

SCIENCE SPOTLIGHT

Young People Who Have Experienced Earlier Adversity Can Thrive with the Right Supports in Place During Adolescence

Adolescence is a time of remarkable opportunity and growth. Throughout our lives, our brain changes and adapts to new experiences, but there are periods of development when our brain is especially responsive to input from our experiences and our environment. Adolescence—from about age 10 to age 25—is one of these windows.

During our adolescent years, connections between regions in our brains are strengthened and streamlined in response to our experiences, becoming more efficient and specialized to support the skills we need for adulthood.¹ Research has shown that crucial brain systems such as the prefrontal cortex develop rapidly during adolescence, and effects of environmental factors on this development are amplified.^{2,3,4} This makes adolescence a critical period for cognitive and social development.⁵ It also makes the adolescent years an important period of opportunity when research-informed interventions can address the impact of earlier adversity.

The Impacts of Early Adversity

When we experience adversity—such as toxic stress, trauma, and neglect—early in life, the ways our brain and body adapt to these traumas can create steeper hills for us to climb toward positive behavioral development and healthy functioning in adolescence and adulthood.^{6,7}

Following are research-based insights about the impact of early adversity on adolescent development.

ALTERED DEVELOPMENT IS AN ADAPTIVE RESPONSE TO STRESSFUL ENVIRONMENTS

When we experience stress, our brain and body respond to prepare us to handle the stressor and its consequences. For example, if we lived in an unsafe environment as a child in which we were often exposed to significant threats, we might have a heightened attention and vigilance about potential threats, which could accelerate the maturing of neural emotion circuits in our brain.⁸ This vigilance could serve an adaptive purpose, by helping us protect ourselves and avoid danger. However, once we were no longer exposed to the stressful environment, these once adaptive changes could negatively impact our social, emotional, and cognitive functioning. Support through positive relationships and research-informed interventions can help us learn behaviors that would better serve our health and wellbeing.

While early adversity can impact development, a young person’s future is not predetermined by their past—in fact, adolescence is an important window when the right interventions can support positive outcomes. Identifying how adversity impacts development is important for mitigating the negative effects of early adversity and fostering healthy outcomes for all young people.⁹

As adults who want to support young people, we need to understand how early adversity affects development and apply evidence-based interventions and developmentally appropriate support to address these negative impacts and help these young people thrive.

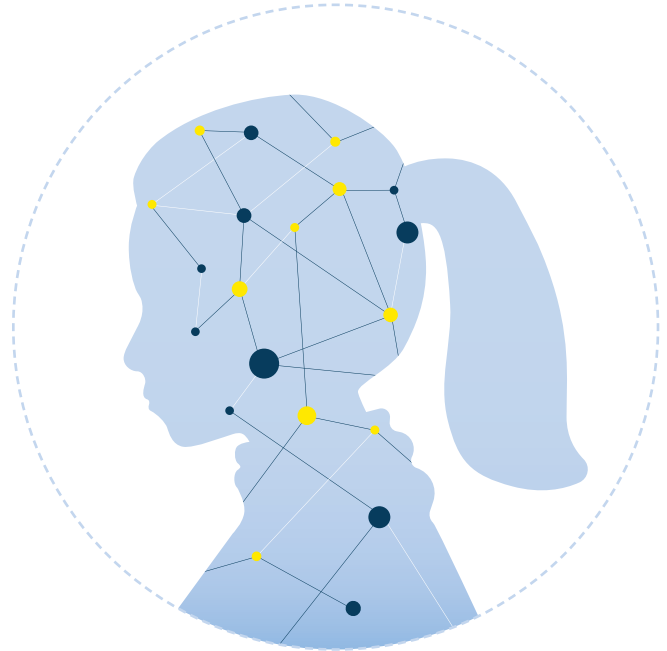


EARLY ADVERSITY CAN IMPACT BEHAVIORAL DEVELOPMENT

- Young people who have experienced early adversity may struggle with **regulating their emotions**, which can manifest as heightened emotional reactivity and difficulties managing stress.^{10,11}
- Early adversity can also impact **social relationships**: the disruption of secure attachments in childhood may lead to difficulties maintaining positive relationships with peers and caregivers in adolescence.^{12,13,14}
- Early adversity can impact **academic success** by impacting young people's ability to pay attention, remember information, plan ahead and meet goals, display self-control, or follow multiple-step directions.¹⁵
- Experiencing early adversity also increases the risk of **behavioral issues** such as aggression, impulsivity, and conduct disorders.¹⁶
- Young people who have experienced adversity may face a higher risk of **physical health** problems such as heart disease and diabetes and may **engage in more health risk behaviors** such as violence and substance use.^{17,18}
- Early adversity is one of the strongest risk factors for developing **mental health disorders** in adolescence, including anxiety, depression, and post-traumatic stress disorder (PTSD).^{19,20}

EARLY ADVERSITY HAS AN IMPACT ON BRAIN DEVELOPMENT

- The negative behavioral and health-related outcomes associated with early adversity appear to result from a cascade of intertwined changes in processes within the brain that regulate an individual's response to threat and reward.^{21,22,23}
- Early adversity can affect the hypothalamic-pituitary-adrenal (HPA) axis—which helps control an individual's physical stress response and the release of the stress hormone cortisol.^{24,25,26,27}



- Early adversity has been linked to differences in the size and functioning of brain regions such as the hippocampus, amygdala, and striatum that are important for memory, emotion processing, and learning,^{28,29,30,31,32,33} as well as neural regulatory systems that are important for executive functioning (including the capacity to plan ahead and meet goals, display self-control, follow multiple-step directions even when interrupted, and stay focused despite distractions) and inhibitory control (the ability to suppress or redirect a thought, action, or feeling).^{34,35}
- Adversity may also affect the development of amygdala-prefrontal communication^{36,37,38,39,40} which can contribute to the behavioral and emotional problems often associated with experiencing trauma early in life.

These impacts on development can create steeper paths for youth who have faced earlier adversity. Adolescence offers a window when targeted support from adults can help these youth to navigate their way to a thriving adulthood.

Adolescence Presents a Critical Opportunity for Intervention

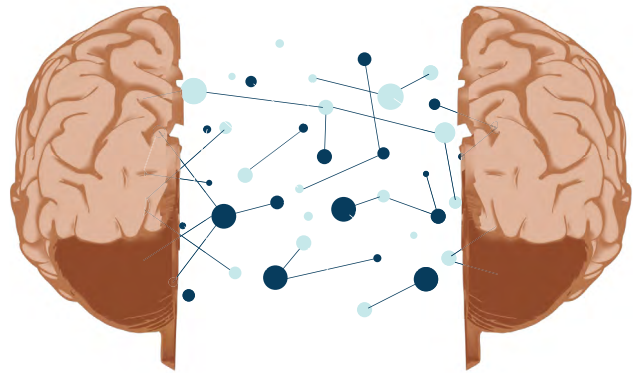
The adaptability of our brain to our experiences and relationships during adolescence make these years a time when targeted interventions may have significant impacts on brain and behavioral development, leading to long-term positive effects on development and life outcomes.

The effectiveness of an intervention can vary based on individual differences in trauma response, the type of adversity, and the quality of support and resources available to an individual.⁴¹ There are many forms of early adversity,⁴² so it is important to focus closely on the nature of the adversity a young person has experienced as well as the unique needs of a specific youth to design the most effective and targeted intervention strategy.

Successful interventions also require adequate support to ensure that youth can access the resources they need.⁴³ Programs that increase access to resources and build supportive environments for young people who have experienced adversity are crucial for reducing inequalities and supporting healthy brain and behavioral development for all young people. For example, state-level programs such as cash benefits for low-income families have been shown to mitigate the negative effects of low income on brain development and mental health.⁴⁴

Following are examples of interventions that may be effective for adolescents who experienced early life adversity.

- **Cognitive-Behavioral Therapy (CBT)** is a therapeutic approach that focuses on identifying and changing negative thought patterns and behaviors.⁴⁵ CBT can help youth who were exposed to trauma regulate their emotions and respond to stress.⁴⁶ Trauma-focused CBT that is specifically tailored to address negative responses to childhood trauma and adversity have been shown to be especially effective for treating PTSD in youth who have experienced adversity.^{47,48}
- **Mindfulness and meditation** can be effective in adolescents who have experienced various forms of early adversity and have been shown to



support cognitive abilities, mental and physical health, and academic performance.^{49,50,51,52,53,54,55}

Meditation treatment can help improve attention and academic performance by strengthening communication between frontal brain systems in adolescents who experienced early childhood neglect.⁵⁶

- **Reward-based therapies** can be effective, because adolescents tend to show heightened sensitivity to rewards (including social, monetary, or even sweet-tasting rewards)⁵⁷ that provide incentives for engaging in positive behaviors. Research shows that rewards—which can range from delicious food to fun or relaxing activities with friends—may help encourage adolescents to participate in treatment and seek out enjoyable and rewarding activities.⁵⁸ Therapies focused on positive reinforcement may be especially effective for improving mood and reducing stress reactivity in vulnerable individuals.^{59,60,61}
- **Safety signal learning** helps adolescents learn to identify cues that a situation is safe and reduce the perception of threat, which counteracts the hyperarousal and hypervigilance that can develop after exposure to trauma.⁶² Identifying safety signals can help youth regulate their emotions and decrease their physical and cognitive reactivity to stress when faced with stressors or trauma-related triggers.⁶³ Safety signal learning may be effective even if other approaches, such as standard exposure therapy, are unsuccessful.⁶⁴

- **Positive relationships with supportive adults and peers during adolescence** are critical for [promoting healthy emotional development](#) after a young person has faced earlier adversity.^{65,66,67} These kinds of developmental relationships can occur through connections with peers, parents, or other caring adults such as teachers or coaches, and can nourish young people and support their healthy development and growth, like a root system supporting a tree.

Research suggests that adolescents who live in high-quality caregiving environments in which their emotional and physical needs are met experience lower levels of anxiety and depression and are better able to plan ahead and meet goals, display self-control, follow multiple-step directions even when interrupted, and stay focused despite distractions—even if they were originally raised in caregiving environments that did not meet their emotional or physical needs, such as institutions.⁶⁸ Given the benefits of high-quality caregiving for adolescent resilience, therapies focusing on improving caregiver-adolescent relationships can be useful for promoting positive mental health outcomes in adolescence.⁶⁹

Peer relationships and friendships also play an important role in helping young people process and regulate their emotions.^{70,71} Group therapy sessions and peer support groups can be especially effective and help adolescents connect with other young people with similar lived experiences. Connecting with peers also helps foster a sense of belonging by providing social support and strengthening social networks.⁷²



- **Extracurricular activities, hobbies, and volunteering** are also promising avenues for helping adolescents develop a [sense of purpose and achievement](#),^{73,74} and programs and activities that promote school connectedness have been shown to be especially effective in promoting resilience amongst youth exposed to trauma.⁷⁵
- **Psychoeducation** can help adolescents feel a sense of agency over their situation by providing information about how their experiences may have impacted their brain and behavior.⁷⁶ Learning about the effects of early experiences can help empower youth to understand more about themselves and seek appropriate support. Combining psychoeducation with interventions that promote self-awareness, self-esteem, and a positive self-concept can counteract effects of early adversity and promote a positive sense of identity.⁷⁷ Interventions that target growth mindset—or the belief that personal characteristics are changeable—may be especially impactful for successfully improving academic performance and mental health.⁷⁸ Similarly, recognizing and uplifting an adolescent’s cultural background can help build a positive [sense of identity](#) and belonging and can support academic achievement.⁷⁹ Providing training for educators on strategies to promote social-emotional learning in the classroom can help build these trauma-informed practices in schools.^{80,81}
- **Academic support such as tutoring and educational programs** can help young people exposed to adversity catch up academically and develop a sense of self-efficacy if they have experienced negative impacts on academic and cognitive functioning.⁸²

ENDNOTES

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