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AT HARVARD

ISSUE BRIEF SERIES

The IH supports the production and dissemination of rigorous, non-partisan, and non-ideological research on immigration issues across a broad diversity of disciplines and perspectives, and the application of this research to local, regional, and national policy issues.

KEY FACTS

- Toxic stress is a physiological response that produces serious disruptions of the developing brain and other biological systems that can lead to significant problems in learning, behavior, and both physical and mental health.
- Toxic stress can be caused by the extended absence of nurturing protection.
- Experience of toxic stress as a child may lead to poor educational achievement; adult disease; trouble with basic life skills and controlling emotions; addiction; and difficulties parenting.

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Toxic Stress: Issue Brief on Family Separation and Child Detention

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Immigration Initiative at Harvard Policy Brief 1.



Photo courtesy of: Leva Jusionyte

Background

The separation of children from their parents and their prolonged detention for an indefinite period of time raise profound concerns that transcend partisan politics and demand immediate resolution. Forcibly separating children from their parents is like setting a house on fire. Preventing rapid reunification is like blocking the first responders from doing their job. And subjecting children to prolonged detention (even with their parents) is like dripping gasoline on smoldering embers that will keep the fire going.

When children are separated abruptly from their families and detained in institutional settings, the high likelihood of serious consequences is not difficult for the average person to comprehend. Pediatricians, mental health clinicians, child welfare experts, and educators bring a deeper perspective based on their knowledge of both the immediate and lifelong effects of childhood trauma. And above and beyond the distress that anyone can see “on the outside,” scientists understand that significant adversity triggers a massive biological response “inside” the child, which remains activated until a sense of safety and security is restored. This biological response is known as “toxic stress”¹ and the most potent antitoxin is the protection provided by the reliable availability of a nurturing parent or other familiar caregiver.

Toxic Stress and its Long-Term Consequences

The physiological assault of toxic stress produces serious disruptions of the developing brain and other biological systems that can lead to a wide range of problems in health and development. Persistently

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elevated stress hormones can disrupt brain circuits that affect memory and the ability to focus attention and regulate behavior. Excessive inflammation and metabolic responses to stress in childhood increase the risk of heart disease, diabetes, depression, and other chronic illnesses in the adult years. Unlike “positive” or “tolerable” stress, which can build resilience, the extended absence of the nurturing protection provided by a parent or other responsive caregiver produces a toxic stress response that increases the risk of serious impairments that can last a lifetime.

When children facing prolonged separation begin to cry less and seem more passively accepting of their circumstances, our concern for their well-being should *rise*, not fall. Rather than view this change in behavior as an encouraging sign of adjustment, it is critical that we see it for what it is—an overloaded stress response system whose capacity to deal with adversity has been compromised and a child whose probability of having lifelong consequences will continue to increase until a healing relationship with a familiar adult (most preferably the parent) is restored and repaired.

We all pay a steep price when we fail to support the healthy development of all children. The first—and arguably most important—is the moral cost of failing to address clear threats to child well-being. On a more utilitarian level, experiencing severe stress as a child without a supportive caregiver to buffer its adverse



effects can dramatically increase the risk for poor educational achievement and later adult disease, as well as trouble with basic life skills such as holding a job, controlling emotions, resisting addictive drugs or excessive alcohol consumption, and parenting the next generation.

“ We all pay a steep price when we fail to support the healthy development of all children. ”

Whether the lens through which we look is moral, scientific, economic, or broadly utilitarian, inflicting harm on children fails a simple litmus test every single time. Toxic stress is a ticking clock—and prolonged separation inflicts *increasingly greater harm* as each week goes by.

The Underlying Science that Cannot be Ignored

In 2012, the Center on the Developing Child (and the collaborating scientists from across the United States who constitute our National Scientific Council) published a working paper titled *The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain*.² This paper synthesized three decades of biological and developmental research to explain how severe neglect can “can cause more harm to a young child’s development than overt physical abuse,” including cognitive delays, impairments in executive functioning, and disruptions of the body’s stress response.

In that paper, we described how healthy development can be derailed not only by bad things that happen to children, such as physical or sexual abuse, but also by the absence of essential positive experiences. The most critical of those experiences for healthy brain development is what we named “serve-and-return” interactions, which refer to responsive, reciprocal interchanges between young children and the adults who care for them—which are dramatically disrupted by the separation of children from their parents. This working paper details what happens biologically when consistent, serve-and-return interactions are missing from a child’s life:

- “Beginning immediately after birth, a strong foundation for human well-being *requires* responsive environments and supportive relationships to build sturdy brain circuits, facilitate emerging capabilities, and strengthen the roots of physical and mental health. ... Because responsive relationships are developmentally expected and biologically essential, their *absence* signals a serious threat to child well-being, particularly during the earliest years, and this absence activates the body’s stress response systems. When decreased responsiveness persists, the lost opportunities associated with

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diminished interaction can be compounded by the adverse impacts of excessive stress activation, the physiological effects of which can have lifelong consequences. This multidimensional assault on the developing brain underscores why significant deprivation is so harmful in the earliest years of life.”

This working paper also identified different contexts in which neglect may take place and summarized the evidence that exists about the effects of each. The most relevant passage for the current crisis at the border addresses the distinctive problems of “Severe Neglect in an Institutional Setting”:

- “Institutions that ‘warehouse’ large numbers of infants and young children serve as extraordinary examples of extreme deprivation. Such conditions typically include staff with little or no training in the care of children, highly regimented ‘assembly-line’ caregiving with minimal one-on-one interaction, youngsters who are ignored and unstimulated for virtually all of their awake hours, and no adult-child relationships that are reliably responsive to a child’s individual needs. Young children who live in such settings experience little more than transient serve-and-return interactions. Frequent staff rotations mean that infants are cared for by many different people, making it extremely difficult to develop meaningful relationships with any single caregiver. In such circumstances, although basic needs for food, warmth, shelter, and medical care may be met (thereby avoiding most legal definitions of neglect), the setting itself may still be a precipitant of severe psychosocial deprivation for the youngest inhabitants.”

More detailed evidence about the effects of *institutional* neglect include the following:

- “Severe neglect in institutional settings is associated with abnormalities in the structure and functioning of the developing brain. Significant neglect or deprivation in the early childhood years influences the development of a variety of brain regions that are important for thinking, learning, focusing attention, controlling emotions, and managing stress.”
- “Significant deprivation can alter the development of the body’s two primary biological stress response systems in a way that compromises children’s ability to cope with adversity. Years after adoption, children who experienced extreme neglect in institutional settings show abnormal patterns of adrenaline activity in their heart rhythms, which can indicate increased biological ‘wear and tear’ that leads to greater risk for anxiety, depression, and cardiovascular problems later in life.”
- “Children who have experienced serious deprivation are at risk for abnormal physical development and impairment of the immune system. Extreme conditions of deprivation, such as those experienced in institutional settings that ‘warehouse’ young children, are associated with smaller body size and impairments in gross motor skills and coordination. Children who are raised in institutional settings also have more infections and are at greater risk of premature death.”
- “Severe neglect in institutional settings is associated with greater risk for emotional, behavioral, and



interpersonal relationship difficulties later in life. Children who have been severely neglected have higher rates of emotional and behavioral problems, even when compared to children who have been physically or sexually abused. They show increased negative emotions, poorer impulse control, and reduced enthusiasm, confidence, and assertiveness when completing problem-solving tasks. This type of neglect also has been linked to difficulties in children’s emerging ability to discriminate emotions and is

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associated with an increased risk for personality disorders, anxiety, and depression when compared with other forms of maltreatment.”

The passages reproduced above are supported by a long history of rigorous research, augmented by recent studies of shamefully under-resourced institutions in Eastern European countries (particularly Romania), many of which have since been phased out or closed entirely. This extensive scientific evidence presents a chilling picture of the harm being inflicted on children who have been separated from their families at the U.S.-Mexico border and detained for prolonged periods in institutional facilities. Stated bluntly, even when they are clean and provide sufficient nutrition, institutional settings cannot provide the individualized care and responsiveness that young children need to avoid the consequences of toxic stress.

Take-Home Messages for Policymakers and the Public at Large

Countless studies, extensive evidence, and widely accepted scientific knowledge converge on three core concepts that cannot be minimized or ignored:

- A strong foundation for healthy development in young children *requires* a stable, responsive, and supportive relationship with at least one parent or primary caregiver.
- The forced and abrupt separation of children from their parents is a serious assault that triggers massive psychological trauma that can cause lasting damage to their health and development.
- The longer children are detained in institutional

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settings (with or without their parents) the greater the long-term damage is likely to be.

All children who are abruptly separated from familiar caregivers at the U.S.-Mexico border experience extraordinary stress. Will some survive without overwhelming problems? The answer is yes. Will many be seriously impaired for the rest of their lives? The answer again is yes. Younger children are the most vulnerable because their brain circuitry and other biological systems are relatively under-developed, and because they are the most dependent on stable and responsive caregivers. The pileup of stress on children at any age who are already compromised shifts the odds against them even further. Intentionally withholding the most powerful healing intervention we could possibly offer—the care that parents provide when their children are in danger—goes against everything that science, morality, and common sense are telling us.

Reports of new government directives to keep families together are an important step forward but subjecting both children and parents to forced detention provides little relief for turbocharged stress systems. Supportive parents are the linchpin of protection and effective treatment for traumatized children, but the additional fears and uncertainties of incarceration add overwhelming pressures on those who are already bearing the pile up of previous traumas and ongoing struggles with anxiety or depression. Even the most loving and dedicated parents cannot fully protect their children in threatening circumstances if their own basic needs are not met. That is why flight attendants tell us that if the oxygen masks drop down, parents should put on their own masks first before assisting their children.

Forced separation and prolonged detention are inflicting significant harm on immigrant children whose lives have already been disrupted and whose future problems will be more severe because of what we are actively doing to

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them right now—wherever they may live in the future. The responsibility for assuring basic needs such as food and shelter is obvious but providing a safe, nurturing, and healing environment for innocent children and families whose lives are in limbo is arguably more urgent. Although visible harm on the outside is disturbing to see, the invisible harm of toxic stress on the inside is relentless and can lead to a lifetime of preventable pain, illness, and disability.



¹Center on the Developing Child. Harvard University (2019). 'Toxic Stress', Key Concepts. Available at: <https://developingchild.harvard.edu/science/key-concepts/toxic-stress/>

²National Scientific Council on the Developing Child (2012). *The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain: Working Paper No. 12*. Available at: www.developingchild.harvard.edu.

THE MISSION OF THE CENTER ON THE DEVELOPING CHILD

The Center on the Developing Child at Harvard was founded in 2006 to generate new knowledge and close the gap between what we know and what we do to promote the healthy development of children. Our current portfolio of activities is designed to drive science-based innovation in the early childhood ecosystem to achieve breakthrough outcomes for young children facing adversity and the adults who care for them. As a non-partisan academic center, we do not advocate for or against specific policies or political agendas. Our aim is to generate, synthesize, and translate advances in the biological, behavioral, and social sciences—and to make that knowledge accessible and actionable across the early childhood field. Through the production and dissemination of a wide array of publications, videos, and other multimedia resources, we educate thought leaders and policy makers across the political spectrum about how credible scientific principles can inform decisions that affect the lives of millions of children and families (especially those facing the greatest adversity) as well as influence far-reaching impacts on a wide diversity of communities in the United States and around the world.

Since the intentional separation of children from their families at the southern U.S. border began more than 18 months ago, many humanitarian, scientific, and medical organizations and individuals have expressed outrage at the harm that is being inflicted on innocent children. Without compromising the critical need to preserve our Center's signature niche as a trusted, non-partisan knowledge broker, we have chosen to speak out on this issue because it transcends political ideology and party affiliation. Building on the multitude of concerns that continue to be voiced on both moral and scientific grounds, we view our Center as having a distinctive role and compelling responsibility to help the public understand what is literally happening inside the bodies and brains of these children and what the consequences will be, regardless of where they and their families will be living in the future.

Website: <https://developingchild.harvard.edu/>



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Jack P. Shonkoff, M.D., is the Julius B. Richmond FAMRI Professor of Child Health and Development at the Harvard T.H. Chan School of Public Health and Harvard Graduate School of Education; Professor of Pediatrics at Harvard Medical School and Boston Children's Hospital, and Research Staff at Massachusetts General Hospital; and Director of the university-wide Center on the Developing Child at Harvard. He has received multiple honors, including elected membership to the National Academy of Medicine, the C. Anderson Aldrich Award in Child Development from the American Academy of Pediatrics, the Distinguished Contributions to Social Policy Award from the Society for Research in Child Development, and The LEGO Prize. He chaired the Board on Children, Youth, and Families at the National Academy of Sciences and led a blue-ribbon committee that produced the landmark report, *From Neurons to Neighborhoods: The Science of Early Childhood Development*. He currently leads a science-based, R&D platform to drive larger impacts at scale for young children and families facing adversity.

ABOUT IIH

The Immigration Initiative at Harvard (IIH) was created to advance and promote interdisciplinary scholarship, original research, and intellectual exchange among stakeholders interested in immigration policy and immigrant communities. The IIH serves as a place of convening for scholars, students, and policy leaders working on issues of immigration—and a clearinghouse for rapid-response, non-partisan research and usable knowledge relevant to the media, policymakers, and community practitioners.



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