed transformational.

The efficacy of psychological treatment has not increased across five decades of research

Weisz JR et al. 2023

Trauma memories



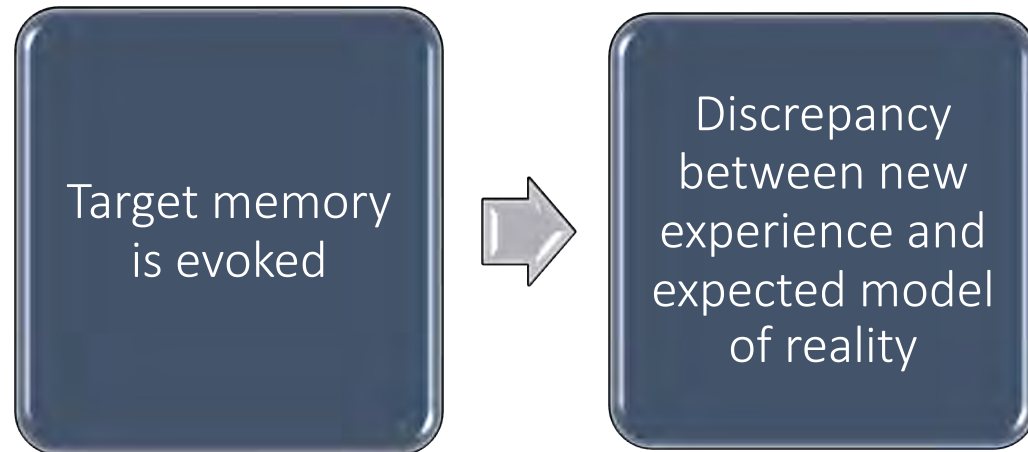
A process

- History taking & Screening
- Assessing and installing Resources & Stability
- Therapeutic alliance
- Processing triggers, events and states
- Relapse prevention

Memory reconsolidation



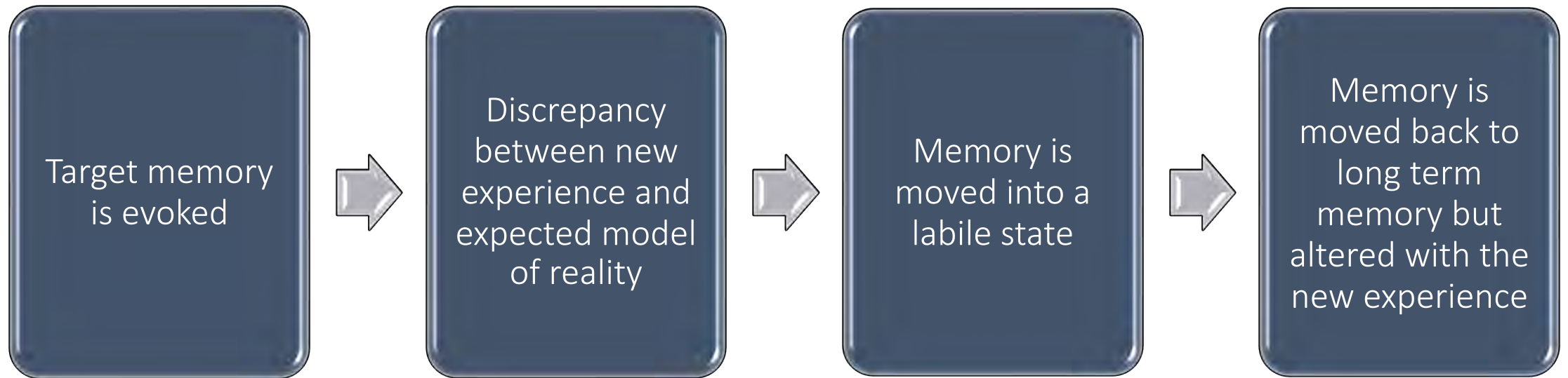
Memory reconsolidation



Memory reconsolidation



Memory reconsolidation



Full remission is possible

1. Symptoms disappear completely, usually abruptly and permanently
2. The autonomic and emotional activation that accompanied the symptoms no longer reactivates

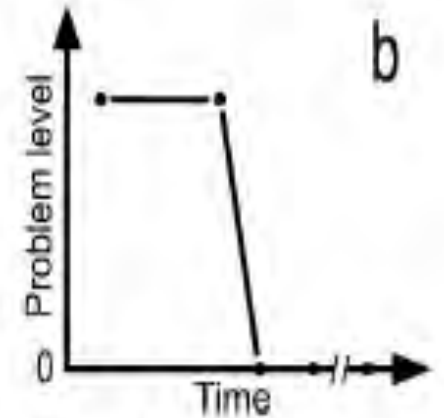


Fig. 1. Temporal development of the two types of change observed by psychotherapists. (a) Partial, incremental change, produced by methods that compete with symptom production and are termed counteractive. (b) Complete, permanent disappearance of symptoms, produced by methods that putatively facilitate profound unlearning through memory reconsolidation and are termed transformational.

Could trauma therapy help some of our complex patients?

- Eye Movement Desensitization Reprocessing (EMDR)
- Internal Family Systems (IFS)
- Somatic Experiencing (SE)
- Dialectic Behavioral Therapy (DBT)
- Training for Awareness Resilience and Action (TARA)

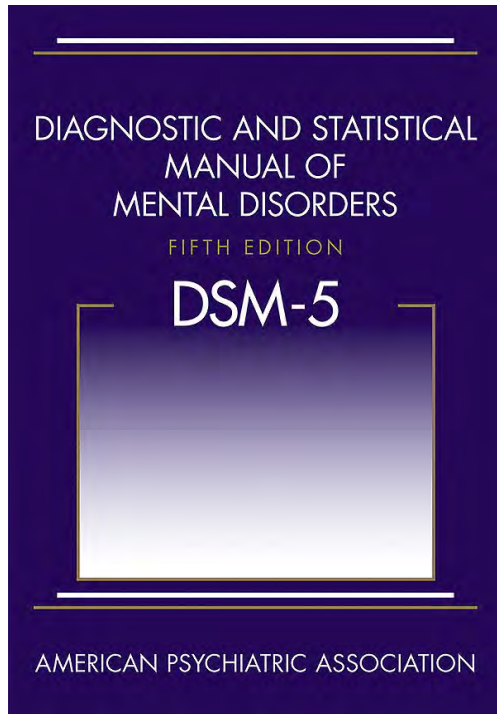
Carletto S, et al. Eye movement desensitization and reprocessing for depression: a systematic review and meta-analysis. *European journal of psychotraumatology*. Apr 9 2021;12(1):1894736. doi:10.1080/20008198.2021.1894736

Yan S, et al. The Effectiveness of Eye Movement Desensitization and Reprocessing Toward Adults With Major Depressive Disorder: A Meta-Analysis of Randomized Controlled Trials. *Frontiers in psychiatry / Frontiers Research Foundation*.

Bae H, et al. Eye movement desensitization and reprocessing for adolescent depression. *Psychiatry investigation*. Mars 2008

4. A new map of the territory

Classification



Systematic organization of elements based on predefined characteristics

Categorization



Context dependent syntheses of elements based on perceived similarity **including etiology and mechanisms**

An alternative or complement to psychiatric diagnoses

Svensk utgåva kommer under 2024!



the british
psychological society

The Power Threat Meaning Framework

Towards the identification of patterns in emotional distress, unusual experiences and troubled or troubling behaviour, as an alternative to functional psychiatric diagnosis



January 2018

Core questions of the PTMF

1. What happened to you?
2. How did it impact you?
3. What did you do to survive?
4. What meaning did you make of it?



Allows for

- multiple interrelated pathways of impact
- consideration of developmental and contextual aspects
- Meaning- & sensemaking
- Empowerment & increased resilience

Summary

- Include context, etiology, mechanisms in the conceptualization of the patient
- Don't give one treatment for each diagnosis unless a common cause is excluded
- Screening for ACE is not enough – screen for autonomic dysregulation and dissociation
- Consider CPTSD and Developmental Trauma in complex patients
- Try bottom-up approaches for stabilization
- Consider methods of memory reconsolidation for treatment
- Don't think we have all the answers – our patients have a lot to teach us if we ask the right questions!

5. Q & A's

Thank you for your attention!

www.evahenje.com

eva.henje@umu.se



KONGRESSSEN

SÖDRA TEATERN STHLM

10-12 SEPTEMBER 2025