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# TBI, PTSD and Sexual Abuse

Brain structure changes (brain damage) can be caused by childhood trauma such as sexual assault and especially by repeated sexual assaults



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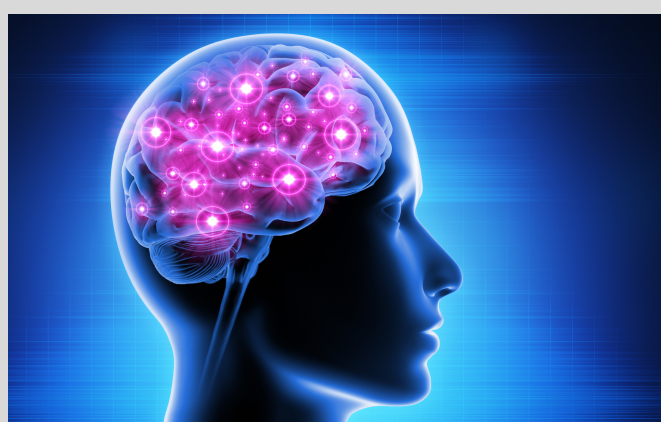
During a traumatic event, the body releases hormones that cause the fight, flight or freeze responses. This is controlled by the sympathetic nervous system.

After the traumatic event, the hormones often keep the body stressed for long periods of time.

The release of these hormones, especially the repeated release of these hormones in cases of repeated assaults can and do cause structural changes in the brain. Including changes in:

- \*the hippocampus
- \*the amygdala
- \*the cerebellum
- \*the corpus callosum and others

Brain damage is usually caused by various physical forces that alter the structure of the brain



Important to understand the link between TBI and childhood trauma

Studies show that there is a significant association with childhood trauma and subsequent TBI.

This may be due to the impact of trauma on a person's life that makes that person more vulnerable to situations that can result in TBI.



Traumatic events that cause structural and developmental changes in the brain then correlate to cognitive and behavioural changes including:

- \*working memory
- \*behavioural control
- \*emotional processing
- \*executive functions
- \*attention
- \*abstract reasoning
- \*intellectual impairment

*Abuse survivors also experience many psychological impairments and mental health challenges:*

- \*Post Traumatic Stress Disorder
- \*Anxiety
- \*Depression
- \*Dissociative Disorders



Studies have also shown different neural activity and different blood flow within the brain for survivors of childhood trauma.

*What does all this mean?*

\*Childhood trauma change brain structure and can be viewed as a brain injury.

\*Important to also note that childhood trauma resulting in brain structure differences predisposes survivors to adult TBI and worsens symptoms.

\*Important to understand the structural differences caused by trauma in order to assess and treat all the consequences of childhood trauma



Now that medical research has found that abuse is linked to changes in the brain, what the medical community and others might have dismissed as being "all in their head," was, in fact, really all in their head – their brain structure.

