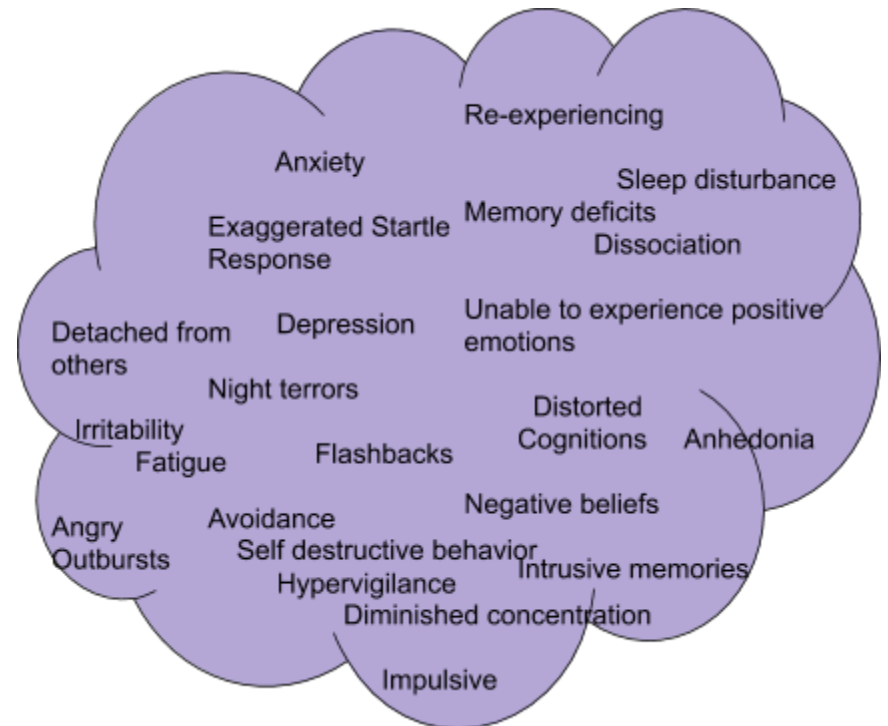


# TRAUMA

**Brain**

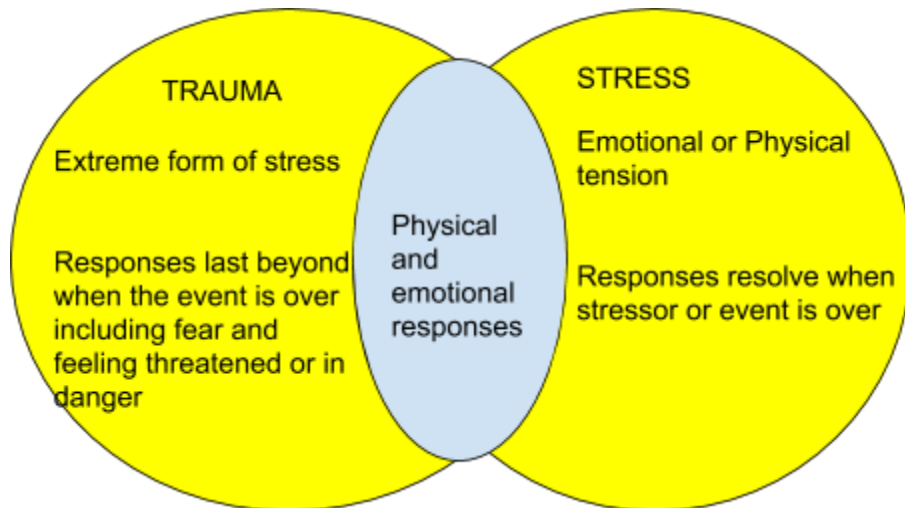
**Games**



## What is trauma?

**Trauma** in terms of the Diagnostic and Statistical Manual 5 (DSM 5), is defined as exposure to actual or threatened death, serious injury, or sexual violence. The exposure can be direct, witnessing in person an event that occurred to another, learning that a violent or accidental death or otherwise traumatic event(s) has occurred to a close family member or friend, or lastly experiencing repeated or extreme exposure to aversive details of a traumatic event(s).

### Trauma VS Stress



## Types of trauma

- ★ **Sexual Abuse:** child sexual abuse, incest, molestation, acquaintance rape, stranger rape, exhibitionism, voyeurism, marital rape, sexual assault, obscene messages
- ★ **Child Maltreatment:** neglect, physical abuse, sexual abuse, psychological abuse, emotional abuse
- ★ **Domestic Violence:** physical abuse, sexual abuse, economic abuse, coercion and threats, intimidation, using children to create fear, denying and blaming, asserting male privilege
- ★ **War Related:** terrorism, political violence, torture, combat
- ★ **Medical Trauma** treatment that is iatrogenic and causes pain, serious injury or illness
- ★ **School Violence** predatory violence, shootings, rape, bullying, robbery
- ★ **Community Violence** predatory violence, shootings, rape, bullying, robbery, hate crimes
- ★ **Traumatic Loss** sudden or unexpected, violent or accidental
- ★ **Natural Disasters** hurricanes, tornadoes, earthquakes, fires, and otherwise natural phenomena that require disaster relief team intervention

## Trauma induced changes

Experiencing trauma can cause dysregulation in the present long after the traumatic event has occurred. These can be chronic or acute.

### Physiological changes:

- ↑ breathing & heart rate, adrenocortical hormones, sweat
- ↓breathing volume      ○ Immune system suppression
- Blood flow changes      ○ pupil constriction
- ↓energy level      ○ lactation changes
- appetite changes      ○ sleep disturbances
- unexplained physical pain      ○ pseudoseizures; tremors
- erectile disturbances      ○ orgasmic changes

### Psychological changes:

- ↓self esteem      ○ ↑ anxiety      ○ memory deficits
- focus on survival w/no reason to be aroused
- ↑ depression      ○ ↓ ability to learn from exp.
- disturbed attachment      ○ preoccupation w/stressor(s)
- preoccupation ○ night terrors ○ depersonalization
- skewed definition of loyalty/sex ○ dissociation
- magical/bizarre thinking      ○ ↓concentration
- ↓focus or attention      ○ ↑ suicidal or self-harm ideation
- easily distracted      ○ ↓ ability to make decisions
- ↑ or ↓ ability to complete tasks      ○ deception
- changes in sexual desire      ○ feelings of shame/self blame
- ↑ startle response

### Emotional changes:

- dysregulation      ○ ↑ worry
- ↑feelings of worthlessness ○ ↑ feeling of loss
- ↑ sadness      ○ emotionally volatile
- ↑ aggression/violence      ○ emotional outbursts
- over-reactive to mild stressors      ○ ↑ guilt
- changes in sexual arousal      ○ irritability

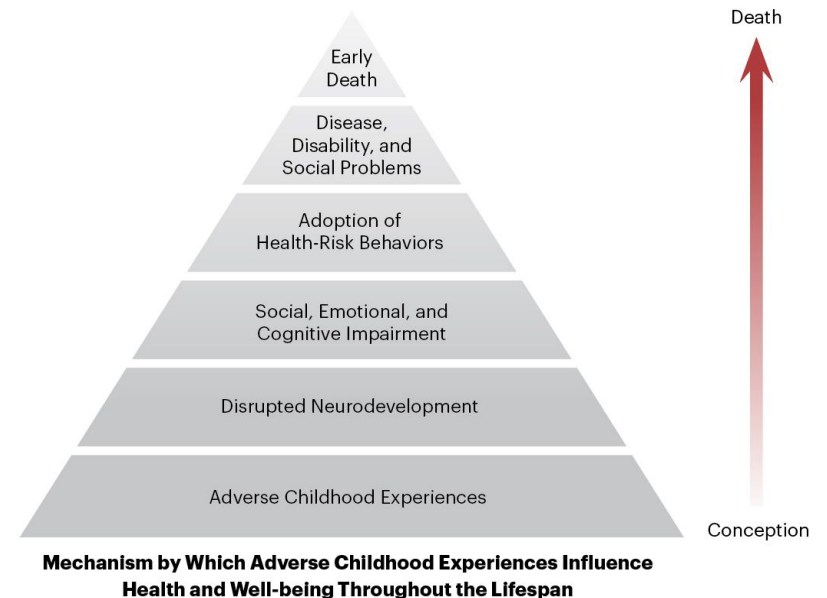
### Behavioral changes:

- poor communication      ○ social withdrawal ○ substance abuse
- self-soothing (may be maladaptive)
- poor diet      ○ bedwetting      ○ night terrors
- ↑ or ↓ sexual behavior      ○ ↑ or ↓ in physical activity
- skin picking or hair pulling      ○ ↑ or ↓ impulsivity and risk taking

### Triggers

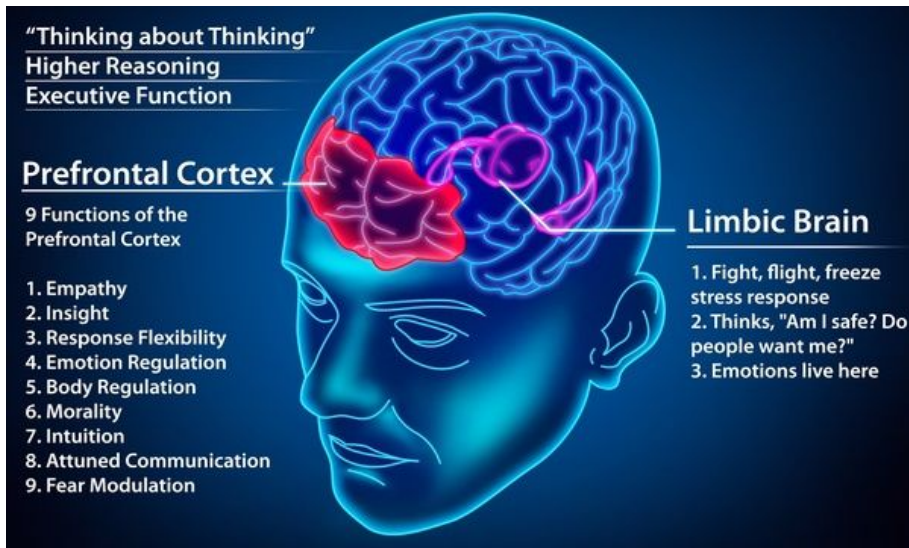
Triggers are stimuli that prompt a recollection from a previous traumatic event or experience. Memories are stored in the brain, and in the body as well. Which means that your body stores memories using your five senses. So triggers can be in touch, sounds, smells, taste, or vision and can induce the above responses. As you heal you will become more aware of your triggers and learn how to manage your responses to them.

## How childhood trauma may affect your life



Source: Centers for Disease Control and Prevention

Unresolved trauma increases health-risk behaviors, maladaptive coping skills, and responses to mild stressors. ACES study



- ★ Left hemisphere and Right hemisphere stop communicating during trauma
- ★ Left=speech/language Right=Implicit memory, images, emotions & sensations

### The Triune Brain(Dr. Paul MacLean):

- ★ The Brainstem(Reptilian Brain):moderates arousal, sleep/wake cycle, hunger/satiation, breathing & maintains chemical balance. **Instinctive/Primal responses** (Implicit memory)
- ★ The Limbic Brain (Emotional Brain) negotiates feelings, motivation and relationships. It responds to extreme stress, trauma and threat. Activates the fight, flight and freeze response. Key players in the limbic brain are the hypothalamus and the amygdala.

**The Amygdala:** Part of our threat system. Alerts to danger by triggering fight/flight/freeze. Difficulty discriminating between real present danger or thoughts of danger not present. Contributes to explicit memory. *i.e. may set off the alarm even if just thinking about unpleasant thoughts*

**The Hippocampus:** Stores & remembers information. Categorizes and organizes memories. If the threat system is active it does not operate well. Will store information with organizing and dating so things that happened in the past may feel like they are in the present when remembered. Contributes to explicit memory. Glutamate receptors increase during trauma.

- ★ The Neocortex (Rational Brain) contains the prefrontal cortex which is responsible for planning, anticipation, sense of time and context, inhibition of inappropriate actions, and empathic understanding. Contributes to explicit memory.
- ★ Fear activation = 1/20 of a second (run first)
- ★ Conscious processing = ½ second (look first)
- ★ Brain stores fragments of experiences made up of feelings, images, and sensations
- ★ Memory is malleable

### Processing Stress

Bessel van der Kolk

The brain has two options for processing and managing stressors: **Top Down** or **Bottom Up**

- Top Down *Processing begins in the prefrontal cortex and involves integratively managing one's thoughts, feelings, behaviors and physiological responses in a logical and helpful way to reduce and control the reaction to the stressors as to help move through the situation*
- Bottom Up *Begins in the Basal ganglia, ( i.e. the reptilian brain) and starts with activation of the autonomic nervous system. (i.e. flight/fight/freeze)*

## Three Brains work together



**Autonomic Nervous System (ANS) is made up of three parts: ☆ parasympathetic nervous system (PSNS), ☆ sympathetic nervous system (SNS), & ☆ enteric nervous system (ENS) and operates independently of the brain. Your “gut” is in the ENS. The ENS communicates with the Central Nervous System (CNS) (brain & spinal cord) by using the vagus nerve (PSNS) and prevertebral ganglia (SNS). If the gut is irritated it will send signals to the medulla for help. The PSNS relaxes the body and sphincter muscle, slows heart rate, increases intestinal activity also responsible for sexual arousal, urination, defecation, lacrimation, and salivation. SNS activates fight/flight/freeze, also needed for ejaculation and orgasm.**

## Psychological Assessments that help diagnose, identify, and/or track symptoms

- **PTSD Checklist for DSM 5 (PCL-5)**-20-item self report measure
- **Clinician administered PTSD Scale (CAPS 5)**-30 item structured interview used to diagnose PTSD
- **Trauma Symptom Inventory 2(TSI-2)**- 136 item self report measure that evaluates posttraumatic symptomatology
- **Beck Depression Inventory II (BDI-II)** short criterion-referenced assessment for measuring depression severity
- **Beck Anxiety Inventory (BAI)** short criterion-referenced assessment for measuring anxiety severity
- **Beck Scale for Suicidal Ideation (BSS)** short criterion-referenced assessment for measuring suicide risk
- **Minnesota Multiphasic Personality Inventory 2 (MMPI-2)** 567 item inventory that assesses major symptoms of psychopathology
- **Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF)** 338 item inventory that assesses major symptoms of psychopathology
- **Millon Clinical Multiaxial Inventory-III (MCMI-III)** 175 item assessment that assesses patient personality characteristics and clinical syndromes
- **Montreal Cognitive Assessment (MoCA)** screener used to detect cognitive impairment

## Trauma- and Stressor-Related Disorders

- ★ **Reactive Attachment Disorder**
- ★ **Disinhibited Social Engagement Disorder**
- ★ **Posttraumatic Stress Disorder**
- ★ **Acute Stress Disorder**
- ★ **Adjustment Disorders**
- ★ **Other Specified Trauma- and Stressor-Related Disorders**
- ★ **Unspecified Trauma- and Stressor-Related Disorders**

### Types of treatment

According to Eric Gentry, 2009, trauma is treated by moving a client through three levels.

**Level 1:** Building and maintaining healthy relationships

**Level 2:** Trauma psychotherapy: Relaxation & Regulation

**Level 3:** Create a narrative

Each level must be met before moving on to the other

- **Cognitive Behavioral Therapy (CBT)**-Challenging and changing unhelpful cognitive distortions and behaviors, improving emotional regulation, and developing coping tools
- **Eye-Movement Desensitization Reprocessing(EMDR)**  
Inclusive of psychotherapy with exposure therapy, bilateral stimulation, and cognitive restructuring
- **Exposure Therapy**-Assists clients in confronting thoughts/true events
- **Restorative Trauma-Sensitive Yoga**  
Increases characteristics consistent with resiliency, hope, self-awareness. Build mind/body connection
- **Laughter Yoga**-Prolonged voluntary laughter to help reframe and relieve stress
- **Thought Field Therapy/Emotional Freedom Technique**  
Energy based psychotherapy used to reduce distress
- **Traumatic Incident Reduction(TIR)**-Helps reduce distress related to trauma

- **Stress Inoculation Therapy**-Cognitive restructuring. Assists in proactively preparing for stressful triggers, situations, and/or events
- **Animal Assisted Therapy**-Use of animals in conjunction with traditional therapy or independently to assist individuals in improving social and emotional functioning
- **Cognitive Processing Therapy(CPT)**-Type of CBT. Teaches how to identify, evaluate, and change unwanted and unhelpful thoughts

- **Mindfulness**

*(As described by Brad Waters, MSW in his work Cultivating Your Everyday Mindfulness)*

- ★ Awareness
- ★ Noticing
- ★ Being Present
- ★ “Being” rather than “Doing”
- ★ A quieting of the mind
- ★ Stillness
- ★ Openness
- ★ Attentiveness
- ★ Mental Contemplation or Cultivation

**Mr. Waters notes in his work that Jon Kabat-Zinn** says that the components of mindfulness are acceptance, non-striving, and non-judging.

Striving for awareness not relaxation.

#### **Types of Functional Mindfulness**

Waking	Showering	Eating	Driving
In Office	End of day	Visualization	Meditation

#### **Affirmation/Chants**

“Today I will honor myself by being myself”  
“Today I will breathe”  
“Today I will notice the good”  
“Today I will be kind to myself and to others”  
“Today I will be okay”  
“Today I love myself”  
“Today I am alone and I am not afraid”  
“Today I will let the clouds pass”

- **Exercise**-releases helpful endorphins, boosts norepinephrine, serotonin and dopamine, decreases physical tension, and is important in the mind and body connection. Recommendations include hiking, sailing, mountain biking, rock climbing, whitewater rafting, skiing, and cross movement that engages both arms and legs: such as walking (especially in sand), running, swimming, weight training, or dancing. Also exercise reduces risk of chronic illness. Always check with your doctor before engaging in exercise.

- **Healthy Eating**- The gut is known as the second brain. Foods high in refined sugar are bad for the brain and can contribute to mood disorders. “Serotonin is a neurotransmitter that helps regulate sleep and appetite, mediate moods, and inhibit pain. Since about 95% of your serotonin is produced in your gastrointestinal tract, and your gastrointestinal tract is lined with a hundred million nerve cells, or neurons, it makes sense that the inner workings of your digestive system don’t just help you digest food, but also guide your emotions. What’s more, the function of these neurons — and the production of neurotransmitters like serotonin — is highly influenced by the billions of “good” bacteria that make up your intestinal microbiome. These bacteria play an essential role in your health. They protect the lining of your intestines and ensure they provide a strong barrier against toxins and “bad” bacteria; they limit inflammation; they improve how well you absorb nutrients from your food; and they activate neural pathways that travel directly between the gut and the brain.

([health.harvard.edu/newsletter\\_article/sleep-and-mental-health](https://health.harvard.edu/newsletter_article/sleep-and-mental-health)).

Nicotine, alcohol, and caffeine can be detrimental to good mental and physical health. Nicotine and caffeine are stimulants which may disrupt sleep and other functions and alcohol is a depressant which may also contribute to disturbances in healthy functioning.

- **Sleep**-Chronic sleep problems affect more than 50% of people seeking psychiatric services which comparatively effects 10% to 18% of adults in the general U.S. population. Sleep problems are particularly common in patients with mood disorders, anxiety and stress related disorders, as well as ADHD. Most healthy adults should

look to get 7 to 9 hours of sleep per night. This may vary from person to person.

- **Breathing: *Why learning how to breathe matters***  
Breathing activates the ANS. If we are breathing quickly or not breathing due to panic we know we are operating within the SNS and therefore unable to engage in top-down processing. If you slow your breathing down it will activate and get the attention of the vagus nerve. The vagus nerve controls the heart, lungs, and digestive system and connects the brainstem to the body. This will help to activate the PSNS and help to regulate the brain and the body responses to a real or perceived stressor or danger.

### Types of Breathing

- Three part breath-Incorporates lungs, chest, and belly
- Nadi shodhana (alternating nostril breathing) 90-90-60
- Box Breathing(4-4-4-4)
- Channel Cleaning Breath (alternating nostril breathing)
- Cleansing Breath
- Ujjayi-Deep throat breath
- Top ten- natural breaths

### Benefits

- Physical pain reduction; emotional pain reduction
- Improved ability to attend to information
- Coping or prevention of depression and anxiety
- Improved psychological relapse prevention
- Increased relaxation and sleep
- Smoking cessation
- Increased healing from physical illness
- Regulation of respiration, heart rate, and blood pressure
- Improved sexual functioning



## What can I tell my partner, family, or friends?

- **Be patient with me.** I have been through a traumatic event and I need time to heal. I do not know what that looks like or how much time I will need. I will need you long after the event.
- **Be supportive.** Encourage me with kind words. Allow me to have space when needed. Encourage me to keep appointments, utilize self care, take my medicine, and breathe.
- **Be curious.** Ask about my feelings. Listen without feeling the urge to give advice or make it better. Ask me how I would like to be helped. Do not make choices for me.
- **Be open.** Allow me to use my voice. Understand that I am still me and my brain is very active and can be easily triggered into maladaptive reactions. I may be expressing or experiencing things that are new to both of us.
- **Be thoughtful.** I may not want to talk or I may change my mind. Getting out the house may be helpful but please do not help me to avoid my feelings. I need healthy diversions, like taking a walk, laughing, or trying a new task. I know you are just trying to help but drinking and drugs may hinder my healing process.
- **Be aware.** I will make progress. While you may see my struggle acknowledge my achievement. Also, remember that I may have triggers known and unknown and I am working to learn how to regulate them. I also know that you do not like seeing me this way and you feel helpless so you have to care for yourself during this time also.
- **Be empathetic.** Silver linings are wonderful but sometimes I just want to know that I am heard. It is not your job to make me feel better. You do not know how I feel and I know you are going to say, "It will be okay". Try saying something like, "You have experienced something that is very difficult and sometimes it can be hard to see a light at the end of the tunnel. Is there a way that I can be helpful to you?"

- **Be emotionally supportive.** I am normal. I want you to know that something traumatic happened to me and it has had effects on many different areas such as my personal, professional, emotional, physical, psychological, and spiritual wellbeing.
- **Be mindful.** Talk to me when you have time and will not be interrupted. If you find that I am having trouble talking assure me that that is ok and that we can talk another time.
- **Be forgiving.** We are all learning and we will make mistakes.

## Books, Videos, and Websites

- The Sexual Healing Journey 3rd edition by Wendy Maltz
- Why Zebras Don't Get Ulcers by Robert Sapolsky
- The Other Side of Sadness by George Bonanno
- Children of the Self-Absorbed by Nina Brown
- Trauma, PTSD, Grief & Loss by Patrick Powell
- Unequal Partners by Sue Montfort and Peggy Brick
- Beginning to Heal by Bass, Ellen and Laura
- Cultivating Your Everyday Mindfulness by Brad Water, MSW
- Sex Matters for Women by Foley, Kope, Sugrue
- To a Safer Place-video
- Brene Brown on Empathy-youtube video
- I am Human by Susan Verde
- www.HealthySex.com
- Domestic & Sexual Violence, MI. [www.michigan.gov/mdhhs](http://www.michigan.gov/mdhhs)
- Crime Victim Services Commission 877.251.7373
- Veterans Affairs <https://www.ptsd.va.gov/index.asp>
- Adult Survivors of Child Abuse [www.ascasupport.org](http://www.ascasupport.org)
- PTSD <https://www.uofmhealth.org/health-library/list-all-p#PT>
- <https://suicidepreventionlifeline.org/> 1800.273.8255
- National Human Trafficking Hotline 1.888-373.7888 text 233733 (type "help" or "info")
- Night Angels @ 586-247-2027 (human trafficking rescue)

*This list is not exhaustive*