



Joyful Together®: Addressing & Preventing Childhood Toxic Stress in Ohio

Abstract

Toxic stress occurs as a response to prolonged, adverse experiences without adequate adult support that impairs brain development and functioning. The 2016 National Survey of Children's Health found that as many as 1 in 7 Ohio children had experienced three or more adverse childhood experiences (ACEs), higher than the national average. Childhood adversity often leads to toxic stress, which has multifaceted deleterious implications across a lifespan; however all hope is not lost. Children's brains are highly susceptible to negative experiences, but are also strongly impacted by positive experiences as well, leaving opportunities to build adequate defenses against toxic stress.

Based on standing theories that resiliency helps children better face tough life stressors, in addition to the powerful impact of secure attachment on brain development and childhood outcomes, we postulated that improving resiliency through the vector of relationships would dampen the impact of childhood toxic stress. Improved relationships between caregivers and children provide rich opportunities to offer resiliency to children who have experienced toxic stress, in addition to building protective factors that can also *prevent* toxic stress for children.

Joyful Together® is a research-based model that builds childhood resiliency and reduces toxic stress in children by enhancing parent/caregiver relationships with joyful play. Joyful Together® provides easy-to-do activities to coach caregivers on play with their children to create stronger bonds, and lower stress. Joyful Together® activities build childhood resiliency, lowers parent stress and improves relationships through everyday joyful moments between children and caregivers. This innovative new model can both insulate against and repair damages caused by adversity. Research outcomes on the model have demonstrated its ability to increase childhood resiliency through improved protective factors, and lower parent stress as demonstrated through self-report and measured changes of salivary cortisol. If brought to scale through training and implementation across multiple settings that serve infants, children and families, we believe that we could help improve resiliency and outcomes for children State-wide over time.

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The Problem: Adverse Childhood Experiences & Toxic Stress

Early childhood represents a critical period for social emotional development, especially for children who experience toxic stress and trauma. Many studies have demonstrated the longitudinal effects of childhood trauma, adversity and toxic stress. According to the Ohio-based policy institute Groundwork, 49% of Ohio children have at least one ACE (adverse childhood experience) and 1-in-7 have three or more. Toxic stress does not discriminate and impacts the entire body, and at all ages; but especially negatively impacts the brain in early childhood.

Toxic stress is a growing problem that is putting children at higher risks of challenges throughout their life. Learning how to cope with adversity is an important part of healthy childhood development, but an overabundance of adversity without adequate adult support leads to an over-active stress response system, emotional and cognitive developmental delays, compromised academic performance, and many other comorbidities.

Joyful Together® is OhioGuidestone's novel way to tackle toxic stress, build childhood resiliency and support families.

III Effects of Toxic Stress

Research demonstrates the profound effects of negative experiences on children, especially during points of critical brain development between 0-5 years old. Negative experiences often rise to the level of being chronic, and without the support of adults, results in toxic stress. The full-body impact of toxic stress becomes more evident considering the role of cortisol ("stress hormone").

Cortisol's function is to help prepare the body to respond to stressful or threatening situations. For example, heart and respiratory rates increase, blood flow is directed to limbs, and energy sources (like sugars and proteins) are broken down in preparation to "fight or flight." Normally, cortisol has negative feedback into the HPA (hypothalamic-pituitary-adrenal) Axis which stops the process of releasing more cortisol. However, overtime, chronic and persistent stress prompts over-activation and sustained engagement of the HPA Axis and cortisol release occurs and prohibits the body from restoring homeostasis (normal/ideal state of functioning). The body processes activated by cortisol release become harmful and not helpful: continued high heart rates; increased alertness; ongoing elevated blood pressures; breakdown of sugar stores that lead to fat storage; increased inflammation and other immune system dysregulation; and dampened or distressed emotional and social function due to brain impacts.

The HPA Axis is not meant to have long-term or constant activation. And cortisol, unlike other hormones such as epinephrine ("adrenaline"), can be released for hours into the blood stream continuing its effects. The effects of continued exposure to cortisol lead to conditions that qualify as comorbidities (the prevalence or occurrence of two or more disorders), and lead to increased mortality (risk or change of death) rates. Therefore, preventing or addressing stress is very important- especially in early childhood. Any and all interventions and treatment programs that strive to lower stress will also buffer negative biological outcomes that lead to poor life outcomes and even early death.

Geographical Highlights of Toxic Stress: Ohio & Greater Cleveland

The 2016 National Survey of Children's Health found that as many as 1 in 7 Ohio children had experienced three or more ACEs, higher than the national average. Hallmark ACEs such as parental separation, violence and poverty are frequent occurrences in Ohio. Ohio's prison population is the seventh highest in the nation, with a rapidly increasing female prison population. Ohio is also experiencing high rates of overdose deaths due to the long-term and ever growing opiate epidemic. These instances of parental separation will undoubtedly lead to increased ACEs among our state's youth. The City of Cleveland is particularly at-risk considering data that suggests many children are exposed to high rates of violence and bullying. Cleveland has seen increased rates of violent crime and was recently ranked as the fifth "deadliest" city in the nation, according to the Major Cities Chiefs Association Violent Crimes Survey. Additionally, poverty is prevalent among children in Cleveland and surrounding communities: 52% of children under 18 years old live at or below the poverty threshold. Even worse, the National Survey of Children's Health results demonstrate racial disparities indicating that non-Hispanic African American children experience ACEs at a much higher rate. Cleveland's population is comprised of about 50% African American residents according to the 2012-2016 U.S. Census Bureau 5-year estimates. These figures suggest a compounded risk of toxic stress for children in the Cleveland area.

Building Resiliency is the Answer

Resiliency provides the ability to plan, monitor and regulate behavior and adapt to changing circumstances, especially those that are adverse or intense. Specifically defined by the American Academy of Pediatrics, resiliency is "a child's perception of safety and protection based on their social-emotional ability to buffer him/herself from the effect of immediate or long term stressors to his/her response system that brings on feeling of fright and or helplessness."

Such skills- planning, monitoring and behavior modification- are known as *executive functioning* skills, associated with the prefrontal cortex (higher level cognitive abilities). Executive functioning skills include the ability to follow directions, impulse control, focusing, paying attention, taking turns and perseverance. Although young children naturally lack these skills, as they are among those developed through experiences over time (development continues through early to mid-twenties); it is crucial that childhood provides multiple healthy development opportunities of these skills and appropriate scaffolding on the ideal development of other brain areas. Interestingly, social play provides the perfect opportunity to establish and practice the executive functioning skills that will eventually result in greater resiliency.

Some benefits of play include protection against the impact of ACEs by ensuring healthy socio-emotional development. Play teaches and develops empathy as play provides the opportunity to safely explore the impact of behavior and establish behavioral limits, rewards and consequences (components of key executive functioning skills such as impulse control and perseverance). Play eventually raises the threshold of the stress response system since the

quality of social engagement and competence builds upon crucial functions that support ideal engagement of the stress response system.

Further research shows that playing with a loved one elicits affective processes, the basis of emotional experiences, known as CARE and PLAY and their respective neurotransmitters oxytocin, and endorphins and naturally occurring opioids. CARE, which is based upon based on positive, secure attachments or relationships (why oxytocin is commonly called the “love hormone”), and PLAY, simply put is social play, lead to *joy*. Joy is a strong surge of euphoric feeling that elicits physiological, psychological and behavioral changes. CARE promotes PLAY and PLAY promotes CARE, a positive feedback loop linked to the brain’s reward system, that demonstrates the strength of relationships/attachment’s impact on playing; and on playing’s role as “practice ground for the development of executive function skills” or resiliency. Understanding even the basic benefits of joy experiences highlight how important it is for parents and caregivers of young children to engage in healthy, loving and playful ways.

CARE + PLAY- Parents

We’ve established that research reflects how resiliency protects against toxic stress and is enhanced by stable relationships and through play and joyful experiences (especially with loved ones). Why do parents and caregivers need to be equipped or instructed on playing with their young children? Many reasons may exist- busy schedules, high or toxic stress levels in parents, unawareness of the impact of play- but what matters is facilitating opportunities for parents and caregivers to infuse their daily activities with joy and play. Play doesn’t require a certain location, timing, or even objects. Play can be done for short or extended durations and nearly anywhere. With life’s demands, sometimes it is forgotten how easy and beneficial play is.

Children’s ability to explore their environments and process experiences with a responsive caregiver allows their stress response system to appropriately develop and function ideally. A parent or caregiver promotes a child’s ability to communicate their needs, learn to contextually appropriately express and regulate their emotions based on feedback from the caregiver-child relationship. On the other hand, the lack of a secure, responsive caregiver leaves the child vulnerable to an over reactive stress response system that pumps out too much cortisol, which does not learn how to return to baseline- achieve homeostasis, or be resilient in the face of life stressors. The lack of a secure, responsive caregiver when a child’s stress response system is stimulated leaves the child vulnerable to negative outcomes of an overactive stress hormone production and activity: elevated or misappropriated stress responses, and maladaptive social behaviors. Eventually, the absence of an attuned and responsive caregiver leads to toxic stress as a child’s stress response system is not buffered and brought back down to baseline for optimal performance (resiliency). As a result, on-going relationships/attachment, and the connection to one’s stress response system will continue to be maladaptive; a vicious cycle that hinders childhood mental health, social-emotional, academic and health outcomes.

Secure relationships play critical roles in buffering against the psychological and physiological effects of adversity and stress. Social play, within secure relationships, provides the perfect opportunity to establish and practice the executive functioning skills that will eventually result in greater resiliency. Social play, however, can be a challenge for some children and caregivers, especially those who have experienced toxic stress and trauma themselves. According to a recent study from The Center on the Developing Child at Harvard University parents who face exposure to toxic stress and trauma often experience difficulties with executive function and self-regulation, often associated with mental illness. The stress associated with these difficulties can impede their ability to be nurturing and effective parents. How should we approach parents who are often stressed themselves, to ask them to focus on lowering stress in their child's life? Some home visiting outcomes have shown parent stress worsens by program-end, possibly because activities magnify supposed parent shortcomings and the many negative possibilities for their child. We further hypothesized that this phenomenon could be due to the nature of the curricula used, a lack of a strengths-based or resiliency focus in approach- leaving parents feeling (even) worse about their skills, parent-child interactions at the program's completion. Parents do not need their stress amplified, but instead deserve in-home coaches who can provide them practical tools that help their entire family build resiliency to deal with the known, and future unknown life stressors. They need easy-to-use strategies that can amplify parental confidence, which can lower stress allowing them to better or differently engage with their children.

Equipping Professionals to Coach CARE + PLAY

There is a gap in training for early childhood professionals related to play and the importance of secure relationships in controlling stress and increasingly resiliency. According to an evaluation of the Help me Grow program commissioned by the Ohio Department of Health's Maternal Infant Early Childhood Home Visiting Team, "the research team regularly observed low facilitation of parent-child interaction," and improvement was recommended in this area. Furthermore, there is a dearth of training for professionals working in early care environments on strategies for addressing the needs of children who have experienced toxic stress. As research continues to uncover the deleterious impact of these experiences on the young brain, early childhood professionals will need more tools to improve their practices to address this issue in a research-informed manner.

Joyful Together®

Joyful Together® is a research-based model developed by OhioGuidestone that builds childhood resiliency and reduces toxic stress in children by enhancing parent/caregiver relationships with joyful play. Joyful Together® provides easy-to-do activities to coach caregivers on play with children to create stronger bonds, and lower stress. Joyful Together® activities build childhood resiliency, lowers parent stress and improves relationships through everyday joyful moments between children and caregivers. This innovative new model can both insulate against and

repair damages caused by adversity. If brought to scale, and incorporated into multiple settings, we believe that providing these tools to parents and caregivers could improve the resilience of children State-wide over time.

Joyful Together® presents an opportunity for parents/families as well as for childhood professionals- from infant/early childhood mental health professionals, early learning staff, to elementary school staff- who love and serve children birth to about 10 years old. The 100+ starter activities that makeup Joyful Together® provide a springboard for parents/caregivers to experience joy with children, and hopefully create and build their own keys to joy activities to continually infuse their relationship with joy. As parents and caregivers interact more with children they will activate the brain's reward system associated with care and play, enrich their attachment, develop the child's executive functioning skills that lead to resiliency, and even lower parent/caregiver-related stress (co-regulatory benefit of play); reactivating and continuing this cycle with even more play. The starter activities are arranged based on convenience of use by parents, and are arranged around a typical classroom and/or home schedule, emphasizing activities that can be incorporated during transitions, meal times, and quiet times.

The activities are arranged in ways that promote their use throughout a child's day whether that be the typical classroom schedule or homebased activities that can be incorporated into car time, transitions, meals, quiet times, waiting rooms, and even morning/hello-goodbye routines. The categories are only suggestions that help guide and spark creativity in parents and caregivers as they seek to infuse their time with children with as much joy as possible. Each activity has enough flexibility for unique applications and adaptations for each family or setting, while still driving co-regulation and enhancing attachment between children and caregivers.

Joyful Together® translates neurobiology and interpersonal psychology evidence into practice to help build resiliency through relationships for infants and children, across multiple settings including their home, in an approachable and practical way. Through training and consultation, we aspire to contribute to the capacity of Ohio's early and school-aged childhood professionals and parents to support resiliency by improving relationships, lowering stress and increased childhood protective factors. Training and consultation programs can be delivered in a single full day training followed by an intensive monthly consultation schedule to support the full use and implementation of Joyful Together® into programming. Manuals are available to augment training sessions, and include all Joyful Together® activities to date.

Joyful Together®'s Impact on Families

Joyful Together® was implemented and evaluated through research phases with families served by home-based infant and early childhood interventionists and therapists. We postulated that

by infusing play into everyday parent-child interactions relationships would improve, supporting childhood protective factors that build resiliency; parent stress would decrease and parents would continue to seek out positive and playful interactions with their child. A pilot study of the model showed positive results for parent-child pairs using the model. The model encourages parents to infuse play into as many every day moments as possible, so we took the model further to examine the effect of coaching parents to play with all of their children, not only the child receiving home based services. We observed improvement in childhood protective factors (resiliency) and decreases in parent stress and salivary cortisol - supporting our hopes that coaching parents to play with all of their children during home based services increases resiliency, and decreases parent stress.

We observed consistent decreases in parent self-reported stress and salivary cortisol in all but one family. The findings that emerged will drive further examination to elucidate any connections between child or parent health histories, prescriptions and salivary cortisol, stress and protective factors. However, based on our findings thus far, we can draw conclusions that Joyful Together® activities positively impact childhood resiliency and parent stress in hopes of dampening the impacts of toxic stress.

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