

SCIENCE TO POLICY AND PRACTICE

Applying the
Science of Child Development
in **Child Welfare Systems**



ACKNOWLEDGEMENTS

We gratefully acknowledge the significant contributions to this paper made by the individuals and organizations listed below.

The Alliance for Strong Families and Communities	Richard Kagan, National Child Traumatic Stress Network	Mark Rains, National Child Traumatic Stress Network
Nancy Ashley and Jason Gortney, Children's Home Society of Washington	Ann Leinfelder Grove, Denise Pilz, and Teri Zywicki, SaintA	Bryan Samuels and Clare Anderson, Chapin Hall at the University of Chicago
Elisabeth D. Babcock, EMPATH	Michael Little, Dartington Social Research Unit	David Sanders, Casey Family Programs
Rumeli Banik, The Doris Duke Charitable Foundation	Nora McCarthy, <i>Rise</i>	Christine Stoner-Mertz, Lincoln
Anthony Barrows, ideas42	Judith Meltzer, Susan Notkin, and Kristen Weber, The Center for the Study of Social Policy	Maira Szilagy, UCLA
Pamela Cornwell, St. Francis Community Services	Roseann Myers	Judith Waksberg, New York City Family Court
Philip Fisher, University of Oregon	The National Child Traumatic Stress Network	Cambria Rose Walsh, Rady Children's Hospital, Chadwick Center for Children and Families
Sandra Gasca-Gonzalez, The Annie E. Casey Foundation	The New York State Council of Family and Child Caring Agencies	
Bonnie Hommrich, Tennessee Department of Children's Services	James Radner, University of Toronto	

FUNDING SUPPORT

The Alliance for Early Success

The Annie E. Casey Foundation

Bezos Family Foundation

Buffett Early Childhood Fund

The David and Lucile Packard Foundation

Doris Duke Charitable Foundation

Hemera Foundation

Palix Foundation

ABOUT THE AUTHORS

The Center on the Developing Child at Harvard University's mission is to drive science-based innovation that achieves breakthrough outcomes for children facing adversity. We believe that the science of development provides a powerful source of new ideas focused on the early years of life. Founded in 2006, the Center catalyzes local, national, and international innovation in policy and practice for children and families. We test and implement these ideas in collaboration with a broad network of research, practice, policy, community, and philanthropic leaders. Together, we seek transformational improvements in lifelong educational achievement, economic security, and physical and mental health.

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The science in this report draws principally from the work of the **National Scientific Council on the Developing Child**. We are very grateful for the ongoing contributions of this distinguished, multi-disciplinary, multi-university panel. <http://www.developingchild.net>

Please note: The content of this paper is the sole responsibility of the Center on the Developing Child at Harvard University and does not necessarily represent the opinions of funders or partners.

Suggested citation: Center on the Developing Child at Harvard University (2016). *Applying the Science of Child Development in Child Welfare Systems*. <http://www.developingchild.harvard.edu>

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Introduction

THE HEALTHY DEVELOPMENT OF ALL CHILDREN IS ESSENTIAL FOR A THRIVING AND PROSPEROUS community, and we now know a great deal about how child development works, as well as how to prevent and address problems. In publications over the past decade, the Center on the Developing Child and the National Scientific Council on the Developing Child have sought to explain the ways in which infants and young children acquire a strong foundation for lives of health, learning, and well-being; how adversity disrupts healthy development; and how to build resilience.

How can we use these insights from cutting-edge science to improve the well-being and long-term life prospects of the most vulnerable children in our society? This is both a critical challenge and a powerful opportunity to affect the trajectories of millions of children in the United States and around the world. It is a question of particular importance to those who make, or seek to affect, public policy—from elected officials to leaders of a wide range of public systems such as education, health care, and income support.

In this paper, we show how the science of child development can be leveraged to strengthen one of these public systems: child welfare. Our intended audience includes leaders in the public agencies responsible for child protection and related functions; in the private, non-profit agencies that provide many of the services in these systems; in the courts, which play a critical role in child welfare; in legislative committees that oversee child welfare and related services; and in the many other public systems, such as early childhood education, mental health, and juvenile justice, whose support is essential to success in child welfare. While this paper is focused on child welfare systems in the United States, we believe it may be relevant to other countries with similar systems. Leaders in these areas have the unique opportunity to both drive changes in child welfare policy and practice and model the kinds of actions, from front-line workers and parents, needed to promote healthy child development. We hope the paper will be equally valuable to front-line practitioners and supervisors, who are the essential deliverers of effective child welfare services.

In 2013, state and county child welfare systems in the United States investigated or as-

essed reports of alleged abuse or neglect involving more than three million children.¹ Three quarters of the children for whom maltreatment was substantiated had experienced neglect (for example, lack of supervision, inadequate food or clothing, or emotional neglect), 17 percent were physically abused, and 8 percent were sexually abused.² These data reflect situations made known to the child welfare system, and are widely considered to underestimate the actual incidence of child abuse and neglect.³ While most maltreated children remain with their families, more than 250,000 enter the foster care system each year, and as of September 2014 there were more than 415,000 children in foster care in the United States.⁴ New scientific understanding of how abuse and neglect affect development, and what children need to build resilience, offers a powerful opportunity to change the life trajectories of maltreated children.

How can we use insights from cutting-edge science to improve the well-being and long-term life prospects of the most vulnerable children in our society?

Throughout this paper, we focus on the ways that developmental science points to changes that could improve the child welfare system and better support the children, families, and communities that it serves. Our primary focus is on the need to build the capabilities of *all* the important adults whom vulnerable children rely on—birth parents; foster and adoptive parents (including both kinship and non-relative caregivers); the staff who care for young peo-

ple in group homes and residential treatment centers; child welfare caseworkers; and court personnel, child care providers, and others who regularly interact with children. While we take note of the special needs of infants and very young children, our observations and recommendations apply to children and youth of all ages, from birth through adolescence and young adulthood.

This paper has been developed in consultation with child welfare leaders and practitioners, whose comments on early drafts have helped to shape the recommendations. In Part I, we consolidate some of the key scientific concepts relevant to child welfare systems, including the science underlying child development, neglect, and the basic capabilities adults need in order to buffer the effects of adversity and promote healthy child development. In Part II, we set out five organizing principles for how these scientific findings can be applied to child welfare systems, providing examples to show how each principle can be used.

These examples are best read as a set of “science-informed hypotheses”—ideas for action that are consistent with the science and worth

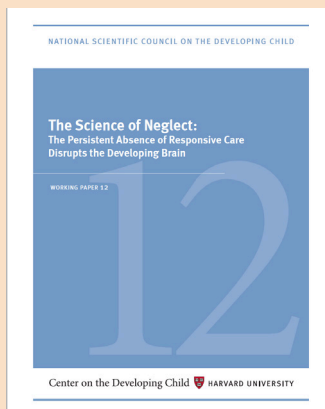
testing. Some may be relatively new in the child welfare context, while others build upon ideas long in circulation. Child welfare systems face significant resource constraints, and it would not be feasible to take up all of the ideas presented here. Rather, we hope these ideas will help leaders in two ways. For some, the principles can help to frame and communicate an agenda for change. Others may scan their systems to find a few opportunities, well matched to their particular needs, to apply some of the examples provided for the principles. We also encourage leaders to use the scientific concepts presented here to stimulate the development and testing of additional hypotheses.

Finally, we have chosen not to refer to specific programs or treatment models, or to the efforts of specific child welfare systems to address many of the issues we raise. The risk of making judgments based on insufficient knowledge, and of inadvertently omitting promising work, is too great. We acknowledge with great respect those who have been leading the effort to incorporate scientific findings into the work of child welfare systems, and trust that others will highlight their accomplishments.

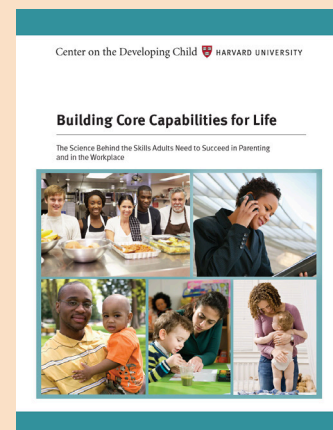
The following section, Part I: The Science of Child Development, presents a brief overview of key scientific findings that help to explain the context within which child welfare systems work. It is drawn (and quotes liberally) from previous publications of the Center on the Developing Child, including:



From Best Practices to Breakthrough Impacts⁵



The Science of Neglect (Working Paper No. 12)⁶



Building Core Capabilities for Life⁷

Interested readers may wish to consult those documents for additional information and citations of the underlying scientific literature. Go to <http://developingchild.harvard.edu/resources> for more. Readers already familiar with this material may wish to skip to the Conclusion of this section, on page 9.

Part I: The Science of Child Development

Responsive Relationships and Positive Experiences Build Strong Brain Architecture

Brains are built over time, and a substantial proportion of the brain is constructed during the early years of life.

The architecture of the developing brain is established through an ongoing process that begins before birth, continues into adolescence and adulthood, and establishes either a sturdy or weak foundation for all the health, learning, and behavior that follow.

Connections between neurons, the brain cells that are the basic unit of the nervous system, are the bricks, mortar, and wiring of brain architecture. During the first few years after birth, 700-1,000 new neural connections are formed *every second*. After a period of rapid proliferation, these connections are reduced through a normal process called pruning, which enables remaining brain circuits to become more efficient. Experiences affect the nature and quality of the brain's developing architecture by influencing which circuits are reinforced and which are pruned due to lack of use.

The interaction of genes and experiences shapes the circuitry of the developing brain. The experiences children have early in life also affect how genes are turned on and off and even whether some are expressed at all. The old ideas that genes are “set in stone” or that they alone determine developmental outcomes have been fully disproven. It is more accurate to think about genes as packages of biological instructions that require an authorization, called an epigenetic signature, to be carried out.

Supportive environments and rich learning experiences can generate epigenetic signatures that activate *positive* genetic potential, such as the capacity for goal-directed behavior or a well-functioning immune system. On the other hand, highly stressful early experiences

can trigger genetic instructions that disrupt the development of systems that manage responses to adversity later in life.

Children develop within an environment of relationships that begins in the family but also involves other adults who play important roles in their lives. This can include extended family members, substitute caregivers, providers of early care and education, teachers, nurses, social workers, coaches, and neighbors.

The developmental process is fueled by reciprocal, “serve-and-return” interaction between children and the adults who care for them. Infants and young children naturally reach out for interaction through babbling, facial expressions, gestures, and words while nurturing adults respond with similar vocalizing, gesturing, and emotional engagement. This serve-and-return behavior continues like a game of tennis or passing a ball back and forth. If the adult's responses are



unreliable, inappropriate, or simply absent, the game falls apart. Without the responsive interaction that builds neural connections, the architecture of the child's developing brain may be weakened, and later learning, behavior, and health may be impaired. Young children and their caregivers both can initiate and respond in this ongoing process.

Skill begets skill as brains are built from the bottom up, with increasingly complex circuits building on simpler circuits, and increasingly complex and adaptive skills emerging over time.

The gradual acquisition of higher-level executive function skills, including the ability to retain and use new information, flexibly adjust to different situations, and control impulsive behavior, is supported by the development of the prefrontal cortex (the front third of the brain) from infancy through late adolescence and into early adulthood. A significant part of the formative development of the prefrontal cortex occurs during early childhood, as critical connections are forged between this region and other parts of the brain that it controls. This circuitry continues its development and becomes more efficient during adolescence and the early adult years.

Adversity Disrupts the Process of Development

Toxic stress* responses impair development, with lifelong effects on learning, behavior, and health. When we are threatened, our bodies prepare us to respond by increasing our heart rate, blood pressure, inflammatory reactivity, and blood sugar. These changes are brought about by the rapid deployment of stress hormones such as adrenaline and cortisol. This “fight or flight” response† can be life-saving in the face of an acute threat, but its continuous activation can have a wear and tear effect on a wide range of important biological functions.

Learning how to cope with adversity is an important part of healthy child development. When a young child’s stress response systems are activated within an environment of supportive adult relationships, these physiological effects can be either blocked by the adult’s presence or restored to baseline

quickly. The result is the development of a well-functioning stress response system. However, if the stress response is extreme and long-lasting and buffering relationships are unavailable to the child or inadequate, the result can be a system that is set to learn fear rapidly, shift into defensive mode with very little provocation (act now, think later), react strongly even when not needed, or shut down completely. This may have negative repercussions across the lifespan, requiring more intensive and costly solutions later.

Any child who experiences prolonged adversity is at risk for physical and mental health problems, and individuals who are more vulnerable to stress are even more likely to experience long-term impacts.

Early exposure to child abuse or neglect, family turmoil, neighborhood violence, extreme poverty, racial discrimination, or other hardships can prime biological systems to become hyper-responsive to adversity. Stress-inducing experiences such as these early in life, particularly for children with constitutional vulnerabilities, are associated with increased risk of lifelong physical and mental health problems, including major depression, heart disease, and diabetes.⁸ Earlier and longer-lasting stresses are associated with greater risks.

Neglect disrupts the development of brain architecture in multiple ways. Scientists understand neglect as the persistent absence of responsive care, and have learned that neglect threatens development in two important ways. First, a neglected child has too few of the serve-and-return experiences that are necessary to build strong and solid brain architecture. Second, 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 activates the body’s stress

* “Traumatic stress” is another widely used term; when used to describe a set of physiological responses that may be precipitated by a wide range of adverse experiences, including neglect, we understand it to be similar in meaning to “toxic stress.”

† Sometimes referred to as “fight, flight, or freeze.”

response systems, which can have lifelong physiological consequences.

Deprivation, neglect, or emotional abuse, though less visible and easier to ignore than overt physical abuse, can actually cause more harm to a young child's development, with effects including subsequent cognitive delays, impairments in executive functioning, and increased risk of a wide range of health problems over a lifetime. Severe neglect has been associated with decreased development of the pre-frontal cortex as well as abnormal activities in areas of the brain associated with emotion, stress regulation, attention, and self-control.

Protective Factors Build Resilience

Providing the right conditions for healthy development from the start produces better outcomes than trying to fix problems later. Scientists use the term “plasticity” to refer to the capacity of the brain to learn from experience, which is greatest early in life and decreases with age. Although windows of opportunity for re-shaping the brain remain open for many years, trying to change behavior or build new skills on a foundation of brain circuits that were not wired to support these behaviors or skills from the beginning requires more effort—for both individuals and society.

Positive early experiences, support from responsive adults, and the early development of adaptive skills can counterbalance the consequences of adversity. No matter what form of hardship or threats may have been experienced, research shows that the children who end up doing well are most often those who have had at least one stable and responsive relationship with a parent, caregiver, or other adult.⁹ These relationships add the support, scaffolding, and protection to children's lives that both buffer them from developmental disruptions and help build key capabilities—such as the ability to plan, regulate behavior, and adapt to changing circumstances—that enable them to respond to adversity and thrive. Positive experiences, supportive relationships, and adaptive skills build the foundation of what is commonly known as *resilience*.

**“It can be the first step to healing—
just acknowledging what has happened
to them and that it is not their fault—
their brains were doing exactly what they needed
to do in that environment.”**

— Moira Szilagyi, M.D., Ph.D., UCLA

Positive life outcomes can be achieved when there are nurturing, capacity-building experiences to counterbalance the effects of adversity. Like weights on either side of a simple balance scale, positive experiences accumulate to tip a child's life trajectory toward good outcomes, and a pile-up of negative experiences tip it toward bad outcomes. Resilience happens when a child's health and development are tilted in the positive direction, even when a heavy load of negative forces is stacked on the other side.

Adults Require a Set of Core Capabilities to Meet Life's Basic Demands

These core capabilities—which work like an air traffic control system in the brain—include self-regulation and executive function. For adults, these skills and abilities are essential to both effective parenting and meaningful participation in the workforce and community. *Self-regulation* helps us draw on the right skills at the right time, respond effectively to the world around us, and resist inappropriate responses. *Executive function* includes the ability to focus and sustain attention, set goals, follow rules, solve problems, and delay gratification. Overcoming the effects that adversity can have on the development and use of these capabilities requires both reducing sources of significant stress and actively building skills.

The foundations of executive function and self-regulation are built in early childhood, but these skills continue to develop into adolescence and early adulthood. Most

young children begin showing the early building blocks of executive function skills before age 3, with a remarkable burst of improvement between ages 3 and 5, followed by another significant increase between ages 15 and 25-30. These changes reflect improved communication between the prefrontal cortex and other brain regions. Acquiring the foundations of executive function and self-regulation is one of the most important and challenging tasks of the early childhood years. The opportunity to build further on these core capacities is critical to healthy development through middle childhood, adolescence, and into adulthood.

A pile-up of adversity makes it difficult to develop and use these foundational skills.

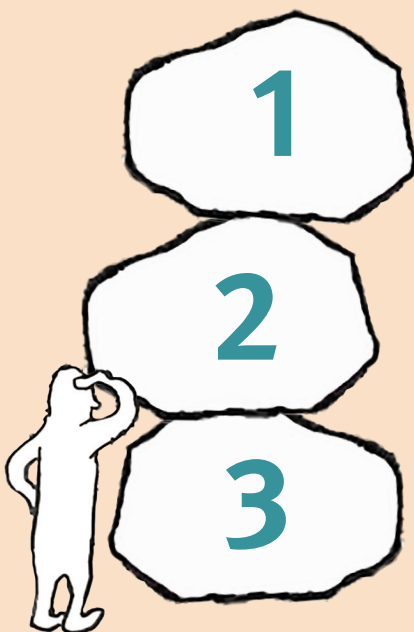
Three interlocking problems stand in the way. First, serious early adversity overdevelops the “fear circuitry” in the brain, making people more likely to perceive and focus attention on potential threats throughout life. Second, severe and frequent stress experienced as an adult overloads our ability to use the skills we do have. Chaotic, threatening, or unpredictable environments activate the “fight or flight” response and make it difficult to engage executive functions. The same individual, faced with significant financial

stress, is likely to show diminished cognitive capacity, compared to when he or she has sufficient resources available.¹⁰ Third, frequently experiencing circumstances that seem beyond our control can lead to a low sense of self-efficacy—the belief that we can be agents in improving our own lives—which is needed to engage in planning, goal-oriented behaviors.

Helping adults build and use these core capabilities is essential not only to their own success as parents and workers, but also to the development of the same capabilities by the children in their care.

There are two complementary and mutually reinforcing ways to approach this work. The first is to change the environments in which adults live, work, and access services—for example, by reducing the ways in which systems and services designed for adults living in poverty overload and deplete their self-regulation skills; minimizing stigma; and addressing basic needs to relieve some of the key stressors in people’s lives. The second is to provide individuals with coaching or training in specific self-regulatory and executive function skills, such as strategies for assessing stressful situations and considering alternatives.

The Triple Burden for Adults



1 A steady supply of highly stressful circumstances with important consequences continually activates the stress response.⁷

2 A stress response system that is easily aroused and that remains on high alert depletes cognitive resources, impairs self-regulation, and imposes a high burden on health and well-being.

3 The stigma and shame associated with child welfare system involvement reinforce the **belief that they are fundamentally flawed and unable to change their condition.**

Linking the Science to Child Welfare

How might these scientific findings from child development help us come up with powerful new solutions that could help to improve child welfare systems? Three directions emerge as particularly promising.

Science points to the prevalence of individuals in child welfare systems who are experiencing toxic stress. Many people involved with child welfare systems have experienced toxic stress, and this is true for parents as well as children. It is not true, however, for everyone. There are vast individual differences in how people respond to stressors. The type, duration, and intensity of stressors varies widely. The extent to which adults have had the benefit of supportive relationships for part or all of their childhood also varies. Nevertheless, it makes sense to think about toxic stress and to look for its consequences when we attempt to engage with and help both the children and the adults who become involved with the child welfare system.

The science of toxic stress gives us a way of understanding developmental and behavioral challenges common in child welfare. Many of the most common behavioral challenges encountered by child welfare systems are predictable responses to

toxic stress. The neglected baby who appears unresponsive to her new caregiver's attempts to comfort her; the teenager who becomes furious at even slight provocation; the parent who has difficulty planning and following through—all of these show in one form or another challenges of a stress response system that has been disrupted, with negative effects on the development of key capabilities. *From a biological standpoint, this is adaptation, not pathology.* If the environment is perceived as dangerous, it makes sense to tune up the stress response system for immediate survival rather than to devote resources to planning for a future that may never arrive. But these responses can persist even when the environment becomes less threatening and, in many cases, can't be simply switched off.

Science provides insights into factors for both children and adults that help build resilience and prevent or moderate the toxic stress response. These factors include: responsive caregiving that promotes healthy development and buffers the stress response; focused attention on building core capacities; and a safe, well-regulated, and supportive environment that makes the risk of trying and testing new skills and behaviors manageable. We elaborate on these factors—relationships, skill-building, and environmental context—in Part II below.

Part II: Opportunities to Apply Developmental Science to Child Welfare

Use Science to Open Up New Ways of Thinking and Acting

In our view, science is best positioned as a guide to *informed action*. By helping us to understand *how* and *why* experiences good and bad affect the developing brain and other biological systems, the science can inspire changes in both policy and practice that *support* healthy development.

By itself, translating the science and making it available to those involved in child welfare

is insufficient to drive change. But making the science usable is an important step in creating a context within which positive and innovative change becomes more feasible. An understanding of the science of child development by system leaders, judges and court staff, caseworkers, kinship and foster parents, and also by birth parents and older youth involved with the system, has the potential to open up new ways of examining and explaining what they encounter in

their life and work. In so doing, it can promote openness to change and create new possibilities for action.

At the Center on the Developing Child, we have seen this repeatedly in our own work and heard similar reactions from people engaged with closely related issues such as trauma-informed care and Adverse Childhood Experiences (ACEs). A good deal of important work has already been done in these areas across multiple systems, including some child welfare agencies, both public and private. For parents and youth involved with child welfare, understanding the science can help to reduce shame and stigma, as they come to view their own history in terms of coping with and adapting to toxic stress, rather than as a story of personal failure. For child welfare staff and foster parents, learning more about the effects of adversity on development commonly produces a mix of validation (e.g., “this helps me understand what I encounter every day”) and a new understanding of the

sources of challenging behaviors. For everyone concerned, this knowledge can lead to fresh thinking about possible new ways of dealing with enduring problems.

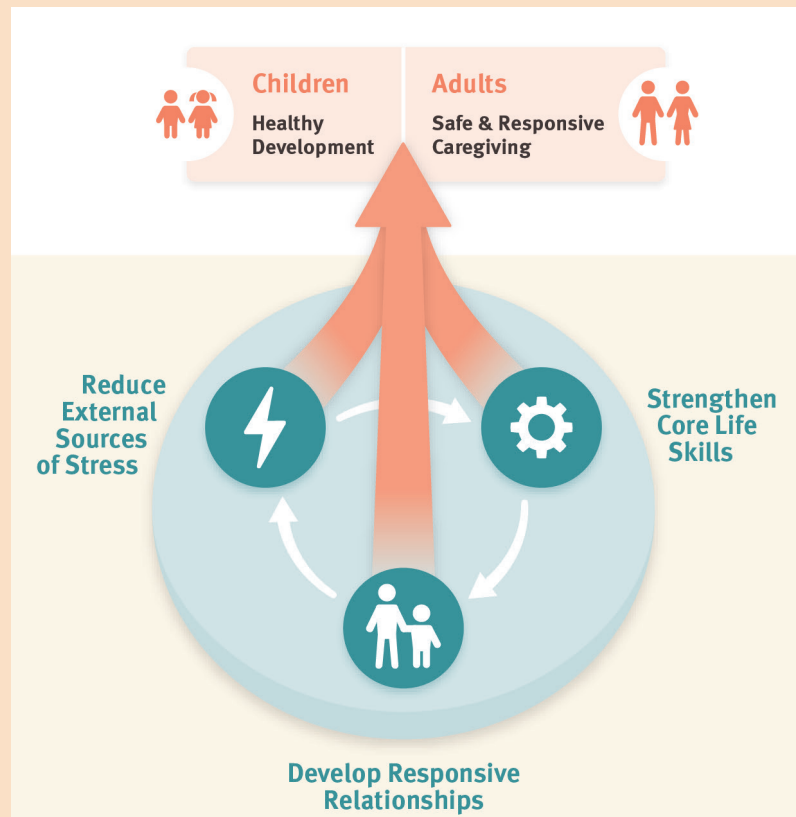
Below is one initial set of implications for how those in child welfare might apply the science to the benefit of their work and ultimately to the families and children they serve.

Reduce External Sources of Stress

Stress—often powerful, unremitting, long-lasting stress—is a defining feature of life for almost everyone involved with the child welfare system. This is true not only for children who have been abused or neglected, but also for their parents, who in many cases have experienced toxic stress in their own childhood. Both children and their parents are usually dealing with powerful external stressors such as poverty, racism, and living in dangerous neighborhoods; these may be compounded by individual situations such

Three Ways to Improve Outcomes

The three factors in the figure—reduce external sources of stress, develop responsive relationships, and strengthen core life skills—are mutually reinforcing. For example, a well-regulated environment reduces stress on developing children, and this supports both a responsive relationship with caregivers (who are themselves less stressed by the child’s behavior) and the child’s developing self-regulation. Similarly, an adult’s improved executive function supports her ability both to engage in serve-and-return interactions with children and to create a safer, more predictable caregiving environment. Promoting positive change in all three of these areas is our best chance to help adults provide safe and responsive parenting, and children to get on track for healthy development.



as living as an undocumented immigrant, or having a sexual orientation or gender identity that is not accepted by relatives and neighbors. Many also struggle with challenges such as domestic violence, substance abuse, and mental health problems. Involvement with the child welfare system, with the risk that children will be separated from their family, is itself an additional source of extraordinary stress. Functioning well under these circumstances would challenge anyone, but the challenge is even greater for parents and children who have experienced toxic stress, with its implications for executive function and self-regulation.

The ideas below suggest ways in which child welfare systems might be able to interrupt this cycle by creating safer, more predictable, better regulated, and less stressful environments that do a better job of promoting healthy development, improving self-regulation, and helping both children and adults build critical skills.

Child welfare systems can work with other systems to reduce environmental stressors by meeting basic needs (for example, dangerous housing conditions, urgent unpaid bills, or insufficient food or household supplies) in the lives of parents and children. These concrete supports reduce the immediate burden of stress pressing upon parents, allowing them to focus on longer-term priorities such as building the skills needed to care effectively for their children. Moreover, alleviating financial stress can help parents involved with child welfare reduce their reliance on people who have harmed them through domestic violence or past child maltreatment.

Child welfare systems can simplify and streamline processes in order to reduce demands on limited, easily depleted attention resources. For example, they can co-locate and coordinate services (so people can access multiple services in one place at one time) and simplify and integrate forms and enrollment processes (so one form, with one set of required documents, addresses multiple needs). They can limit the number of

services and activities people are expected to participate in at one time; multiple needs may require a sequence of services over time, rather than participation in numerous programs simultaneously. They can reduce the frequency with which services must be reauthorized, with the attendant requirements to collect information and resubmit documents. They can provide information in easy to understand formats. Systems can also help people navigate complex tasks by routinely providing reminders (for example, via text messaging) to help them manage and keep track of what they need to do.

“Child welfare systems need to attend to parents’ sense of safety, and have the first step in working with parents be around having them feel that they are safe and their child is safe.”

— Nora McCarthy, *Rise*

Child welfare systems can provide well-regulated environments that help build a sense of being in control in order to enhance self-regulation. Significant work in this area has been done by researchers and practitioners who focus on trauma, and parents and youth who have had first-hand experience with the child welfare system can be a useful source of guidance. Here are just a few examples of the many ways in which even small changes can promote safety, convey respect for clients, and reduce threats that overload self-regulation. Systems can: minimize exposure to chaotic environments, such as visiting rooms where many families are interacting at once; give people the ability to choose from a clearly defined set of options, rather than imposing a single option; provide rubrics for success, such as checklists of what makes for a successful parent-child visit; and provide timelines to help people understand what is likely to happen, and what they will need to do, over time. Support from peers who have been successful (parents who were reunified with their children, adolescents who

have moved on from foster care to successful young adulthood) can help build hope; having a capable attorney can reassure people that someone with authority is on their side and the system is not "rigged" against them.

Child welfare systems can attend to supports needed by their front-line staff and supervisors, who themselves are subject to extraordinary stresses on a daily basis. These staff members are asked to be highly observant and attentive and to do the complex, high-stakes thinking required for planning and risk assessment, often in an atmosphere of crisis. This creates two sets of risks. First, because the cognitive resources needed to carry out these tasks are easily depleted, the quality of important decisions (for example, about whether to remove a child from her family) may be compromised. Child welfare systems can build in supports (for example, empirically validated approaches to risk assessment, and the participation of supervisors or staff who are not so highly stressed) to mitigate this risk. Second, some front-line staff members who are continually exposed to the trauma experienced by their clients will experience secondary trauma, which can challenge both their health and their ability to perform job responsibilities

“Secondary trauma is real, it is pervasive, and it affects not only individuals but entire organizations and systems, if left unchecked.”

— Ann Leinfelder Grove, SaintA (human services agency in Milwaukee, WI)

well. Accordingly, a work environment that includes supervision that is supportive and attentive to secondary trauma; manageable caseloads; easy access to needed equipment; and regular opportunities for staff to attend to their own well-being and relieve stress, is particularly important. Elected officials with responsibility for resource allocation should regard these supports not as luxuries, but as essential to the effective functioning of the child welfare system and ultimately to the

health and safety of the children and families within it.

Develop Responsive Relationships

For children, healthy relationships confer a double benefit, both stimulating brain development and providing the buffering protection that can keep even very challenging experiences from producing toxic stress effects. Healthy relationships are also essential for adults who need to make substantial changes in their own lives, as is typically the case for adults involved with the child welfare system. These relationships are a source of emotional and practical support for adults, and knowing that another person cares about them helps build hope and the possibility of change.

Helping to build and support strong relationships should therefore be an essential element of all child welfare work. The ideas below suggest opportunities to apply this concept in policy and practice.

Child welfare systems can, in selecting and training caseworkers, emphasize the skills needed to build relationships with the adults and children they will work with. Practice models can specify these necessary skills and attributes, including the ability to treat clients respectfully and navigate both the power imbalance involved and, in many instances, differences in race and class. Hiring mechanisms can screen for these skills; professional development offerings can help staff build them; and ongoing supervision can provide coaching to support their use. Building relationships also takes time, including time spent listening, away from forms and required tasks. In relating to their clients, workers can model the kinds of interactions that promote healthy development, and can provide positive reinforcement when they see parents having such interactions with their children.

Child welfare systems can provide opportunities for birth, foster, kin, and adoptive parents to build their capacity to provide responsive caregiving for the children in their care. Keeping a child safe

and meeting requirements for participation in activities related to the child's service plan are surely necessary, but these basic skills alone are insufficient to support healthy development and to support children facing adversity. Moreover, children experiencing toxic stress pose challenges that go beyond those of ordinary parenting, including challenges to the self-regulation of those who care for them. Caregivers need to be prepared for these challenges and supported to develop strategies for dealing with them. In recruiting foster and adoptive parents, systems can prioritize finding people committed to providing responsive caregiving and willing to work to develop the skills needed to do so.

Child welfare systems can, as they engage with adults and children and assess their strengths and needs, identify existing important relationships and ways to strengthen them. Family members and friends (and others such as clergy, mentors in the community, and child care providers) are not just potential placement resources for children who enter foster care. They are also people with whom children have relationships that can be essential to their healthy development, wherever the child lives. These are also people whom adults depend upon for support, both material and emotional. Moreover, in many cultures, reliance upon a network of kin to help raise children is expected. Child welfare systems can support these connections, rather than basing policy and practice on the assumption that a single parent or set of parents will meet all of the child's needs. Attending to key relationships also entails strengthening parent-child relationships, for example through frequent visiting supported by coaching on how to make visits successful, and evidence-based interventions that specifically target parent-child interactions.

Child welfare systems can strive to minimize the number of placements experienced by children and youth in foster care. Abundant evidence shows that placement disruptions are a potent source

of stress and are associated with negative outcomes. Models that monitor developing problems in care and provide early alerts of the risk of placement disruption have shown considerable success in reducing such transitions.

“Tell us you want us to succeed. If you don't say it, we will assume you want us to fail.”

— A parent in the foster care system

Child welfare systems can, whenever feasible, promote positive relationships between birth and foster parents in the service of children's healthy development.

Such relationships are sometimes presumed to be mostly adversarial and neutral at best, and there are surely challenges involved in building collaborative relationships and a sense of shared parenting. Nevertheless, achieving the best feasible partnership between birth and foster parents promotes the stable and consistent caregiving needed to help children manage short-term transitions, such as visits with birth parents while a child is in foster care, as well as durable changes in caregiving brought about by reunification or adoption.

Child welfare systems can institute policies and practices aimed at providing continuity in important relationships even after placement or permanency changes.

In divorce and custody cases, it is now widely understood that in most situations children need the benefit of continuing relationships with both their parents, even if those parents are in conflict with one another. In child welfare law and practice, by contrast, an “all-or-nothing” approach to parenting typically still applies, especially when a child leaves foster care. If she is reunified with her birth parent(s), her foster parents and foster siblings are expected to disappear from her life; if she is adopted, she is expected to no longer have any contact with her birth parents and extended family. Science tells us that this mindset is fraught with problems, and that policies and practices should help to maintain important

relationships unless there are compelling reasons not to do so.

Strengthen Core Life Skills

As described in Part I, scientists have identified a set of foundational skills that adults need both to parent effectively and to earn a living, and that children need to develop as they move toward adulthood. These capabilities are collectively described as “self-regulation”—that is, the ability to draw upon the right skills at the right time, manage our responses to the world, and resist inappropriate responses. Self-regulation is in turn built upon “executive function,” which consists of three primary components: inhibitory control (the ability to resist impulsive behavior); working memory (the capacity to hold and manipulate information in our heads over short periods of time); and mental flexibility (adjusting to changed demands, priorities, rules, or perspectives).

“It makes a tremendous difference, particularly for people who have previously experienced trauma, to feel that there is someone capable who believes in you.”

— Family Court Judge Judith Waksberg

Child welfare systems can focus on helping people develop and practice these skills. This is true both for the children and youth involved with child welfare and for their parents, many of whom have experienced adversity in their own childhood without sufficient support from their primary caregivers. These challenges mean that many people have not developed on a healthy trajectory, and may not have attained age-appropriate levels of self-regulation and executive function. But we know these skills can still be built, even into early adulthood. Foster parents and front-line staff have an important role to play in modeling these skills and in helping adults and children strengthen their own capabilities. Emphasizing skills can

also reorient the emphasis on compliance that sometimes prevails in child welfare, changing the relevant question from, for example, whether a parent has attended a parenting program to how the parent is progressing in building the skills needed to support healthy development.

Child welfare systems can prioritize approaches that focus on active skill-building, both in day-to-day interactions and as they choose which formal service programs to offer. They can routinely ask what skills the recipients are expected to develop as a result of their participation in a program; what opportunities they will have to practice those skills during the intervention; and whether there will be follow-up coaching to help them apply the skills in real-world contexts. Programs that are strong on each of these dimensions will be more effective than those that provide only information, or those that aim solely to change attitudes without building capacities.

Child welfare systems can support skill-building efforts in other systems (for example, employment training). Self-regulation and executive function skills can be developed and practiced in the context of preparation to be a productive, working adult. This is an important goal for many of the adults and young adults involved with child welfare, and for some parents it may provide a safer, less stigmatizing way to work on these skills than addressing them directly with regard to parenting.

Child welfare systems can explore approaches specifically designed to target elements of executive function and self-regulation. These include, for example, interventions that teach people to re-focus attention away from potentially negative and threatening aspects of their environment and toward those that present positive opportunities; to recognize and interrupt automatic responses, allowing more time for planning; and to identify goals that are important to them and make realistic plans, including identification of likely obstacles and

how they would deal with those obstacles. Interventions that help parents build on their existing strengths (for example, by highlighting moments when they effectively engage in serve-and-return interactions) may have the additional benefit of building hope and motivation for additional change.

Child welfare systems can change the ways in which they develop and record service plans, focusing on incremental steps and frequent opportunities for feedback. The capacity to make plans, follow them, evaluate progress, and make necessary modifications requires self-regulation and executive function. Experiencing toxic stress in childhood interferes with the development of these skills, and being bombarded with stressors at any time of life interferes with using them effectively. Accordingly, planning that is broken down into component steps and supported by reminders and feedback, especially positive feedback to reinforce progress, can both encourage success in the short run and help to develop skills over the long term.

Child welfare systems can experiment with coaching models instead of traditional casework approaches for individuals who will likely benefit from such an approach.

Coaching begins with an exploration of a person's goals and motivation, and seeks to intentionally build the skills and mindsets necessary for sustained behavior change.¹¹ Coaching is hypothesized to be most likely to benefit individuals who have hope about the future and believe that their actions can lead to changes in their circumstances. Child welfare systems might therefore use existing tools to assess motivation and agency; experiment with a coaching model for those individuals evaluated as having significant motivation and agency; and experiment with alternative approaches designed to help others build that missing sense of hope.

Attend to the Distinctive Needs of Infants and Young Children

Early childhood is the period during which the brain develops most rapidly and flexibly. In this section, we suggest some of the ways in which child welfare policy and practice might recognize the specific needs of infants and toddlers, and the special opportunities they present to create the foundation for lifelong health and learning. Many of the practices noted below would be beneficial for most or all of the children encountered by child welfare systems, but they are especially important for young children.

Why Is Infancy So Important?

During the first few years after birth, **700 to 1,000 new neural connections form every second** in the brain.

Early experiences affect the development of **brain architecture**, which provides **the foundation for all future learning, behavior, and health.**

Scientists use the term **“plasticity”** to refer to the capacity of the brain to learn from experience, which is **greatest early in life and decreases with age.**



Child welfare systems can promote frequent contact between birth parents and young children who have been placed in foster care. For children who have a significant likelihood of ultimately being reunified with their parent(s), the schedule of visits typical in foster care systems, in which contact is weekly at best and sometimes considerably less frequent, is insufficient to build the bonds that will be a stable base for promoting healthy development when and if reunification occurs.

Child welfare systems can promote strong, secure, responsive connections between foster parents and babies. Many parents of young children involved with the child welfare system can benefit from coaching about the importance of serve-and-return relationships, especially when accompanied by opportunities to practice and get feedback. For children who enter foster care, there are additional challenges. For example, foster parents are sometimes cautioned not to get “too attached” to children, especially babies, because of the possibility that the children will ultimately be removed from their care. Quite the opposite, they should be encouraged and supported to have frequent serve-and-return interactions with children, and to model these interactions for birth parents.

Child welfare systems can ensure that infants and young children receive high-quality medical care (including developmental screening); early intervention and mental health services when needed; and high-quality early childhood education. This is true not only for children entering foster care, but for the larger population of children who come to the attention of child protective services, who are, compared to other children, considerably more likely to experience developmental challenges. Ensuring that those who need intervention are identified early and that they and their caregivers receive appropriate services is one

of the most important steps child welfare systems can take toward their long-term health and educational success.

Final Thoughts: Toward Responsive Caregiving for All Children

As noted in Part I, scientists define child neglect as the persistent absence of responsive caregiving. This is very different from the legal definition of neglect, which focuses on the absence of sufficient food, clothing, shelter, or supervision. Many children who have not been neglected in a legal sense could nevertheless benefit if their caregivers were better able to provide the kinds of responsive interactions that support healthy development. This is, emphatically, not a call to expand the jurisdiction of child welfare systems, which are not well-positioned to help this larger population of children and their parents. Those systems are already overburdened, and the fact that they exercise a police power makes it exceedingly difficult for families to trust them as helpers.

Instead, we should consider this issue more broadly: How can we build a universal understanding of responsive caregiving, and help parents and other caregivers develop their capacity to provide it? This question directs attention away from the relatively small number of children and families involved with child welfare systems and toward a much broader array of social norms and practices. It also shifts focus away from unhelpful dichotomies (are parents good or bad?) toward a more useful emphasis on learning and improvement. Answering this question is beyond the scope of this paper; we note only that the first principle set out above—advancing an understanding of the science of child development in order to open up new ways of thinking and acting—is surely a piece of the answer. We look forward to robust discussion of this issue, involving a far wider group of actors than just those concerned with child welfare systems.

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Note: Additional references for the scientific material in this paper can be found in the three reports from the Center on the Developing Child listed on page 4 (also #5, #6, #7 below).

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