Understanding the Impact of Childhood Adversity and Toxic Stress

Rebecca McFarland, Frontier Extension District, District Agent, Family and Child Development

The discussion of childhood trauma and toxic stress can be uncomfortable and traumatic even for adults. Please feel free to step out or disengage from the discussions during this lesson if you feel unusual levels of stress or unsafe. The presenter has made arrangements for additional support if necessary.

Early life experiences, whether beneficial or harmful, have a tremendous impact on one's development, behavior, long-term health and life opportunities. The Adverse Childhood Experiences (ACE) Kaiser Study, conducted by Vincent Felitti and other researchers from 1995 to 1997, showed a strong correlation between adverse childhood experiences – potentially traumatic events that occur before the age of 18 – and risk factors, such as smoking, severe obesity, depressed mood, and alcoholism, that contribute to the leading causes of morbidity and mortality in the United States. As the number of ACEs increased, so did the risk for negative outcomes. People with six (out of 10) or more ACEs died nearly 20 years earlier on average than those without ACEs. (See Figure 1.)

Correlation between Childhood Adversity and Toxic Stress

Childhood adversity is a broad term that applies to a range of events and circumstances that pose a serious threat to a child's physical and psychological well-being. Examples of childhood adversity include abuse, neglect, domestic violence, bullying, extreme poverty, community violence, discrimination, and serious accidents or injuries.

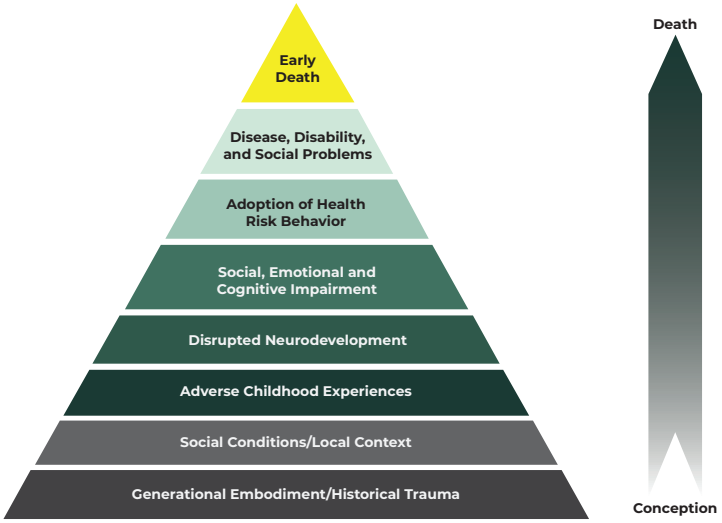

Figure 1. *How adverse childhood experiences (ACEs) affect health and well-being throughout the lifespan. The pyramid also illustrates the importance of family and community context. (CDC graphic)*

Everyone experiences stress. Stress is the body's natural response to threatening or demanding circumstances. Biologically speaking, the stress response is meant to help in life-or-death situations. When a person is threatened, their stress response system is activated. Both heart rate and blood pressure increases, and the brain is flooded with a stress hormone called cortisol, which prepares the body to deal with the stressor.

All children experience stress as a normal part of growth and development. Short-term, everyday stress experiences, such as getting a favorite toy taken away, help children develop a healthy stress response system (positive stress response). Coping with small everyday stresses, with the support of a loving, caring adult, helps the brain learn to deal with challenges and prepares the child to handle more serious stressors.

Tolerable stress occurs when a child experiences more severe, longer-lasting challenges such as parents' relationships problems, loss of a loved one, or natural

disaster. These stressors are considered tolerable because the child has a warm, loving caregiver to provide support and help the child learn how to handle the stress in a healthy way. The child's stress response system is able to return to baseline once the adversity is "removed" and the brain and organs recover fully. (See Figure 2.)

Toxic stress occurs when a child experiences adversity that is long-lasting, extreme, and severe, such as parental depression or family violence, without the support of a caring, nurturing adult or caregiver. Childhood adversity, including ACEs, can over-activate the child's stress response system, wearing down the body and brain over time.

The Impact of Toxic Stress

Children learn about the world they live in through healthy relationships with caregivers. They learn to trust others, regulate their emotions, and interact with the world. They develop a sense of the world being safe or unsafe and develop an understanding of their own value as individuals through close relationship with a caregiver. When those relationships are unstable and unpredictable, children learn that they cannot rely on others to help them. When primary caregivers abuse and exploit a child, the child learns that he or she is bad and the world is a terrible place.

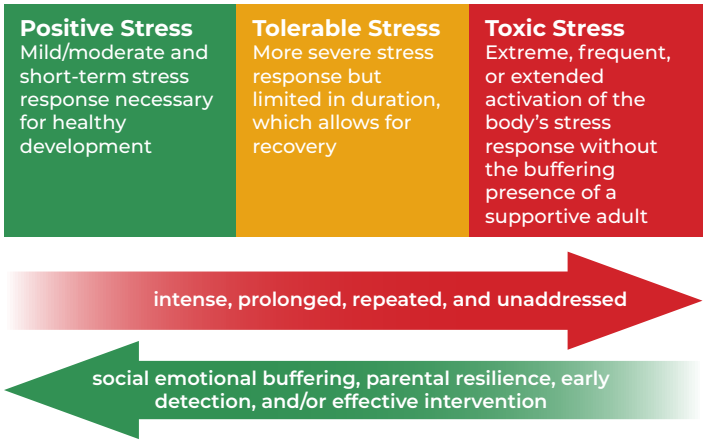

Figure 2. *The Stress Spectrum illustrates the differences between types of stress and factors that influence it.*

A child experiencing toxic stress is at risk for developing long-term changes in brain architecture, immune dysregulation that increases the risk and frequency of infections, and behavior dysregulation. See Table 1 for signs and symptoms of toxic stress.

We know that many children experience childhood adversity; however, not all children exposed to trauma experience negative consequences, or at least not to the extent that other children with similar experiences do. A child's biological make-up, such as genetic vulnerabilities, prior experiences that have damaged the stress response system, and limited healthy gene expression, impact the extent to which the child's

Table 1. *Signs and Symptoms of Toxic Stress*

Physical	Emotional	Behavioral	Cognitive
• Poor appetite • Low weight • Digestive problems (stomachache) • Headaches • Frequent illnesses • Experience higher rates of chronic illness such as heart disease, cancer, and early death	• Difficulty identifying, expressing, and managing emotions • Internalize or externalize stress – may experience depression, anxiety, anger • React to reminders of the trauma in the environment – trembling, anger, sadness, avoidance • Activation that leads to elevating emotions (ramping up) or attempts to avoid (emotional numbing)	• May be easily triggered and react intensely • Struggle with self-regulation (knowing how to calm self) • May lack impulse control or ability to think through consequences • May behave in ways that appear unpredictable, oppositional, volatile, extreme • Dissociation – mentally separate themselves – may seem detached, distant, out of touch with reality • Engage in high risk behaviors	• Difficulty thinking clearly, reasoning, or problem solving • May be unable to plan ahead, anticipate the future • May struggle with sustaining attention • May have learning difficulties

stress response to adversity becomes toxic. Research also shows that some epigenetic changes that occur in the fetus during pregnancy can be passed on to later generations and affect the health and well-being of children, grandchildren, and their descendants.

Early Adversity Can Have Lasting Impacts

According to the Centers for Disease Control and Prevention, ACEs are common and an estimated 61% of adults surveyed across 25 states reported that they had experienced at least one ACE during childhood. Nearly one in six reported that they had experienced four or more ACEs. A substantial amount of research shows that exposure to ACEs and the resulting toxic stress can lead to substance misuse and other unhealthy coping behaviors. (See Figure 3.) Furthermore, ACEs increase the risks of injury, sexually transmitted infections, mental health problems, maternal and child health problems, teen pregnancy, involvement in sex trafficking, and a wide range of chronic diseases. The leading causes of death such as cancer, diabetes, heart disease, and suicide have been linked to ACEs and toxic stress. ACEs negatively impact education, employment, and earning potential. In fact, the total economic and social costs to families, communities, and society are in the hundreds of billions of dollars each year. But ACEs are preventable and not all children who experience ACEs in childhood experience negative consequences.

Resiliency and Hope

Not all children are affected by toxic stress in the same way or same degree. Children and families possess characteristics and traits, and have access to resources and support, that buffer against the negative effects of toxic stress. Research on resilience in children show that an essential protective factor (decreases the likelihood) is the reliable presence of a positive, caring, and protective parent or caregiver. The CDC says protective factors include individual and/or environmental characteristics, conditions, or behaviors that reduce the effects of stressful life events.

In 2017, Ellis and Deitz developed a framework for building community resiliency to address the root causes of toxic stress and childhood adversity. Buffers at the individual, family, and community level can alleviate or prevent the effects of toxic stress. Individual buffers include personal traits and characteristics, intellect, self-efficacy or an individual's belief in his or her ability to complete a certain task, coping skills, evaluation of adversity or maltreatment, and life satisfaction. Family-level buffers that can prevent or alleviate the effects of toxic stress include resources, supportive relationships, family cohesion or "sticking together," parental relationships, stable caregiving, spousal support, and stable employment. Community-level buffers include peer relationships, nonfamily relationships and social support, religion, community cohesion, civic engagement, and economic development.

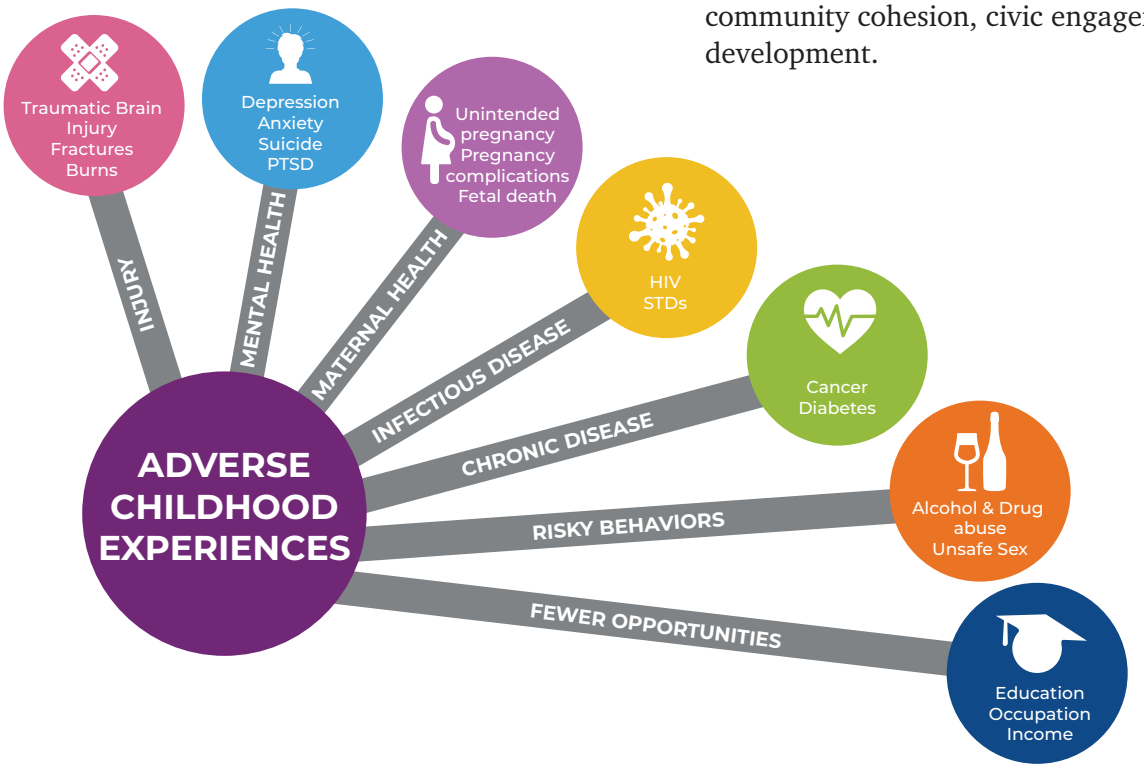

Figure 3. *Outcomes of adverse childhood experiences include both short-term and long-term problems.*

Building community resilience is a framework that aims to build greater collaboration and coordination between systems in the community and community members. It is about creating and strengthening a network of buffers and support to help children, families, and the whole community to "move forward" and thrive.

Glossary of Terms

Adverse Childhood Experiences (ACEs)

The term coined by researchers Dr. Vincent Felitti, Dr. Robert Anda, and colleagues in their landmark study, The Adverse Childhood Experiences Study (1995-1997). They include physical, sexual and emotional abuse; having a mother treated violently; living with someone who was mentally ill, abused alcohol or drugs; incarceration of a family member; parental separation or divorce; and emotional and physical neglect. (Felitti el al., 1998)

Childhood adversity A broad term that refers to a wide range of circumstances or events that present a serious threat to a child's well-being, both physically and psychologically. Examples include abuse, neglect, domestic violence, bullying, poverty, serious accidents and injuries, community violence, and discrimination (Bartlett & Sacks, 2019).

Trauma Results from an event, series of events, or set of circumstances experienced or witnessed by an individual as physically or emotionally harmful or life-threatening with lasting adverse effects on the individual's functioning and mental, physical, social, emotional, or spiritual well-being. (Trauma, n.d.)

Resiliency Resilience is the process of adapting well in the face of adversity, trauma, tragedy, threats, or significant sources of stress — such as family and relationship problems, serious health problems, or workplace and financial stressors. It means "bouncing back" from difficult experiences. (American Psychological Association [APA]).

Protective factors decrease the likelihood of children being abused or neglected. Examples include: a supportive family environment, nurturing parenting skills, household rules, parental employment, parental education, adequate housing and access to health care.

Positive stress response A normal and essential part of healthy growth and development. It is characterized by a brief increase in heart rate and mild elevations in hormone levels. Situations that may cause positive stress include the first day with a new caregiver, receiving an injected immunization, and the birth of a sibling (Toxic Stress, n.d.). The child is supported through this stressful event with strong social and emotional buffers such as reassurance and parental protection.

Tolerable stress response Activates the body's alert systems to a greater degree as a result of more severe, longer-lasting difficulties, such as the loss of a loved one, divorce, or a natural disaster. If the activation is time-limited and the child is protected with responsive relationships and strong social and emotional support, the brain and other organs recover from what might otherwise be damaging effects ("Toxic Stress," 2014).

Toxic stress response This occurs when a child experiences strong, frequent, and/or prolonged adversity—such as physical or emotional abuse, chronic neglect, caregiver substance abuse or mental illness, violence, household dysfunction, food scarcity, and/or the accumulated burdens of extreme poverty—without adequate adult support. Prolonged activation of the stress response systems can disrupt the development of the brain and other organ systems and increase the risk for stress-related disease and cognitive impairment well into the adult years.

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Tristen Cope, Marion County Extension Agent, Family and Consumer Science, 4-H Youth Development
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