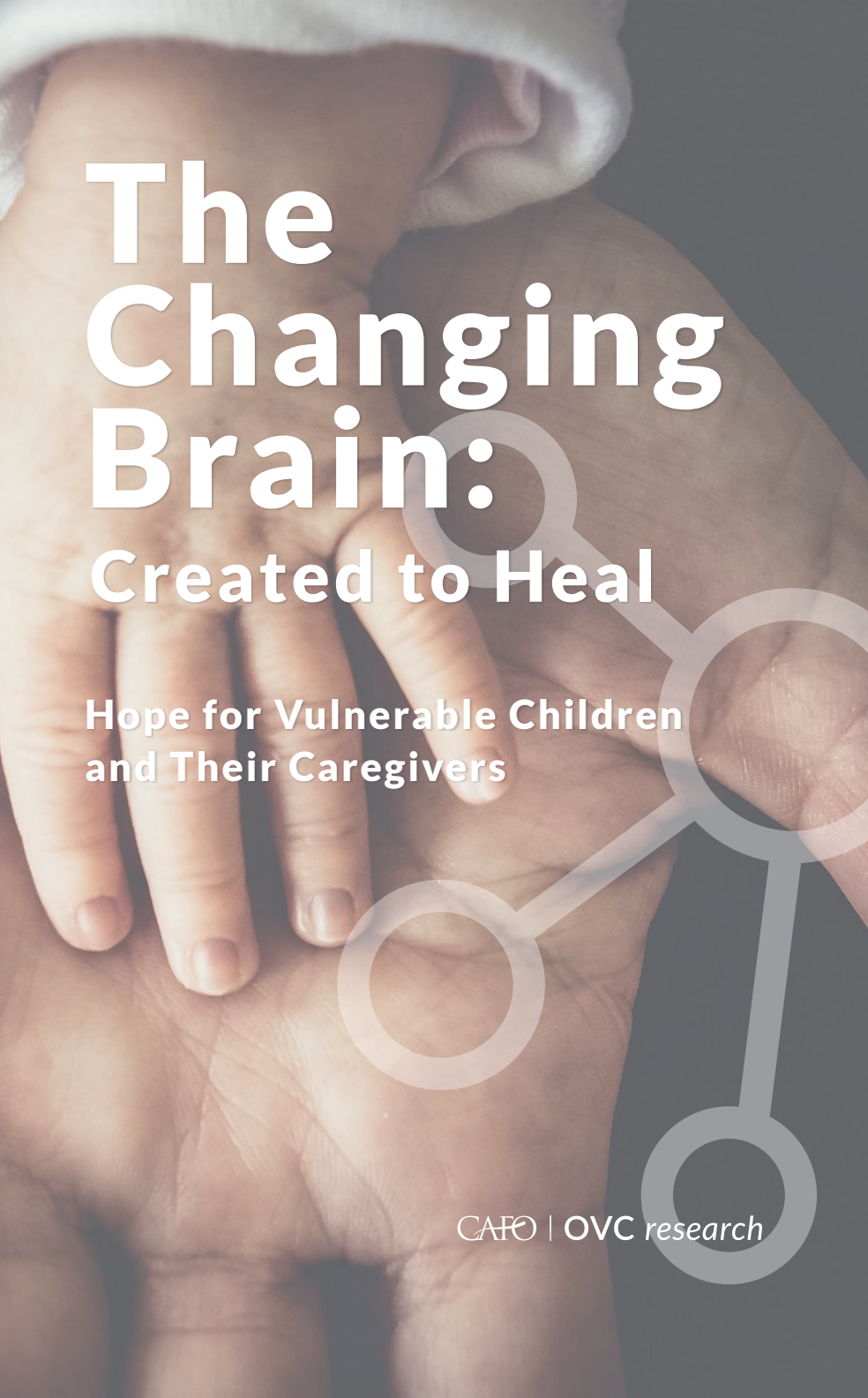

# The Changing Brain:

## Created to Heal

### Hope for Vulnerable Children and Their Caregivers

CAFO | OVC *research*

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# Introduction

Much of the available research literature on orphans and vulnerable children (OVC) is overwhelmingly discouraging. Page after page describes increased risk of committing crimes, dropping out of school, joining welfare, experiencing substance abuse problems, or entering the homeless population[1] . As individuals who care deeply for the well-being of children outside parental care, this reality can be heartbreaking and defeating. At times, it can even make the work of caring for vulnerable children seem hopeless.

Thankfully, an emerging field of research brings with it great hope. "Neuroplasticity" is a scientific term that simply means that the brain can change in reaction to the outside environment. For OVC, parents, caregivers, and the community around them are the outside environment, and they can mold the landscape — and function — of a child's brain, largely by helping them form new thoughts, habits, and experiences. Years of research have shown us that adversity can negatively impact even children's adult lives. Fortunately, we also see now, that the right interventions can actually reverse damage, and empower a move toward health.

As Christians, this should come as no surprise. Scripture repeatedly encourages us to "be transformed by the renewing of your mind" (Romans 12:2) and to "take every thought captive" (2 Corinthians 10:5). It's no wonder then that science — the discovery of God's creation — is now finding evidence that healing, growth, and transformation is possible, even at a neuroscientific

level. The brain is not fixed, carved for eternity by our genetics or experiences. Instead, we see now that repeated small changes in thought, behavior, and experiences can add up to a cumulative effect of a brain — and life — transformed.

A personal note to the reader:

This resource has been created for those who care for and about OVC, with the aim of helping them empower and equip children and youth toward success and well-being. It will be especially helpful for caregivers, social workers, teachers, leaders in OVC-serving organizations, mentors, clinicians, and church leaders who seek to tailor their ministries in ways that benefit all children. Our goal is to provide actionable knowledge about how God created the brain to heal itself that will allow parents, caregivers, and practitioners to help children gain some of the developmental ground they have lost due to early childhood adversity.

*This resource accompanies content from the 2018 OVC Applied Research & Best Practice Symposium, held in Dallas, TX in May 2018.*

# Narrative

This tree is located in Slope Point, New Zealand. Throughout Slope Point the wind is so strong that this tree's growth is dictated by it. Although the branches are misshapen, they are not necessarily damaged. Rather, they grew different than is typical. The tree is alive, but not functioning as it was designed. Due to the harsh outside environment, the tree cannot nourish itself to the full potential it had as a small seed under the earth. The culprit here is the wind. The tree cannot change the fact that it was planted and made to develop against this force. It is susceptible to the environment — much like orphaned and vulnerable children are susceptible to their environment and the influence of the adults in their lives.

When a child is experiencing toxic stress, trauma, or adversity, their brain functioning is not damaged, but rather may develop abnormally.

Like this tree, OVC are innocent to their surroundings and do not have the power to choose the environment they develop in. Research has found that the external environment (wind) and negative experiences often act as the direct cause of abnormal brain development.[2]

This is why our kids might have mental, emotional, behavioral, or physical health problems. They simply haven't reached their full potential yet.

Thanks to a concept called Neuroplasticity, the OVC we serve have the potential to "straighten the tree" of their own brain.

When a child is given a supportive environment from parents, caregivers, teachers, and their community, their brains have a chance to redirect towards normal development. This is the awesome power of Neuroplasticity.

Using the latest research, we now have the ability to tailor a supportive environment that helps "straighten the tree" of a child's brain. When we place those stilts around and fully embrace a child, there's nowhere to go but up.

**Why it matters for vulnerable children**

• Nature vs. Nurture: You cannot control a child's past, but you can nurture them to a healthier future.

• The brain does not finish maturing until around 25 years old. There is still time for caregivers to make a real difference in a child's life.

**Why it matters to caregivers**

• When children have abnormal development — and the associated behavioral concerns — it can be exhausting, confusing, and frustrating to care for them. This can help.

• Healthy, nurturing parent-child relationships have been linked to massive physical, emotional, and cognitive growth.

**Why it makes a difference**

• Caregivers in the field have the chance to improve a child's future no matter how long they stay within their care.

• Caregivers can teach children how to help themselves. This ultimately promotes long term success for the child.

**neu·ro·plas·tic·i·ty**

**the ability of the brain to change both physically and functionally, in response to the world around it.**

# 1 How Brains Develop and Change

The brain is one of the final frontiers of science, and is proving to be a critical key to unlocking healing for children who have experienced adversity.

The brain has billions of cells called neurons, which talk to each other at 268 mph.[3] Each neuron has the power to bend, move, and connect to others as a result of both outside and inside signals. When a person has a thought, the neuron sends an electric signal which has a ripple effect with its neighbors. This ripple, depending on the type of message, can travel to the entire brain, including the spinal cord. This communication allows the brain to move muscles and store memories. Every action, interaction, and reaction triggers thousands of messages between neurons.

It is often said that "neurons that fire together wire together." When brain cells communicate often, the pathway between them strengthens like a well-traveled trail. We call these trails feedback loops. The stronger and wider the loop, the faster and easier the messages move. With enough repetition, a habit forms and responses become like instinct — or easily traveled loops. We create these wide, easily traveled loops when we practice behaviors like riding a bike or typing. While this is helpful with automatic movements, these trails of brain communication can also have negative impacts.

For example, repetitive verbal abuse creates distinct pathways that can result in lifelong poor self-esteem. With enough negative experiences, these feelings become instinctual. On the contrary, messages of love and nurture can make their own well-traveled trails in the brains of OVC.

Thoughts, feelings, and experiences are not merely theoretical, but actually create physical matter in our brains.[4] When neurons work together to send signals, they move around and mold into certain shapes and grooves.[5] These shapes each have their own function that create a person's characteristics. If the communication between the neurons is damaged or altered, then any of those characteristics can grow abnormally. For example, children living in stressful environments might react quickly to fear signals. This means that what might be scary for them might not be for a child who has been nurtured in a healthy environment. The vulnerable child's brain has learned to communicate almost too much to the fear centers, ultimately resulting in an abnormally developed fear response.

Abnormal brain development has been linked to numerous conditions seen commonly in OVC, including those affecting cognitive, emotional, physical, and social well-being. The way the brain is organized and shaped dictates how it reacts to the environment.

When the brain encounters new environments and experiences, neurons either develop or break off. This is a part of normal development and learning. Experiences shape neural pathways[6] which drive behavior across the lifespan. These experiences include both acute influences such as early trauma, and intentional experiences through specific interventions designed to promote positive behavior and well-being. [7]

The most sensitive period for brain growth and plasticity is in the first few years of life. If stress — which can include abuse, neglect, or attachment disruption — threatens neurological development, damage could have a lifelong impact.[8] However, this does not mean it is too late for older individuals — it simply requires a bit more effort. The principles of Neuroplasticity play a role in the entire human lifespan and have been proven to benefit much later in life, as well.[9] Instead of being afraid of running out of time, we now understand that positively influencing brain growth may get harder as children get older, but it is not too late. In fact, a 2014 study refers to the "large body of evidence [that] shows that brain plasticity is strongly affected….throughout the entire life-span.[10] " Regardless of age, history, and upbringing, there are evidence-based practices parents and caregivers can implement immediately that help "rewire" the way a child's brain functions.

**Resources for Further Exploration**

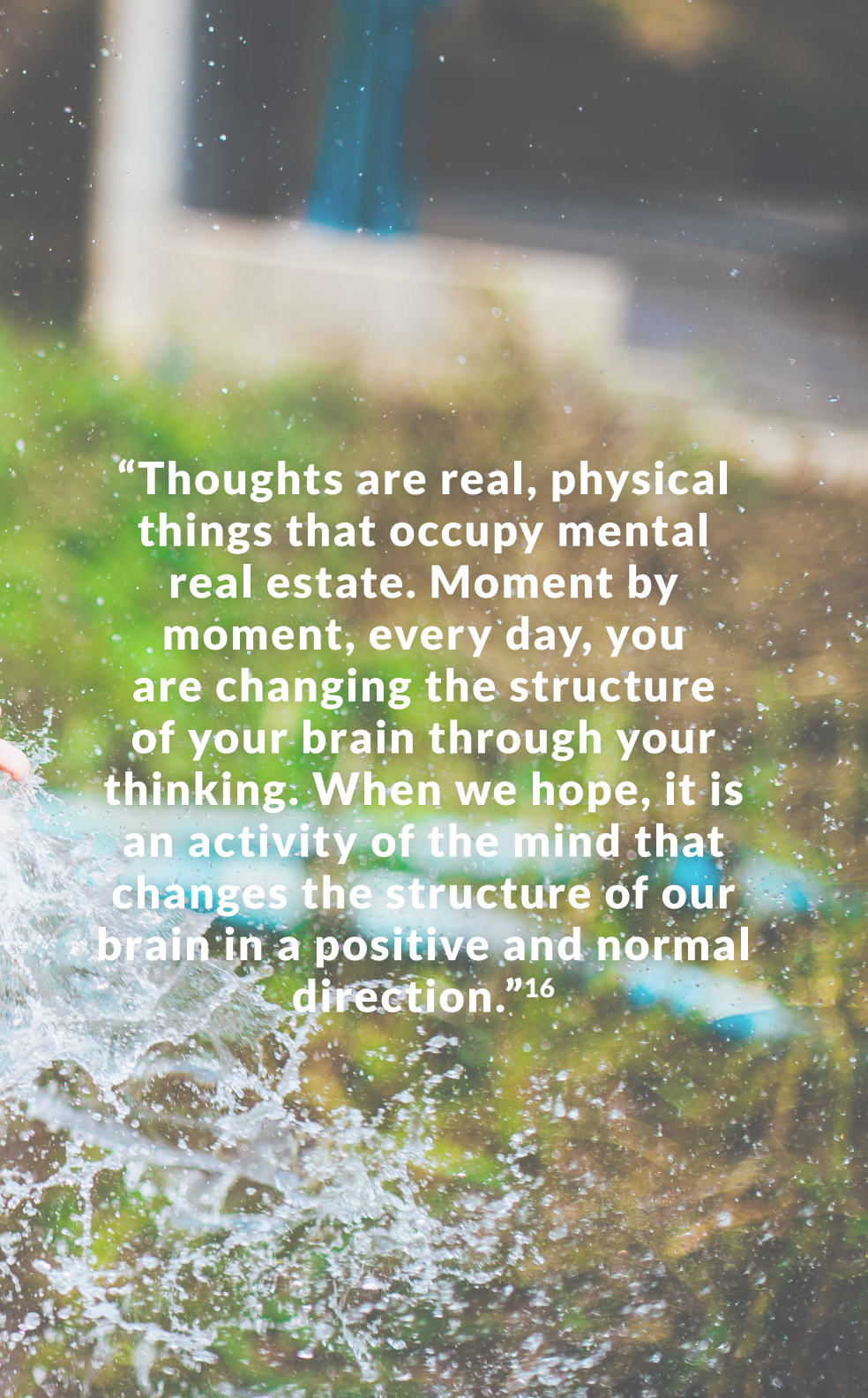
Key Concepts: Brain Architecture[11]
(Harvard Center on the Developing Child)

Neuroplasticity[12] (Sentis)

Cognitive Recovery in Socially Deprived Young Children: The Bucharest Early Intervention Project[13] (Nelson, et al.)

TEDx Talk: After Watching This, Your Brain Will Not Be the Same[14]
(Boyd)

Experiences Build Brain Architecture[15] (Harvard Center on the Developing Child)



"Thoughts are real, physical things that occupy mental real estate. Moment by moment, every day, you are changing the structure of your brain through your thinking. When we hope, it is an activity of the mind that changes the structure of our brain in a positive and normal direction."[16]

# 2 How the Brain Responds to Stress

Neuroplasticity is the ability for the brain to change and adapt as a result of environmental input. This is good news in the sense that we can positively influence the brain's growth and development, even after a period of trauma or adversity. However, it also means that negative environmental factors influence brain development, which is often the case with OVC. Excessive stress can create a ripple effect of lifelong difficulties for OVC. This has significant effects on brain development, especially for younger children.

**Stress Response**

Stress is a natural, normal, and even necessary condition of life. Stress is needed for appropriate development. However, chronic, intense stress can be harmful, especially to developing brains. Under stress, the body undergoes a series of changes based on a complex but nearly instantaneous response. When the senses perceive a threat, the body and brain are alerted. The auto response portions of the brain respond by giving the body a burst of energy, pumping blood to the limbs, speeding up breathing, and increasing heart rate. This is when the fight-flight-or-freeze response takes place. After the perceived threat passes, the body moves back to its former state of "rest and digest."[17]

**When Stress Becomes Toxic**
According to the Harvard Center on the Developing Child[18] , a child's stress response can be positive, tolerable, or toxic.[19]

• Positive stress response is critical to healthy development, and is characterized by temporary elevations in heart rate and hormone release. Positive stress may result from the first day of school or riding a bicycle for the first time.

• Tolerable stress response may result from a more severe challenge or loss, such as the death of a loved one or car accident. The stress response is temporary and is cushioned by healthy, nurturing adult relationships that help the child to cope.

• Toxic stress develops when a child experiences intense, frequent, and/or prolonged adversity without the love, nurture, and support of a healthy, long-term care-giving relationship. Causes of toxic stress can vary from extreme poverty and discrimination to illness and abuse.

Whether a stress response becomes toxic has less to do with the input itself and more to do with the severity, timing, or duration of the response."[20] This explains why multiple children can experience the same stressors, with one having very negative effects and the others seemingly less so. Over time, a child's exposure to toxic stress can cause weakened brain architecture[2122] and developmental delays.

Other potential consequences include:

- Mental and behavioral health issues.[23] [24]
- Difficulties with long-term adaptation and adjustment.[25] [26]
- Inability to move from stress response to a healthy level of functioning.[27] [28]
- Increased vulnerability to substance dependence[29] , addiction[30] , and other health-threatening behaviors.
- Adverse intellectual and educational outcomes.[31]
- Poor immune function.[32]

Some experts suggest the effects of toxic stress may even affect genetics, and be passed onto future generations.[33]

**Toxic Stress and OVC**

The most important influence on the impact of adversity is a protective, nurturing caregiver relationship. Without this relationship, toxic stress can put a child's stress response system in constant distress mode, impacting growth, learning, behavior, and relationships. Therefore, orphans and children outside parental care are especially susceptible to the effects of toxic stress:

- Children placed shortly after birth into low-nurture group care show significantly decreased brain activity compared to children who were never institutionalized.[34]

• Young children in residential care without a stable, nurturing caregiver are at risk of attachment disorder, developmental delays, and abnormal brain development.[35] [36] [37]

• Even if a child was adopted into a loving family at birth, research suggests that in utero chronic stress can have long-term consequences.[38]

• For foster children, poor long-term outcomes increase with the number of placement changes experienced.[39]

• Negative family experiences negatively affect long-term adaptation and adjustment.[40]

• Early stressors such as maternal separation result in lasting effects on a child's ability to respond to normal stress in a healthy way.[41] [42] [43] [44]

• When the brain goes into crisis mode, especially during critical developmental periods, it does everything it can to survive its hostile environment and in doing so, long-term effects like emotional and memory problems develop well past the maltreatment period.[45]

• A study of foster children aged 3–6 suggested that the more neglect they experience, the more severe their risk is for developmental delays.[46]

Although the brain's plasticity causes it to be shaped by stressful environmental factors that can create harmful outcomes, it also creates opportunities to undo damage. With healthy, nurturing relationships and input, new connections and pathways can be made, even reversing previous harm.[47]

**Resources for Further Exploration**

Key Concepts: Toxic Stress[48] (Harvard Center on the Developing Child)
Consequences of Toxic Stress[49] (Gunnar)
The Impact of Developmental Timing for Stress and Recovery[50] (Gee & Casey)
Toxic Stress Derails Healthy Development[51] (Harvard Center on the Developing Child)
Take the ACE Quiz — And Learn What It Does and Doesn't Mean[52] (NPR)

**Years of research have shown us that trauma and stress can negatively impact how the brain develops. Fortunately, we also now see that the right interventions can actually reverse damage and move children toward health.**

# 3 How Brains Heal from Trauma

Caring for children who have experienced early adversity can be messy work. When children are separated from parents, there is at least one tremendous grief in their life — the loss of a mother or father. Even in optimal settings — when a loving, engaged, nurturing parent remains — the loss of a parent is traumatic. For children without the stability and security of a caregiving relationship, the loss of a parent is a devastating, isolating road to walk. And for many of them, this loss is only one of the many hardships they have experienced.

The research focused on this is overwhelmingly discouraging. Time and again, research suggests poorer outcomes for children outside biological parental care. These effects are vast and varied, and many are likely related to maladaptive brain development as a result of toxic stress. However, not all children react in the same way to stress and there are some clear factors that can help children to both withstand and recover from early adversity.

**Developmental Catch-Up**

Developmental catch-up happens when children gain some of the developmental ground they lost due to early childhood adversity. Numerous studies show that children who have come from hard places can experience growth when given the right environmental inputs:

• An analysis of 270 studies involving more than 230,000 children suggested that children moving from group care to family care could facilitate massive catch-up to their peers, including physical growth, attachment security, cognitive development and school achievement, self-esteem, and behavior. Adoptions before 12 months of age were linked to more complete catch-up. However, even at older ages, some significant catch-up was present.[53]

• Compared to children who remained in group care, children who entered family care scored significantly higher on IQ tests and performed better academically.[54] [55] [56]

• When children entered residential care from less healthy circumstances, weight, height, and head circumference have been shown to improve.[57]

• When children move from institutional care to family care, they often experience massive physical growth.[58] [59] [60]

• Impressive gains in attachment functioning are seen in children who move to family care.[61] [62] [63] [64]

**How Do Brains Recover?**

Environment impacts brain development, and it opens the door to healing. Repeatedly having the same thoughts or experiences causes the brain cells underlying them to communicate. When these cells communicate often, the pathway between them strengthens, like a well-traveled trail. The more well-worn the pathway is, the easier it is to travel. The more times a child practices trusting a caregiver, positive self-talk, or affect regulation, the easier it will be. Likewise, the fewer times a child practices — even subconsciously — fearful responses, negative self-talk, or outbursts, the easier it will be to avoid them. Our goal is to increase the thoughts and behaviors that are healthy and functional, and decrease those that are not. Changing these pathways affects both short — and long-term outcomes in a child's development.

Brain pathways can be influenced by both the behavior of a child and of his or her parent or caregiver. The behavior of adults has the ability to both reverse and improve the effects of deprivation. Ultimately, genes and environments work together to construct brain architecture.[65]

The ability for the brain to change does not mean that all children will catch up in every area of development, even if exposed to the "right" inputs. It is not a magical cure. Like a healed wound leaves a scar, the architecture of the brain will still hold some evidence of early adversity.
However, with knowledge and repeated action over time, it is likely we may see children begin to recover from early childhood trauma.

**Resources for Further Exploration:**
1. Caregiving in the Aftermath of Early Adversity: A Neuroscience-Informed Approach[66] (Peake)
2. Trust-Based Relational Intervention (TBRI): A Systematic Approach to Complex Developmental Trauma[67] (Purvis, Cross, Dansereau, and Parris)
3. Helping Traumatized Children: A Brief Overview for Caregivers[68] (Child Trauma Academy)
4. What Neuroscience and Social Science Tell Us About the Effect of Care Environments on Children[69] (Nelson and Whetten)
5. The Role of Parenting and Family Factors in the Developmental Catch-Up for Children Adopted Internationally[70] (Katzenstein)

# 4 Key Practices and Principles for Developmental Catch-Up

What does this look like in real life? There are countless practices that will likely help children learn to regulate, relate, and recover from the effects of early childhood adversity. As an emerging field of research, there is still much to discover about the mechanisms underlying developmental catch-up how to promote them. Already, science suggests the following practices to help children's brains recover from the impact of early trauma. All of them center around limiting a child's stress response, and providing opportunities for learning, connection, and building confidence in their growing competence.

## Caregiving Makes The Difference

A stable caregiving relationship can be the deciding factor in whether stress is tolerable or toxic. Research suggests the very presence of a trusted caregiver has the power to decrease stress hormones, thus allowing for normal brain development to occur. The single most important factor in whether a child will overcome adversity is a healthy relationship with a secure, nurturing parent or caregiver.

• Ensure each child has one caregiver who is uniquely committed to them. Children need one or two primary caregivers who they know are invested in their lives and are willing to go out of their way to protect, defend, advocate for, and nurture them. A rotating group of caregivers cannot accomplish this kind of connection and commitment. Ensure each child has a caregiver who will do anything for them.

• Empower the parent or primary caregiver — not programs, support staff, or external visitors — to meet the physical and emotional needs of the child. Start at the root of a child's relationship with others — parents and/or caregivers are their family. A child's attachment with a parent or caregiver is developed by a caregiver consistently meeting the child's needs over time, no matter the age. The caregiver relationship plays a critical role in regulating stress hormone production, which enables children to cope effectively with stress as they grow up.

• Create opportunities for parents and primary caregivers to build positive memories with children. Relationship is built not only through a caregiver meeting a child's needs, but also through positive experiences that build a catalogue of memories together. In order to promote brain recovery from trauma through a stable caregiver relationship, interaction needs to go beyond behavior management.

**Questions for Consideration:**
1. What practical ways do we empower parents and primary caregivers to be the hero in their children's lives?
2. Do we teach parents and primary caregivers about the importance of their role? How could we do this?
3. What is one practice, event, or opportunity we could provide or facilitate that would allow parents and primary caregivers of vulnerable children to create positive memories together?

**Resources for Further Exploration:**
1. The Connected Child[71] (Purvis, Sunshine, and Cross)
2. The Emanuel Miller Memorial Lecture 2006: adoption as intervention. Meta-analytic evidence for massive catch-up and plasticity in physical, socio-emotional, and cognitive development.[72] (van IJzendoorn & Juffer)
3. Attachment in the Context of Severe Deprivation: Risk and Recovery[73] (Zeanah)

## Stability Promotes Growth

For children who have experienced early childhood trauma, the unexpected or urgent can trigger an unhealthy stress response (which, over time, can prevent appropriate brain development and lead to developmental and behavioral concerns). Helping children know what to expect can minimize unnecessary stress hormone production.

• Develop consistent structure and routines. Use visual and written routines to help children know what to expect throughout their day. Offer reminders in advance of transitions to minimize unwelcome surprises. Use timers and calendars to help children know what is coming.

• Invite the child into the process of developing personal and families schedules. Offering children a voice in the process helps them to mentally plan for what is coming, develop awareness of time, and practice decision making.

• Create rituals and shared meaning. Activities like reading together every night, eating meals together every day, and setting routines like a regular 8 p.m. bedtime can help children develop the ability to regulate their emotions and be ready to learn,

**Questions for Consideration:**
1. How can you give your child choices and empower them to develop new routines and shared meaning?
2. What part of the day tends to highlight the shortcomings of the children in your care? What simple structures might be added to that part of the day?
3. How can we help parents and primary caregivers see the connection between consistency and a sense of felt safety?

**Resources for Further Exploration:**
1. Helping Children to Cope with Change, Stress and Anxiety: A Photocopiable Activities Book[74] (Plummer and Harper)
2. Helping Children Cope With Change[75] (The British Association for Early Childhood Education)
3. Therapeutic Parenting[76] (Attachment and Trauma Network, Inc.

## Play Is Children's Work

Play offers a low-risk, low-stress environment in which children can encounter and overcome challenges. This gives them confidence in their ability to face new or challenging situations, without triggering an excessive stress response. With an increasing emphasis on academics and technology, it is important to remember that free play is the training ground for appropriate developmental progress in young children. For children who were focused on surviving extreme stress when they should have been experiencing play-rich environments, play may not come naturally, but can develop into a learned skill.

• Provide opportunities for different types of play. Unstructured and structured, independent or social, with peers or with adults — a variety of play settings promotes different skills and developmental assets.

• Teach lessons and skills through games and activities. Children often learn best using hands-on or applied methods. Structured, guided play has been shown to improve executive functioning, which includes memory and decision-making. Development of social skills, like impulse control and conflict resolution, also occurs naturally through play.

• Make child-parent play a priority. Child-parent play can build the relationship by offering opportunities for serve-and-return, as well as creating positive memories. Bonding with a child, especially after adversity, is necessary to maintain your connection during times of stress.

• Release stress through physical movement. Physical play and exercise release stress from the body and help to regulate hormones involved in the stress response. Ensure children have time and space for plenty of physical activity.

**Questions for Consideration:**
1. What are some practical venues for unstructured play for children living in difficult environments?
2. How do we teach play when it doesn't come naturally?
3. How can we encourage physical movement, when some children are drawn primarily to more sedentary types of play?

**Resources for Further Exploration:**
1. The Case of Brain Science and Guided Play: A Developing Story[77] (National Association for the Education of Young Children)
2. It's Never "Just Play!" [78] (Gillespie)
3. The Neurobiological Power of Play[79] (Gaskill and Perry)

## Nurture Changes Behavior

Science has broken down the mechanisms behind nurture and attachment, and teaching these to parents and caregivers can empower them to improve their children's brain development. It is well established in the science community that parental nurture reduces high cortisol levels in infants & young children.[80] This allows developing brain architecture to proceed as intended.

• Respond to a child's needs and signals. "Serve and return" is the term for the back-and-forth interaction that occurs between children and responsive, nurturing caregivers. This interaction includes sharing a child's focus, encouraging, consoling, and responding to requests for basic needs like food, rest, and affection.

• Connect before correcting. For children who have experienced trauma, discipline can carry with it additional weight. Inappropriate behavior is typically tied to deeper emotions. Using positive discipline in the context of a responsive, empathetic relationship can teach children how to engage appropriately with the world around them without instilling fear or harming the parent-child attachment. [Re-framing behavior as a form of communication, and allowing the child to re-try the interaction or behavior that went poorly is an example.]

• Follow the child's lead. When a parent follows the child's lead in play or conversation, it produces affirmation, agency, and affect regulation. Following the lead could look like reflecting body language, playing peekaboo, or responding to conversation.

• Tailor the type of nurture to a child's age and stage. A toddler may connect best through playing on the floor together, but a teenager may feel connection through listening or shared hobbies. Remember that, for children who have experienced early childhood adversity, maturity may not match chronological age. Aim to meet the child where they are at developmentally.

**Questions for Consideration:**
1. What are some easy ways to show interest in a child when we are uninterested in their hobbies?
2. What are some inexpensive ideas for developing mutual interests in your area?
3. Each child receives correction differently. How can a caregiver gain quick insight into a child's needs with regard to correction?

**Resources for Further Exploration:**
1. Key Concepts: Serve and Return[81] (Harvard Center on the Developing Child)
2. Letting Children Take the Lead[82] (Dozier)
3. Positive Discipline: A Guide for Parents[83] (University of Minnesota Extension)

## Learning Results From Practice

The interactions of genes and experience shape the developing brain. Although genes provide the blueprint for the formation of brain circuits, these circuits are reinforced by repeated use.[84]

• Recognize that thoughts and experiences create actual matter in the brain. Structural and functional changes have been observed as a result of training and experiences. Teach children that what they think and how they act has long-term impact on their future.

• Repeat, repeat, repeat. Repeatedly engaging in the same thoughts and behavior make the neural pathways stronger and more efficient. Practicing good habits and positive self-talk, along with affect regulation, will make it possible for children to react in a calm and proactive manner when encountering stress.

• Model desired behaviors and practices. Tremendous learning results from modeling; truly, more is caught than taught with children. Show children examples of healthy choices and practices through real-life modeling and role playing. Caregivers can make the first step towards this by looking at their own behaviors to model.

• Surround children with the truth of Scripture. Seeing and memorizing passages that remind them of their identity and worth in Christ (Psalm 139: 13-14, Ephesians 2:10, Colossians 3:12) and of Hope for the future (Jeremiah 29:11, Romans 15:13, Isaiah 40:31) are invaluable for the renewing of the mind.

• Practice new skills in low-stress environments. Children need to be taught skills like emotional regulation or self-control and given the opportunity to practice them with support before being able to perform it on their own.[85] Do not expect children with a history of trauma to improve their behavior based purely on verbal instruction. Practice prior to performance sets a child up for success when they are next exposed to a high stress event.

**Questions for Consideration:**
1. What are the typical kinds of self-talk one hears from children? How can that self-talk be redirected in positive ways?
2. What are some simple activities that can be introduced for the purpose of practicing positive reactions to stress?
3. The ultimate source of strength and confidence comes from the Word of God. How can scripture be used to positively affect habits of the mind?

**Resources for Further Exploration:**
1. How Can We Help Kids With Self-Regulation?[86] (Child Mind Institute)
2. Anxiety in Children and NLP: Can Neuro-Linguistic Programming Help Your Child Overcome Anxiety?[87] (Children's Anxiety Institute)
3. Social Influences on Neuroplasticity: Stress and Interventions to Promote Well-Being[88] (Richard and McEwen)

## Caregiver Health Matters

A child will reflect a caregiver's reaction to stress. Children experiencing stress without the support and nurture of an engaged caregiver are at-risk of compromised brain development. How we support the health of parents and caregivers is intimately tied to child well-being.

• Educate parents and caregivers on good self-care. Especially in settings in which chronic stressors like limited material resources, serious illness, or corruption are common, self-care may not be common knowledge. However, caring well for a child who has experienced trauma requires good boundaries, support, and awareness.

• Train caregivers on the role their stress plays in their child's development. Caregivers may not be aware of the impact of their responses on their children. Train parents on how to modify their actions and reactions to limit stress responses in their children. Research has shown that mindfulness training in parents improves positive behavior in children.[89]

• Assess caregiver health and capacity. When interacting with vulnerable children and families, be aware of signs that a caregiver may be in need of mental health support, and know where to connect them for these services.

**Questions for Consideration:**
1. What are we doing currently to support parent and caregiver health?
2. What are some red flags for caregivers to recognize that they are beyond their stress limit and need to take care?
3. What are some quick immediate steps caregivers can take when they realize they have reached their limit?

**Resources for Further Exploration:**
1. Building Adult Capabilities to Improve Child Outcomes: A Theory of Change[90] (Harvard Center on the Developing Child)
2. Self-Care: Barriers and Basics for Foster/Adoptive Parents[91] (North American Council on Adoptable Children)
3. Secondary Trauma and Foster Parents: Understanding its Impact and Taking Steps to Protect Them[92] (Conrad)

## Resilience Can Be Taught

Some children experience trauma and quickly develop harmful feedback loops in their brains. Some children experience trauma, and while they certainly feel hurt, they do not exhibit the same level of devastation as others. Resilience — or the ability to overcome hardship — is not a fixed asset, but can be developed with practice over time. Resilience is like the protective gear a football player puts on before the game. Not only does the gear prevent injury when tackled, it protects old wounds and gives them space to heal. Before walking out into the world where getting tackled is no game, children can protect their brains and their health with resilience. Resilience happens when the strengths or protective factors (such as a loving family or healthy coping skills) outweigh the challenges a child encounters.

• Help children develop a growth mindset. Both academically and socially, children have been shown to develop resilience when they are taught that abilities are something they can acquire. A sense of empowerment and perceived control is linked to positive outcomes despite adversity.

• Teach children to learn to cope with manageable stress. Withstanding and overcoming minor to moderate stress — such as taking a test or talking through conflict with a friend — builds awareness of how to work through tense situations and confidence at successfully encountering challenges. This can be done by breaking stress management down into actionable, buildable steps that a child can absorb and complete one step at a time.

• Ensure children hear and see evidence of Christ's love for them. Spiritual teaching and support, along with freedom to question and seek, are protective factors linked to improved wellbeing. Faith can offer children a sense of identity and belonging, and can shift thinking to a future focus, bringing about hope.

**Questions for Consideration**

1. What skills do your children need to outweigh their next big challenge?
2. In what ways does the language we use encourage resilience and growth instead of stagnation? (ie "I love how hard you work on your art!" vs. "You are the best painter in the world!")
3. What are some practical ways to encourage caregivers and OVC to focus on growth instead of shortcomings?

**Resources for Further Exploration**

1. Key Concepts: Resilience[93] (Harvard Center on the Developing Child)
2. The 7 Cs: The Essential Building Blocks of Resilience[94] (Foster Resilience)
3. Mindsets That Promote Resilience: When Students Believe that Personal Characteristics Can Be Developed.[95] (Yeager and Dweck)

## Conclusion

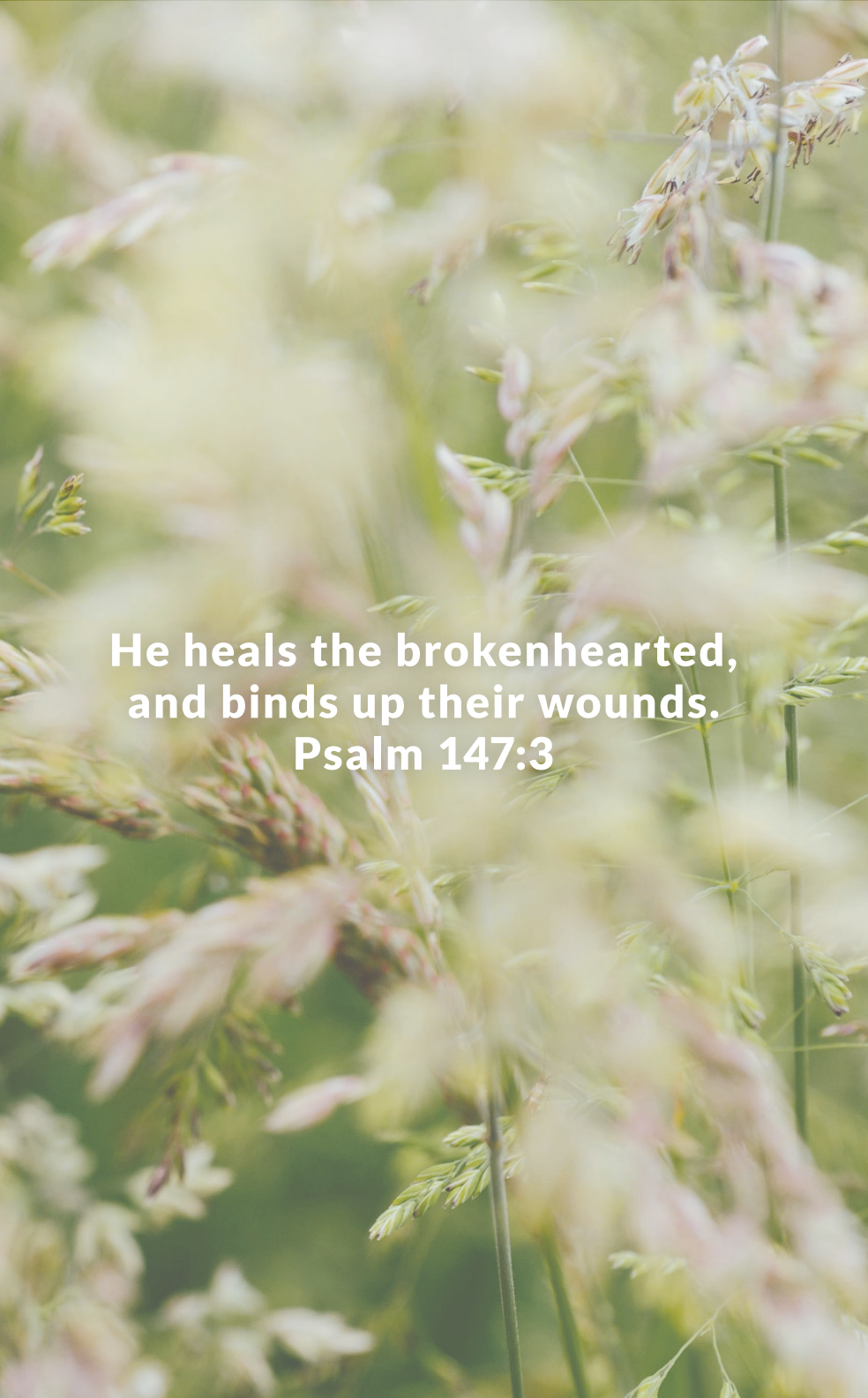
Research confirms that early childhood stress is harmful to developing brains. Life experience reinforces that loving a child who has experienced extreme adversity can be exhausting, heartbreaking, and discouraging. However, that does not have to be the end of the story.

God created our brains to adapt and respond and grow as a result of input, whether positive or negative. Thankfully, neuroplasticity — the same mechanism that allows our brains to grow abnormally — also makes it possible for them to heal in magnificent, seemingly impossible ways.

It is not too late. There is hope.

Neuroplasticity will not cure every effect of trauma, but it can move children and youth toward fulfilling their potential. It can allow parents and caregivers to influence their children's futures and help them to overcome some of the adversity they wish they had never experienced.

It can allow youth from hard places to have a say in their future, to overcome their past history. It consists the small, daily inputs of truth and health and safety that breathe life into children who come from hard places. This is the kind of redemption, healing, and growth that could only come from the One who loves these children more than we do, the Father to the fatherless.


He heals the brokenhearted,
and binds up their wounds.
Psalm 147:3

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The Changing Brain: Created to Heal
Hope for Vulnerable Children and Their Caregivers

by Nicole Wilke, Meredith Morgan, and Alisha Pangborn

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