



TIPS FOR TEACHERS AND CLASSROOM RESOURCES

## This is a Student's Brain on Trauma

By Jennifer Gunn

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Trauma and stress can alter a young person's brain functions, impacting learning, causing behavioral problems, and igniting a cycle of violence. Poverty, violence, sexual abuse, food insecurity, and home instability are just a few factors causing brain-altering stress for our nation's kids. The [National Survey of Children's Health](#) (NSCH) reports that nearly 50 percent of the children in the United States have experienced "at least one or more types of serious childhood trauma." Understanding trauma and its impacts on young learners helps educators better serve the emotional needs of their students, and help trauma-survivors thrive in classrooms.

## What is trauma?

The [American Psychological Association](#) defines trauma simply as "an emotional response to a terrible event," such as a car accident. A person's reaction could be short-term or long-term, like in the case of Post-Traumatic Stress Disorder. There is also *Complex Trauma*, which is trauma of a repetitive or continuous nature. This could include things like abuse, poverty, or hunger. For students, the effects of trauma go far deeper than behavior. People who have suffered emotional trauma can have lapses in their cognitive abilities. They may have trouble focusing on simple tasks. They may lose memory function, or forget how to write or say the alphabet. They may experience unexplained rage or terror. [Trauma has real and lasting effects](#) on the brain and in understanding this, we can better understand and help our students.

## Your student's brain on trauma

Fight or flight, anxiety states

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Children who experience trauma can live in a near-constant state of fight or flight, with stress hormones like cortisol and adrenaline flowing, even with no real threat present. That means, a student may be triggered by something non-threatening (like a loud noise, or not understanding an assignment) and feel the intense emotions and fear associated with a truly frightening event. Therefore, a student may not be able to control their emotions or reactions when they're overwhelmed by stress chemicals. "Early traumatic experiences and development insults often involve fear and anxiety. Neurobiological findings show that trauma affects both the structure and chemistry of a child's developing brain. Fear and anxiety over time can alter a child's brain development. Children of trauma are at times "offline" and unavailable for learning due to symptoms they may experience such as intrusive thoughts, dissociation, flashbacks, or an under/over-active limbic system," says Patricia Olney Murphy, LICSW, MPA, a sexual abuse and trauma specialist in Rhode Island.

### Memory function + learning

With fight or flight responses over-activated in the brains of students of trauma, the learning and memory centers of the brain are conversely turned down. When the primary function of a child's brain is to protect itself and process fear, normal brain development is affected. You might see students become forgetful, disengaged, or unable to concentrate. Over time, the effects can actually permanently alter the brain, making it increasingly difficult for a child of trauma to learn when it's constantly fighting for survival. "Experiencing traumatic events directly impairs the ability to learn, both immediately after the event and over time. Children are particularly vulnerable to these consequences as their brains are still developing," says Dr. Elizabeth Studwell, a New York City Clinical Psychologist, whose work centers around children and young adults. "Traumatic events cause the brain to enter a heightened state of awareness, activating our limbic system and flooding the brain with the stress hormone cortisol. Excess cortisol is toxic to the brain and primarily damages the hippocampus and prefrontal cortex. These areas of the brain are directly related to memory and executive functioning respectively. As a result, there becomes an overall decreased ability to process new information, objectively analyze complex data, and engage in memory consolidation."

### Emotional regulation

Students who have experienced trauma can have difficulty managing their emotions or self-soothing when stressed. When faced with a consistent flow of stress chemicals coursing through the body or reliving traumatic events, a child can fail to learn how to calm themselves down or regulate sadness or fear. These emotions can manifest into deeper or more long-term mental challenges such as depression, PTSD, self-hatred, guilt, or shame. Or, the emotions can burst outward into rage, anger, trembling, hyperactivity, or mood swings. "Having learned that the world is a dangerous place where even loved ones can't be trusted to protect you, children are often vigilant and guarded in their interactions with others and are more likely to perceive situations as stressful or dangerous. While this defensive posture is protective when an individual is under attack, it becomes problematic in situations that do not warrant such intense reactions" according to the [National Child Traumatic Stress Network](#).



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### Healthy relationships

After trauma, it can be trying for students to trust their peers and/or adults. If a trauma is experienced in which a caregiver breaks the child's trust, a child can begin to believe that many or all people are bad and should not be trusted. "When an individual undergoes trauma, they will often have an immediate and dramatic shift in how they experience the world around them. This is especially true for children with traumatic events undermining the development of early models of healthy relationships. If unaddressed, this trauma becomes the lens through which individuals view all interpersonal relationships, often stifling their ability to be vulnerable and fully trust in their interactions with others," says Dr. Janice Galizia, clinical psychologist. Therefore, a student with a trauma history may have difficulty trusting teachers, authority figures or peers. They may also isolate themselves or be drawn into unhealthy romantic relationships.

understand that kids have to do their best, and they are highly motivated to do well and sometimes trauma symptoms interfere."

## The good news

The good news is, there are many ways we can help by utilizing different [strategies for managing trauma in the classroom](#) and learning about trauma-informed transformations in education.

*Jennifer L.M. Gunn spent 10 years in newspaper and magazine publishing before moving to public education. She is a curriculum designer, teaching coach, and high school educator in New York City. She is also cofounder of the annual EDxEDNYC Education Conference for teacher-led innovation, and regularly presents at conferences on the topics of adolescent literacy, leadership, and education innovation.*



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