

Toxic Stress and Healthy Brain Development

By Rebecca Rice, MPH Georgia Family Connection Partnership



➤ Background

Experiencing and dealing with stress is a normal part of growing up and learning for all children. In the context of brain development, stress is defined as a state of mental or emotional strain or tension resulting from adverse, frightening, demanding, or even exciting events or circumstances.

Not all stresses are alike, and each produces different stress responses in the developing brain. Research classifies stress into three levels:

Positive stress is a short-term, everyday experience, e.g., another child not playing with a child or sharing toys. Although unpleasant, coping with this type of stress helps the brain learn how to deal with challenges and prepares a child to handle more serious stresses.

Tolerable stress occurs when a child faces more challenging and longer-term stressors—changing preschool teachers, moving to a new home, or the birth of a sibling—yet the child has loving, nurturing caregivers to help the child handle these situations in a healthy way. Without support, however, tolerable stress may become **toxic**.

Toxic stress results when a child experiences long-term difficult events—the death of a loved one, abuse or neglect, family violence, chronic poverty—and does not have the resources or support to reduce the effects of the stressor to a more tolerable level.

Whenever a child experiences stress, the brain and body go through specific physical and psychological changes. The release of the stress hormone cortisol floods to the brain, preparing the body to respond in one of three ways—flight, fight, or freeze in place. This stress response helps ensure safety and survival.

Long-lasting and negative effects can occur, however, when young children are overexposed to high levels of stress over time, according to a growing body of evidence. Adverse childhood experiences (ACEs) are potentially traumatic events that can range from economic hardship, physical, emotional, or sexual abuse, to parental divorce or the incarceration of a caregiver. Just under half (46 percent) of children in the U.S. have experienced at least one ACE. In Georgia, 38 percent of children ages birth to 17 experienced one or two ACEs: the four most common ACEs with percentage of prevalence are economic hardship (26 percent); divorce (19 percent); violence, alcohol, and incarceration (8 percent); and domestic violence (7 percent).

KIDS COUNT data show that in 2012, almost 20,000 Georgia children, at a rate of 7.6 per 1,000 children, experienced a substantiated incident of abuse and/or neglect, though in several counties, the rate of abuse and/or neglect exceeds 20 per 1,000 children.

The percentage of children living in poverty, at 27.3 percent, is the highest it's been in over a decade. The rate has increased by close to 40 percent since 2000, when the percentage of children living in poverty was just 17.1 percent.

The consequences of toxic stress are a lifetime of impairments in learning, behavior, and both physical and mental health. Severe neglect—defined broadly as the ongoing disruption or significant absences of caregiver responsiveness—can be even more harmful to a young child than overt physical abuse. Exposure to toxic stress can result in fewer synaptic connections in parts of the brain that control executive function—brain function used for things like planning, organizing, and paying attention to details—because when exposed to prolonged stress, children do not have regular opportunities to practice decision-making, problem-solving, and other higher order skills. With their constant focus on survival at home, children may miss school; have trouble concentrating when in the classroom; suffer cognitive impairments, language deficits, withdrawn behavior, and problems with peer interactions.

Science/Policy Gap and Policy and Program Implications

Understanding the biological effects of inadequate responsiveness to the needs of young children has important implications for policy decisions. With an increasing body of research showing the effects of toxic stress on brain development, policy can adapt to the needs of these vulnerable children.

Quality Early Care and Education: Supporting children with high-quality early care and education can help at-risk children develop the synaptic connections necessary for healthy brain development. In 2012, Georgia launched a voluntary tiered quality rating and improvement system called Quality Rated for childcare facilities across the state. Created and implemented by Bright from the Start: Georgia Department of Early Care and Learning (DECAL), Quality Rated assigns a quality rating—one, two, or three stars—to early education and school-age care programs that meet a set of defined program standards beyond what child care licensing requires. These rated child-care facilities then receive incentive packages of educational materials, as well as professional staff development opportunities. Georgia Family Connection Partnership is working with DECAL to distribute incentive packages and to coordinate a statewide network of volunteers.

With federal support through the Race to the Top-Early Learning Challenge, Georgia is creating four Early Education Empowerment Zones (E³Zs) as a vehicle to reduce the achievement gap in areas of the state where many young children have high needs. The goal is to provide customized early-learning programs and services to support these young children and their families and to provide high-quality early care and education in these E³Zs. It is expected that these E³Zs will see achievement gaps begin to close and educational attainment and school performance levels improve. The double-pronged approach of Quality Rated and E³Zs addresses both quality of and access to care.

Mental And Behavioral Health Support Services: Access to clinical experts in mental health for young children and their families is limited. The Rollins School of Public Health at Emory University opened the Center for Behavioral Health Policy Studies in 2013, which includes staff and students from Emory, the Morehouse School of Medicine, the Georgia Institute of Technology, the University of South Carolina, and the Carter Center Mental Health Program. One of the center's key goals is researching access and quality of care for disadvantaged children with mental health and substance abuse disorders.

Other federal policies and programs in place to define, address, and alleviate the toxic effects of child maltreatment are the Child Abuse Prevention and Treatment Act (CAPTA) as amended by the Keeping Children and Families Safe Act of 2003; the Individuals with Disabilities Education Act (IDEA); and, Medicaid's Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) benefit.



Two-Generation Approach: A proven practice in child wellbeing programs is the two-generation model which works simultaneously with at-risk children and their families. This model supports healthy brain development in children by addressing issues present in at-risk children early-on and supporting their caregivers with creating a more stable home life. According to the Casey Foundation and Aspen Institute, a true two-generation approach includes education, economic supports, and social capital, though health and well-being is emerging as a component.

These policies and programs are steps in the right direction for combatting toxic stress and supporting healthy brain development and also for making sure that all Georgia children have the resources they need to become healthy, happy, productive adults.

Recommendations

- Form collaborative relationships with local, state and national partners to improve coordination and access to key services and supports for children affected by trauma and their families.
- Build upon existing policies and practices to enhance the child welfare system with trauma-informed practices having a focus on strategies that can promote healthy brain development and prevent abuse and neglect.
- Increase investment in the development and implementation of effective, scalable programs in community-based settings for children who experience trauma and toxic stress.
- Increase public awareness of the scope, prevalence, and long-term impact of toxic stress on children and families and the two-generation approach programs and practices proven effective in alleviating the impact of toxic stress.

ⁱ Bales, D. (2014). Building Baby's Brain: Buffering the Brain from Toxic Stress. ??

- ⁱⁱ Sacks, V., Murphey, D., & Moore, K. (July 2014). Adverse Childhood Experiences: National and State-Level Prevalence. Child Trends Research Brief.
- ^{III} National Scientific Council on the Developing Child. (2012). The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain. Working Paper 12. Harvard University.
- ^{iv} Child Welfare Information Gateway. (August 2011). Supporting Brain Development in Traumatized Children and Youth. Children's Bureau/ACYF.

www.bbbgeorgia.org



Governor's Office for Children and Families

This project was supported in part by the Governor's Office for Children and Families through the U.S. Department of Health and Human Services, Administration for Children and Families, Community Based Child Abuse Prevention and Treatment Act (CFDA 93.590). Points of view or opinions stated in this document are those of the author(s) and do not necessarily represent the official position or policies of the Governor's Office for Children and Families or CBCAP.