

Neurobiology of Trauma

Neurobiology of trauma informs us of how the brain and body respond to trauma and help us understand the various ways that victim-survivors react. It provides first responders, service providers, and victim-survivors with scientific answers to something that society has historically dismissed and silenced.

Trauma begins when an event or experience overwhelms normal coping mechanisms.

Events are traumatic not because they are rare, but because they overwhelm our normal coping responses. An individual's normal coping responses provide a sense of control, connection, meaning, and safety.

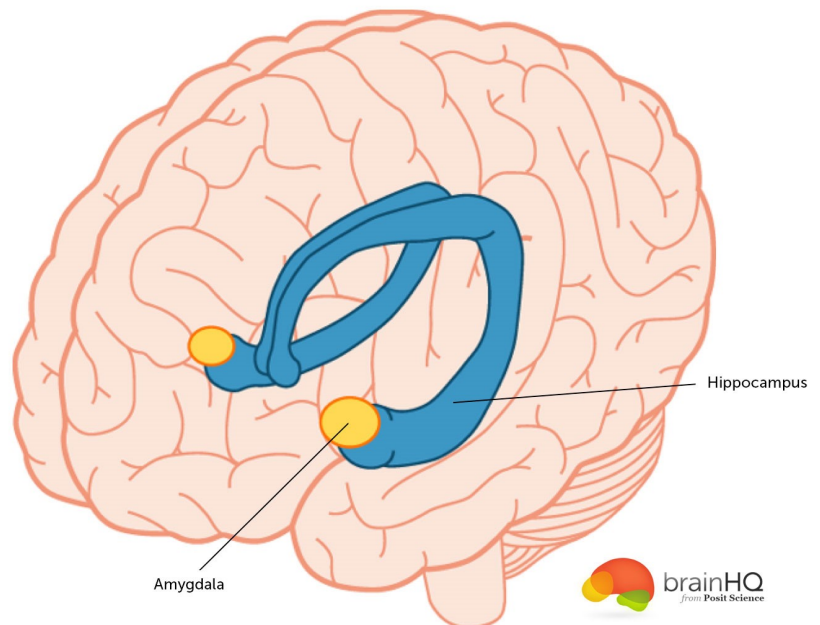
Neurobiology of trauma teaches us that the body's responses to trauma are **natural responses to protect ourselves**.

Trauma creates disruption in the limbic system of the brain which stores emotional responses to experiences. The **amygdala** is the "fear center" of the brain. Trauma response & memory is stored in amygdala. This is the reason that individuals commonly have a lot of emotions when recalling traumatic experiences.

When the amygdala is activated during a traumatic experience, it interferes with the **hippocampus**. The hippocampus is involved with recall of memory, particularly long-term memory.

This means that when someone is having a traumatic response or trying to recall memories of a traumatic event, they may not be able to recall details of the event or their recall of the event may not be chronological or linear, which is called **fragmented memory**. Fragmented memory is a completely natural way of processing traumatic events.

While there are many misconceptions about sexual trauma and abuse, understanding the ways that trauma affects victim--survivors is an important step in providing compassionate support.



Trauma Responses

Trauma is not just defined by the event, but by the individual's reaction to the event. Trauma responses are different for everyone and there is no right or wrong way to respond to sexual trauma or abuse. Some initial and ongoing reactions can include: anxiety, fear, depression, physical pain, chronic pain, flashbacks, intrusive and distressing memories of the violence, disorientation and difficulty concentrating, self-blame, guilt, and shame, "shutting down", dissociation, avoidance, or emotional numbing.

There are four responses that are often brought up when talking about sexual trauma & abuse: fight, flight, freeze, and appease. **Fight** and **flight** are well-known trauma responses where the brain and body automatically respond by fighting back or fleeing a dangerous situation.

What are less commonly known are the freeze and appease responses. **Freeze** refers to tonic immobility where the nervous system is activated and the person is not able to fight or flee. **Appease** refers to accommodation, where the person's brain and body respond by going along with the violence or initiating interactions as a way to minimize further violence. Victim-survivors who experience freeze or appease are often confused as to why they responded in that way, but neurobiology of trauma reminds us that all of these responses are normal and part of our brain's and body's survival mechanisms.

Retraumatization & Trauma Triggers

Retraumatization occurs when an environmental cue related to the trauma (i.e. a sound, smell, environment) triggers a fight, flight, or freeze response in the survivor. The reactions and emotions can feel very similar, if not exactly the same, to the initial trauma. Trauma triggers and responses are different for everyone.

While all environmental cues cannot be eliminated, recognizing and respecting a survivor's trauma triggers is crucial to ensuring emotional and physical safety and accommodations should be made when possible.

Trauma Responses in Children & Youth

There are many important differences in how adults and children/youth may respond to trauma. The lack of language facility to express emotion often results in children and youth processing trauma more physically.

Examples of ways this can look include: trying to process their trauma by acting out their victimization with peers or adults, higher instances of dissociating because they aren't able to leave a traumatic situation, regression to an earlier stage of development in which they felt safe or cared for.