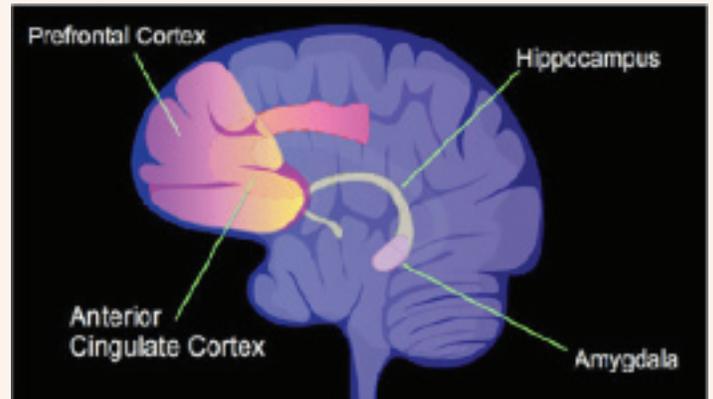


HOW CAN TRAUMA AFFECT THE BRAIN?

The way trauma influences brain development will be different for each person. Just as each child will have different emotional responses to a traumatic event, the way that the brain responds to trauma will also vary across children. The following regions of the brain are the most likely to change following a traumatic event.



The **medial prefrontal cortex** (mPFC) helps to control the activity of the amygdala and is involved in learning that previously threatening people or places are now safe. Connections between the mPFC and amygdala are sometimes not as strong in children who have experienced trauma. As a result, the mPFC is not as effective at reducing amygdala reactivity to people, places, and things that are in fact safe and no longer predict danger. This can lead to persistent elevations in fear and anxiety about cues that remind children of the trauma they experienced.

The **hippocampus** is involved in learning and memory. Impairments in learning and memory have been seen in children who have experienced trauma. This suggests that trauma may affect how the hippocampus develops. Trauma likely impacts a variety of types of learning and memory, such as the ability to learn and remember information about the surrounding environment. As a result, children who experience trauma may not be able to retain information about how to tell if one situation is safe and another is dangerous, leading them to experience harmless situations as scary. For example, a child who has experienced trauma may have difficulty distinguishing between activities that are dangerous (e.g., walking down a dark alley) and safe (e.g., walking around a dark corner at home).

The **amygdala** is designed to detect and react to people, places, and things in the environment that could be dangerous. This is important for safety and survival. After trauma, the amygdala can become even more highly attuned to potential threats in the environment, leading a child to closely monitor their surroundings to make sure they are safe and have strong emotional reactions to people, places, or things that might be threatening or that remind them of the trauma. This heightened attention to potential threats in the environment can make it hard for children to pay attention in school, go new places, or interact with people they don't know.

Critically, these changes in the brain are **not** permanent

The brain is remarkably plastic, meaning that it changes in response to social and environmental experiences. This enables us to learn, form relationships with people, and develop new skills. Changes in the brain that happen after trauma can improve over time. This is particularly likely

to happen when children experience safe, stable, and supportive environments after trauma. In fact, certain kinds of psychotherapy, like cognitive behavioral therapy, can actually lead to positive changes in the same regions of the brain that are influenced by trauma.

TIPS FOR HELPING STUDENTS WHO HAVE EXPERIENCED TRAUMA

1. Make sure that the student's environment is and feels as safe as possible

- Minimize fighting, arguing, or raised voices that might seem like they will lead to violence.
- Allow the student to access quiet or calm spaces as needed throughout the school day.
- Make sure there is a safe way for the student to travel to and from school.

2. Create a safety plan for situations where there may be ongoing dangers (e.g., Domestic Violence, unsafe neighborhoods)

- Set up a written plan for specific risky situations.
- Have back up plans for getting in contact with a safe adult when separated or unable to reach by usual methods.
- Identify safe people and places that students can turn to if necessary.

3. Increase support and reassurance from caregivers

- Give a lot of reassurance. Be specific that the situation is safe now.
- Be careful not to communicate that because of the trauma the world should be seen as a very dangerous place.

4. Help students face up to non-dangerous situations to learn they can handle them

- Identify people, places, and topics, things that may be reminders of the trauma but are not in themselves dangerous, that the child seems to be reacting strongly to or avoiding.
- Support students in approaching, rather than avoiding, non-dangerous reminders.
- Help them learn to tell the difference between dangerous and non-dangerous reminders (e.g., every raised voice is not a sign of impending violence or aggression).

5. Make sure students have coping skills they can use

- Review coping skills such as relaxation, breathing, distraction (listening to a favorite song, game), mindfulness, distress tolerance, or meditating. Identify which ones the child is likely to use and practice it with him or her.
- Prompt the student practice and use effective coping skills when he or she seems to be getting anxious or worried unnecessarily.

6. F-CBT is a proven treatment.

- Help students find a therapist who can provide Trauma Focused-Cognitive Behavioral Therapy (TF-CBT) if they have persistent stress symptoms.

These strategies can prevent brain changes from becoming permanent and restore normal functioning. You can help support your students' brain development!