


Special Issue Article

The heart of the matter: Developing the whole child through community resources and caregiver relationships

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Abstract

Numerous developmental scholars have been influenced by the research, policies, and thinking of the late Edward Zigler, who was instrumental in founding Head Start and Early Head Start. In line with the research and advocacy work of Zigler, we discuss two models that support the development of the whole child. We begin by reviewing how adverse and protective experiences “get under the skin” and affect developmental trajectories and risk and resilience processes. We then present research and examples of how experiences affect the whole child, the *heart* and the *head* (social, emotional, cognitive, and physical development), and consider development within context and across domains. We discuss examples of interventions that strengthen nurturing relationships as the mechanism of change. We offer a public health perspective on promoting optimal development through nurturing relationships and access to resources during early childhood. We end with a discussion of the myth that our current society is child-focused and argue for radical, essential change to make promoting optimal development for all children the cornerstone of our society.

Keywords: childhood adversity, parenting, prevention, protective experiences, resilience

(Received 3 August 2020; accepted 15 August 2020)

When I was in graduate school, I vividly remember sitting around a table one evening with fellow students answering a hypothetical question, “If you could change one thing in the world, say you were king or queen for a day, what would it be?” I responded without hesitation, “Every child in the world would have access to free, quality, early childhood education and care, starting at birth.”—Amanda Sheffield Morris

I was asked by a friend who had recently learned of the devastating consequences of adverse childhood experiences on individuals and society, “But isn’t this overwhelming? Is there anything realistically that can be done about it?” My reply was immediate: “Provide home visiting or other support for parents of every child born in America. It’s the hardest job we do and no one knows how to do it unless they were well-parented themselves.”—Jennifer Hays-Grudo

Many developmental scholars have been influenced by the research, policies, and thinking of the late Edward Zigler, who was instrumental in founding Head Start and Early Head Start programs. It is likely that Zigler’s research and advocacy stemmed from his own childhood experiences. As the child of immigrants, he attended a program in Kansas City where he received resources such as dental care, English classes, nutritional meals, and social support (what we often call *mental to dental* when referring to interventions today). Such programming and experiences are in line with the concept of developing the *whole child*, with an

emphasis on promoting social and emotional skills and relationships in addition to cognitive and physical health.

In reviewing the many decades of Zigler’s life work, several clear themes emerge. First, there is a focus on family and parenting, recognizing the essential role of parents in the development of the child. This is illustrated in the two-generation approach that is the foundation of Head Start programming, recognizing that children cannot thrive when parents are suffering and lack the necessary supports and resources to be parents (Turner & Zigler, 1987). Second, early education and care should be of high quality and focus on multiple developmental domains (social, emotional, physical, cognitive) or the “whole child” (Raver & Zigler, 1997; Zigler & Bishop-Josef, 2006). Zigler was critical of care that was merely custodial in nature and argued for enriching experiences for children across development, such as the 21st Century Schools model (Zigler, 1970, 1989). Finally, Zigler was a passionate advocate for children, applying developmental science to policies and programming at a national scale (Zigler & Styfco, 2000). He was an advisor to every President from Lyndon B. Johnson to Barack Obama. When asked how he could reconcile his politics as the first director of the Office of Child Development with those of the Nixon Administration, which was not known for progressive social policies, his response was simple: “My politics are children” (Provocative Child Agency Head, 1970).

In the spirit of Ed Zigler and his work, we discuss two models that support the development of the whole child. We begin with a discussion of how adverse and protective experiences “get under the skin” and affect developmental trajectories, risk, and resilience. We present research and examples of how experiences

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Cite this article: Morris AS, Hays-Grudo J, Kerr KL, Beasley LO (2021). The heart of the matter: Developing the whole child through community resources and caregiver relationships. *Development and Psychopathology* 33, 533–544. <https://doi.org/10.1017/S0954579420001595>

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affect the whole child, the *heart* and the *head*, and consider development within context and across domains. Next, we discuss examples of interventions that target nurturing relationships as a mechanism of change. We present a public health perspective on promoting optimal development by fostering nurturing relationships and providing resources during early childhood. We end with a discussion of Zigler's assertion that the idea that American society is child-focused is a myth, and argue for radical, essential change to promote optimal early child development for all children.

How Adverse and Protective Experiences “Get Under the Skin”

Social neuroscience supports the notion that humans are *wired to connect* (e.g., Lee, Qu, & Telzer, 2018). As a species, our survival is dependent on early emotional bonds that form between caregivers and young children. Humans have evolved to promote caregiver-child attachments at the social and neurobiological levels (Hays-Grudo, Ratliff, & Morris, *in press*). Across cultures, caregivers' neurobiological and physical responses to children's cries are universal, and neuroimaging studies indicate that the parental brain undergoes structural changes after birth that help prepare parents for the demanding task of providing care for a newborn (Kim et al., 2010). Changes in these biological systems appear to increase parents' responsiveness to infants and ability to manage caregiving stress (Swain, Kim, & Ho, 2011).

During positive social interactions, dopamine and norepinephrine are released, reinforcing positive social behaviors. Attachment among infants and caregivers is influenced by such hormonal responses. Dopamine and oxytocin specifically affect the reward circuitry in the striatum, promoting physiological and behavioral synchrony and attunement (Feldman, 2017). In Caregiver×Child interactions, studies illustrate multiple types of synchrony: behavioral synchrony (e.g., shared gaze, touch), heart rate coupling, hormonal attunement (e.g., similar cortisol levels), and brain synchrony as evidenced by electroencephalography (EEG) patterns (Feldman, 2017). When behavioral and physiological synchrony are interrupted, as seen in the Still Face paradigm, infants and caregivers both become distressed (Weinberg & Tronick, 1996). Over time, asynchronous interactions can have negative effects on socioemotional development and attachment, affecting subsequent interactions. Interestingly, there is evidence for father-infant behavioral and physiological synchrony (even though most studies are with mothers), although patterns differ from mother-infant synchrony (Feldman, 2003). There is also evidence emerging that teachers and students display neurophysiological and behavioral synchrony (e.g., Bevilacqua et al., 2019).

Biologically, we are programmed to form attachment bonds with caregivers, but as is described in the next section, these processes may often go awry, as can be seen in cases of child abuse and neglect. Much of the research on early life stress and adversity has focused on maltreatment and the negative effects of adversity rather than positive experiences. Nevertheless, there is an accompanying literature on resilience in developmental science that illustrates the effects of positive experiences on child development (see Hays-Grudo & Morris, 2020). It is beyond the scope of this manuscript to discuss all the potential positive factors that can influence children. Thus, we focus on a model that we developed to complement the research on adverse childhood experiences (ACEs; Anda et al., 2006) discussed in the next section. We

developed the protective and compensatory experiences (PACEs) framework to delineate ten specific experiences that children need for optimal development. These PACEs are grounded in developmental science (see Kentner, Scalia, Shin, Migliore, & Rondón-Ortiz, 2020; Morris et al., 2018) and are similar to other lists of protective and resilience-promoting factors (Masten, 2015). PACEs can be grouped into two categories: *relationships* and *resources*, and like the ten ACEs identified in the Centers for Disease Control and Prevention (CDC) study, PACEs are experiences that occur prior to age 18. The relationship factors include: unconditional love from a primary caregiver; having a best friend; volunteering in the community; being part of a group; and having a mentor. The resource factors include: having a safe, clean home with enough food; getting a good education; having a hobby; getting plenty of physical activity; and having rules and routines. We acknowledge that not all of the PACEs are of equal influence, with unconditional love from a caregiver being most important. Moreover, at different developmental periods and in different contexts some PACEs may be more influential than others. In subsequent sections of the paper, we provide more information on how PACEs affect the development of the whole child, but first we briefly review the research on ACEs and child development.

Science of adversity

Developmental scientists have long studied the negative effects of adverse conditions on mental health and well-being (Cicchetti, 1984; Masten, Best, & Garmezy, 1990; Rutter, 1979, 1987; Sameroff, Seifer, Barocas, Zax, & Greenspan, 1987). More recently, epidemiologic research provides evidence of the effects of ACEs on physical as well as mental health (Anda et al., 2006; Felitti et al., 1998). Analyses of extensive health records from more than 17,000 adult patients in the original Kaiser Permanente ACEs sample revealed that adults exposed to abuse, neglect, and household dysfunction were significantly more likely to experience chronic illnesses, mental health problems, and engage in health-harming behaviors. ACEs were common, occurring in a majority of patients, tended to co-occur, and had a cumulative or a dose-response effect on negative outcomes (Anda et al., 2006; Felitti et al., 1998). Subsequent research has replicated these findings in other populations around the world, supporting the negative effects of childhood trauma on developmental and health outcomes (Bellis, Lowey, Leckenby, Hughes, & Harrison, 2014; Merrick, Ford, Ports, & Guinn, 2018).

ACEs are also associated with school-aged children's health, developmental delays, and behavioral and learning problems (Bethell, Newacheck, Hawes, & Halfon, 2014; Burke, Hellman, Scott, Weems, & Carrion, 2011). Even during infancy and toddlerhood, ACEs have damaging effects on children's social, emotional, and cognitive development. In a national study of families enrolled in Early Head Start (McKelvey, Edge, Mesman, Whiteside-Mansell, & Bradley, 2018), ACEs were common, with 80% of children having experienced at least one ACE by age 3. Children exposed to three or more ACEs were more than five times as likely to be diagnosed with externalizing behavior problems than children with none.

Research on early-life stress using animal models suggests a number of explanatory processes by which childhood experiences exert profound and enduring biological and behavioral effects. Using the concepts of allostatic load (McEwen, 1998) and biological embedding (Miller, Chen, & Parker, 2011; Slopen,

McLaughlin, Dunn, & Koenen, 2013) research with both humans and animal models indicates that trauma exposure initiates biological and behavioral adaptations with short-term benefits and long-term negative consequences. One such process, allostatic load, involves biological adaptations that dysregulate the stress response system, creating hyper- or hypo-responses to future sources of stress (McEwen, 1998, 2012). Childhood trauma affects neurodevelopment, altering brain structure and function (Teicher & Samson, 2016; Thomason & Marusak, 2017) and neuroendocrine responses (Bruce, Gunnar, Pears, & Fisher, 2013; Danese & Lewis, 2017). Epigenetic responses to childhood adversity link early-life stress exposure to subsequent health and behavior disorders in animals as well as humans (Blaze & Roth, 2015; Gröger et al., 2016; Lester, Conradt, & Marsit, 2016). Epigenetic changes may also be transmitted from one generation to the next, resulting in intergenerational cycles of trauma (Dias & Ressler, 2014; Franklin et al., 2010; Roth, Lubin, Sodhi, & Kleinman, 2009). As research on childhood adversity becomes increasingly interdisciplinary, we find ourselves coming back full circle, appreciating the importance of understanding the “whole child” (Zigler & Bishop-Josef, 2006) rather than studying separate developmental systems and biological processes. While recognizing the interconnectedness of the separate systems, however, we describe the development of each separately in the following section to better organize the information around a new model focused on how PACEs can counteract the negative effects of ACEs on development.

PACEs heart model

In a recent review of the literature on how ACEs and PACEs affect developmental trajectories (Hays-Grudo et al., 2020), we argue for a model that literally turns ACEs upside down (using a heart as a symbol of love; see Figure 1) and focus on how PACEs counteract the negative impact of ACEs on neurobiology, development, and growth (Hays-Grudo & Morris, 2020). We place our Heart Model next to the CDC’s ACEs pyramid model. Starting from the top of the heart, we argue that if children have nurturing relationships and necessary resources to grow and thrive, protective experiences will increase secure attachment and optimal neurological, socioemotional (e.g., emotion regulation), and cognitive development (e.g., executive function). In turn, successful development leads to the adoption of healthy behaviors and the maintenance of positive relationships. Children meet developmental milestones and experience health and longevity in adulthood. We acknowledge the oversimplification of these processes and that each child has a set of unique experiences and innate genetic make-up that influence risk and resilience trajectories (see Masten & Cicchetti, 2010). However, we also see value in focusing on how positive experiences can buffer adversity and lead to successful outcomes, and we ground our thinking in scores of longitudinal studies indicating that positive, nurturing relationships and enriching resources can influence developmental pathways of children starting preconception and into young adulthood (see Hays-Grudo & Morris, 2020). In the next section, we provide a brief overview of the research that supports the PACEs Heart Model.

Optimal Child Development

Neurological development

The brain and central nervous system undergo immense changes and development from the formation of the neural tube during

the third week of gestation to the newborn brain, which has nearly 100 billion neurons and a morphology similar to that of adults (LaFreniere & MacDonald, 2013; Stiles & Jernigan, 2010). White matter tracts connecting brain regions form before birth, and myelination proceeds rapidly during the first two years of life (Thomason, 2020). The brain reaches 80% of its adult size by the second year of life, consisting primarily of increases in grey matter volume (Knickmeyer et al., 2008). This period of rapid growth is followed by synaptic pruning (Eltokhi, Janmaat, Genedi, Haarman, & Sommer, 2020). Significant neurodevelopmental changes also occur during adolescence, particularly with regard to brain regions underlying socioemotional functioning. Subcortical structures such as the amygdala tend to mature earlier than the prefrontal cortex, which continues maturing well into young adulthood (Mills, Goddings, Clasen, Giedd, & Blakemore, 2014). The relative “mismatch” between the rates of development of subcortical structures, which underlie emotion reactivity, and cortical regions, which underlie self-regulation, has led to dual system (Steinberg, 2008) and imbalance (Casey, Getz, & Galvan, 2008) models of adolescent brain and behavior. These models posit that increased emotionality and risk-taking behaviors during adolescence are the consequence of these differential rates of development in different brain structures.

Animal models have shown that early-life stress results in altered connectivity in frontolimbic circuitry (Cohodes, Kitt, Baskin-Sommers, & Gee, 2020), and similar findings have been found in children who have experienced adversity. For example, ACEs are associated with alterations in neurocircuitry important for emotion regulation (Herzberg & Gunnar, 2020). Given the importance of emotion regulation as a core feature in many psychiatric disorders (Aldao, Nolen-Hoeksema, & Schweizer, 2010), these neurobiological effects likely constitute a link between ACEs and later psychopathology. ACEs occurring in early childhood have also been associated with altered volume (Luby, Barch, Whalen, Tillman, & Belden, 2017) and resting-state functional connectivity (Barch, Belden, Tillman, Whalen, & Luby, 2018) of the inferior frontal gyrus, and these alterations predict poor mental and physical health outcomes in adolescents. It is important to note that the timing and type of adversity influence its effects on brain-related outcomes (Hambrick, Brawner, & Perry, 2019; Nelson & Gabard-Durnam, 2020). Advances in neuroimaging methods and analyses, including motion correction techniques useful when scanning infants and toddlers, will allow future longitudinal studies to more directly test these effects across different stages of development in humans.

While ACEs have detrimental effects on neurodevelopment, positive experiences may serve to counteract or protect against these effects to promote resilience. Animal models have found that exposure to enriched environments, which incorporate novelty, stimulation, and social opportunities, serve to limit or reverse the effects of early adversity on the hypothalamic–pituitary–adrenal (HPA) axis (Francis, Diorio, Plotsky, & Meaney, 2002; Kentner et al., 2018; Koe, Ashokan, & Mitra, 2016). Relatively little research, however, has examined the neurobiological effects of protective experiences in humans with a history of childhood adversity. Studies of foster care as an intervention for children previously institutionalized have found that children placed in foster care exhibited more normative white matter development as compared to children who remained institutionalized (Bick et al., 2015, 2017), although a similar study found persistent alterations in brain structure in adulthood despite exposure to enriched adoptive environments (Mackes et al., 2020). Additional

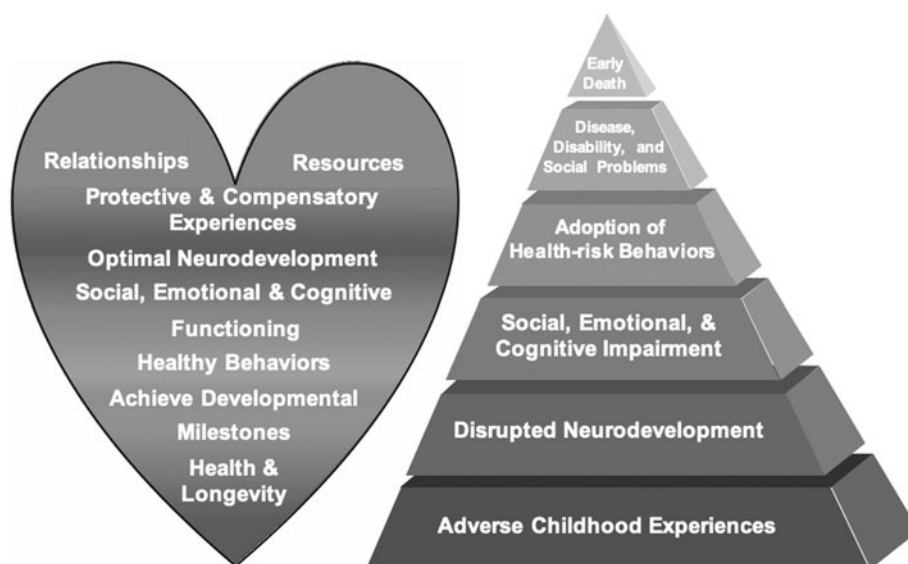


Figure 1. Heart Model: protective and compensatory experiences (PACEs) influence health and well-being via relationships and resources (Hays-Grudo & Morris, 2020).

longitudinal neuroimaging studies of children are needed to understand the role of protective factors in the neurobiological effects of ACEs.

Social, emotional, and cognitive development

Numerous studies document that nurturing environments promote children's socioemotional and cognitive development. Caregiver sensitivity forms the basis of infants' secure attachment (De Wolff & van IJzendoorn, 1997; Lucassen et al., 2011), which in turn relates to a variety of positive socioemotional outcomes, including positive peer relations (Groh et al., 2014, 2017; Schneider, Atkinson, & Tardif, 2001) and emotional understanding (Cooke, Stuart-Parrigon, Movahed-Abtahi, Koehn, & Kerns, 2016). In early childhood, the family environment provides an important context that influences children's emerging emotion regulation abilities (Morris, Silk, Steinberg, Myers, & Robinson, 2007). As children grow and develop, emotion regulation contributes to success in school (Kwon, Hanrahan, & Kupzyk, 2017) and socioemotional functioning (Eisenberg & Fabes, 2006).

Childhood adversity has profound effects on children's socioemotional and cognitive development. Maltreatment has been consistently linked with emotion dysregulation in children and adolescents (Gruhn & Compas, 2020), and emotion dysregulation mediates the relationship between ACEs and later psychopathology (Weissman et al., 2019). These effects likely reflect the impact of ACEs on the developing brain. The brain systems underlying emotion regulation are also important for broader cognitive skills, such as executive function. Executive function includes cognitive processes, such as working memory and flexibility, that are important for maintaining goal-directed behaviors and are related to outcomes such as academic performance (Cortés Pascual, Moyano Muñoz, & Quílez Robres, 2019). ACEs are associated with lower executive functioning skills in children and adults (Hawkins et al., 2020; Kalia & Knauft, 2020; Kopetz et al., 2019; Lambert, King, Monahan, & McLaughlin, 2017), as well as altered functioning in brain regions related to cognitive control (Hallowell et al., 2019; Lu et al., 2017; Philip et al., 2013, 2016).

Fortunately, positive experiences can promote resilience in children exposed to adversity. Family factors appear to be

especially powerful in counteracting the effects of early adversity. A recent systematic review found that factors such as family cohesion, extended family support, positive parenting, and parental involvement protect against the development of psychopathology in adolescents and young adults with ACEs (Fritz, de Graaff, Caisley, van Harmelen, & Wilkinson, 2018). Given the importance of familial context in supporting children's emotion regulation (Morris et al., 2007), it is likely that these positive family factors serve to promote children's emotion regulation, which in turn lessens the risk of psychopathology (Alink, Cicchetti, Kim, & Rogosch, 2009). Relationships outside of the family can serve as protective factors as well. For example, teacher-child closeness is associated with executive function in kindergarten children exposed to adversity (Suntheimer & Wolf, 2020). In addition, as peer relationships become increasingly important in adolescence, positive peer relationships can also protect against the development of psychopathology in this age group (Collishaw et al., 2007). Thus, evidence suggests that positive socioemotional experiences can promote resilience in children who have faced adversity.

Health behaviors and developmental milestones

ACEs affect neurodevelopment by violating the expected environment (Nelson & Gabard-Durnam, 2020), and these alterations in neurodevelopment can have lifelong consequences for socioemotional functioning, including that adoption of negative healthy behaviors and even early death (Anda et al., 2006). Childhood adversity has particularly detrimental effects on the development of emotion regulation, as mentioned previously. However, protective factors, particularly positive parenting and a supportive family environment, are beneficial and may counteract the effects of ACEs on children's socioemotional development, supporting the achievement of developmental milestones and maintaining a healthy lifestyle during adulthood. Interventions aimed at building a warm and nurturing environment for children are critical for healthy development and positive developmental trajectories in the context of childhood adversity, as we discuss later in this chapter.

Interventions to Support Children and Families

In his insistence that programming for Head Start and other educational curricula focus on social and emotional development as well as cognitive development, Zigler pioneered a major shift in developmental science and education from rigorous laboratory research to more applied implementation science, and from narrowly defined models to multilevel systems models. In a sense, the research of the 21st century, with its advances in neuroimaging, molecular biology, and computational power, has validated and extended his 20th-century assertion that children are best viewed as developing systems affected by biology, behavior, families, and society. Many intervention programs that exist today are built on the concept of the whole child, and are designed to affect children's social, cognitive, and physiological regulation in the context of caregiving relationships. A number of interventions to support children's social-emotional and cognitive development have been developed that focus on the child and family system. Interventions with empirical evidence of effectiveness include home-based support for parents, center or group-based interventions for high-risk parents, and multilevel interventions for parents and other caregivers. Next, we provide some examples of such interventions

Home-based parenting programs

Home-based parenting programs are an empirically supported approach to support families (Barth, 2009; Howard & Brooks-Gunn, 2009). Parenting programs aim to help parents master their caregiving role by helping them access informal and formal support and teaching parenting behaviors, such as warmth, responsiveness, sensitivity, and appropriate discipline that encourage child-parent attachment (Berger & Font, 2015). Evidence shows that by engaging families in services early in the child's life, programs and providers are able to improve family functioning through enhancing parenting skills, social support, coping skills, and linkage to community resources (Filene, Kaminski, Valle, & Cachat, 2013; Guterman, 2001). Further, it is a promising approach to improve children's cognitive and social-emotional outcomes (Berger & Font, 2015). Overall, home-based parenting programs have been found to be beneficial in providing high-risk families interventions and resources to improve family functioning (Filene et al., 2013; Guterman, 2001).

There are numerous empirically supported home-based parenting programs, with many of these programs focusing on young children and families. These include, but are not limited to, programs such as Attachment and Biobehavioral Catchup (ABC), Nurse Family Partnership (NFP), Parents as Teachers (PAT), and SafeCare (SC). ABC is a short-term home-based parenting program (10 sessions) focused on supporting families of young children that have experienced adversity by improving positive Parent×Child interactions and reducing intrusive parenting behaviors (Dozier, Meade, & Bernard, 2013). Specifically, the ABC model centers around three core areas of support through live coaching. These three areas include: (a) providing nurturance to the child in times of distress, (b) following the lead of the child, and (c) eliminating behaviors that are frightful to the child. Research indicates that the ABC model is effective at enhancing parental sensitivity, children's attachment, children's biobehavioral regulatory capacity (Dozier & Bernard, 2017) and parental responsiveness to infants (Bick & Dozier, 2013).

NFP is a home-based parenting program focused on supporting first-time mothers early in their pregnancy throughout the

first year of their child's life. The NFP program is administered by nurses and centers on three goals: (a) improving prenatal health to positively influence birth outcomes, (b) improving parental care through supporting sensitive and proficient care of the child, and (c) improving parental life outcomes through family planning, educational goal attainment, and supporting parental employment (Olds, 2006). Research regarding the effectiveness of NFP has indicated improved prenatal care of the child as seen through decreased injuries, improved emotional and language development, increased parental pregnancy planning, and increased economic self-sufficiency (Eckenrode et al., 2017; Olds, 2006).

The PAT program is based on the belief that parents are the child's first and arguably the most influential teachers of the child (Zigler, Pfannenstiel, & Seitz, 2008). It involves home visits conducted by parent educators and is focused on supporting parents in strengthening their parenting skills, increasing child development knowledge, and preparing young children for school (Wagner & Clayton, 1999). The program enrolls families with children from birth to up to three years of age, with parent educators working with families until the child is up to five years of age. The PAT program focuses on teaching families principles based on child development, positive modeling through activities, and promoting access to resources and supports. Research has indicated that the PAT program improves school readiness through improved parenting practices, increased reading to the child, and an improved likelihood that families will enroll the child in a preschool program (Pfannenstiel, Seitz, & Zigler, 2002; Zigler et al., 2008).

The SC program is an evidence-based parenting program designed to support high-risk families and reduce child abuse and neglect (Lutzker & Bigelow, 2002). SC focuses on the family ecology in which child maltreatment transpires through understanding that maltreatment occurs from multiple factors including parental dynamics, interactions between the parent and child, family influences, and other factors related to society and culture (Dore & Lee, 1999). The SC model focuses on key areas including: (a) child safety specific to home hazards and cleanliness, (b) child health through effective healthcare decision making, and (c) improvement of parent-infant and Parent×Child interactions. Research has shown significant improvements in key areas of child health, home safety, and Parent×Child interaction (Gershater-Molko, Lutzker, & Wesch, 2003) and reduction in child maltreatment recidivism (Chaffin, Hecht, Bard, Silovsky, & Beasley, 2012).

Although home-based parenting programs can be focused on a variety of key areas, the common theme is providing family support to reduce negative child and family outcomes. Further, home-based programs increase family engagement through providing services in the comfort and familiarity of the family home.

Center or group-based interventions

A number of center and group-based interventions have been designed to support young children and families, reducing early adversity and improving optimal child development. Circle of Security (COS) is an early intervention based on decades of attachment research. COS was created with the goal of positively influencing insecure and disorganized attachment styles in young children (Cooper, Hoffman, Powell, & Marvin, 2005; Marvin, Cooper, Hoffman, & Powell, 2002). The 20-week version of the COS program is a group-based intervention that focuses on

providing parent education and therapy based on attachment theory. Specifically, the COS program introduces attachment theory, and parents watch video clips of their children in the Strange Situation to allow parents to reflect on their caregiving approach. Research has supported that the COS intervention positively influences insecure attachment patterns among toddlers (Hoffman, Marvin, Cooper, & Powell, 2006), increases maternal sensitivity (Cassidy et al., 2010), and improves child attachment security (Yaholkoski, Hurl, & Theule, 2016).

The Incredible Years (IY) program is designed to be utilized by parents and teachers to work toward reducing challenging child behaviors and increasing social emotional growth and self-control. The IY program specifically works to support children in regulating emotions, improving social skills, and improving academic success (Webster-Stratton, 2000). Within a group setting, key intervention areas focus on setting goals, utilizing role play and self-reflection, receiving feedback from facilitators, and home or classroom activities to support positive outcomes. In terms of effectiveness, the IY program has been recognized by the Office of Juvenile Justice and Delinquency Prevention as an effective conduct disorder prevention and treatment program for young children (Webster-Stratton, 2000).

The CDC's *Legacy for Children*TM is an excellent example of a program that supports the development of the whole child by assisting mothers and infants living in poverty. Legacy is a group-based parenting program that targets sensitive and responsive parenting, nurturing caregiving, and maternal self-efficacy. Social support is a key component of Legacy and is accomplished through peer and group leader support. Mothers are empowered to help one another by giving advice and providing support outside of the meetings. Groups targeting similar-aged children start during pregnancy or infancy and can last until children are 3 or 5 years old, depending on the curricula (see Robinson et al., 2018). Legacy is built on a public health model that views parents as children's front-line public health workers. The focus is on preventing problems among children at risk due to poverty, and group interactions and lessons are ideal for modeling nurturing behavior and early learning through opportunities for play and social interaction (Morris et al., 2017). Evidence for the effectiveness of Legacy is strong. A randomized control trial found positive gains in socio-emotional and cognitive domains 3 to 6 years post-intervention (Perou et al., 2012). Group-based interventions such as Legacy, COS, and IY are often conducted at Head Start and Early Head Start Centers. Legacy groups specifically are often held in community-focused organizations such as Catholic Charities and pediatricians' offices (Robinson et al., 2018).

Multilevel Interventions and Integrative Models

In a model that we developed for a special issue in *Child Development* on maximizing resilience among children at risk for maladjustment (Luthar & Eisenberg, 2017), we argue that promoting nurturing relationships through early intervention efforts is a key leverage point for change (Morris et al., 2017). In this model, the Building Early Relationships Model of Change (see Figure 2), we illustrate how family, parent, and child characteristics influence intervention implementation and subsequent parent and child outcomes through two primary mechanisms: (a) strengthening social support, and (b) increasing positive Parent \times Child interactions. Specifically, we argue that there is ample scientific evidence to indicate that programs that promote supportive and nurturing relationships between caregivers and

children, and caregivers and other adults (e.g., group leaders, mental health advocates) influence both parents' and children's physical and mental health outcomes overtime (Morris et al., 2017). Programs that target social support can help mothers with basic caregiving needs and can empower mothers to be role models and give advice to their peers. This type of support is greatly needed in many communities where mothers are isolated and lack necessary social and material supports for basic caregiving (see Luthar & Ciciolla, 2015; Luthar, Curlee, Tye, Engelman, & Stonnington, 2017). The programs described above are examples of interventions that target these two mechanisms, all with a dual-generation focus. We next discuss an example of an integrated intervention that brought together experts across disciplines to target multiple systems of care for young children.

Tulsa Children's Project

Since its inception in the 1960s, Head Start has held fast the importance of nurturing parents as well as children. The Tulsa Children's Project (TCP) was designed, implemented, and evaluated as a highly integrated set of interventions to reduce the effects of adversity and poverty on the development of young children enrolled in the three Tulsa Educare sites (Hays-Grudo, Slocum, Root, Bosler, & Morris, 2018). Beginning in the late 2000s as a collaboration between Harvard's Center for the Developing Child, Tulsa-based researchers at OSU-Tulsa and OU-Tulsa, community partners at Tulsa Educare, and the George Kaiser Family Foundation, the multiyear project focused on increasing access to resources and strengthening relationships between parents, teachers, and staff. The TCP model included multiple components: a workforce training program for parents, curriculum and classroom support for teachers, and health promoting activities for families and staff. Enhancing mental health was woven throughout each of the components and provided a common theme.

The most intensive program for parents was a menu of workforce training programs known as *EduCareers*. Options for parents ranged from English-language learning classes and Graduate Equivalency Degree (GED) preparation to nursing coursework, and all included financial support for tuition, books, fees, and other expenses; life-skills training; and social support groups. Parents in the nurse training program were successful in completing the 15-week coursework and passing exams to become certified nursing assistants (CNAs). However, the success rate for those who elected to continue with Licensed Practical Nurse training was less than 20%, even with increased tutoring and other support. Conversations with participants revealed difficulties related to executive function skills, which hindered retention of information, effective planning and problem-solving, and the management of stress and negative emotions. Based on these observations and more structured assessments of executive functioning, ACEs, and current levels of stress and adversity, additional programming was added to address the cognitive and socioemotional deficits associated with parents' own histories of abuse, neglect, and family dysfunction. These interventions included Mindfulness Based Stress Reduction (MBSR) which has been shown to have positive effects on brain regions associated with memory and self-regulation (Hölzel et al., 2010; Short, Mazmanian, Oinonen, & Mushquash, 2016). Follow-up data documented significant gains in mindfulness, self-compassion, and perceived stress (Hays-Grudo et al., 2018).

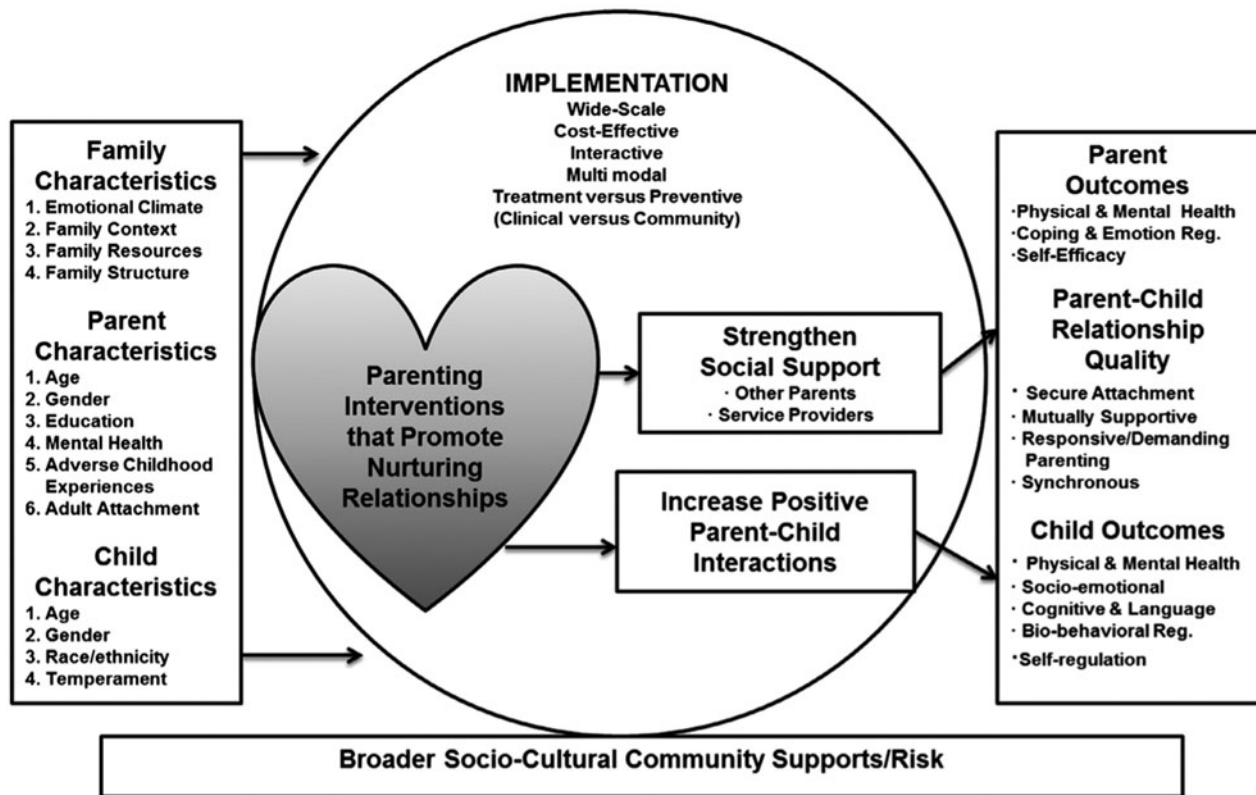


Figure 2. Building early relationships model of change (Morris et al., 2017).

Data collected from a larger sample of Educare parents also supported the need for acknowledging and addressing parents' own history of trauma and adversity when attempting to improve children's outcomes in early childhood settings. In this study, parents completed a family health and stress survey and provided consent for the collection of salivary cortisol from children after morning drop-off and prior to afternoon pick-up ($n=200$; $M_{\text{age}}=2.57$ years; $SD=1.13$; range = 2 months to 5 years). The sample of children reflected the diversity of the Educare population (47% Latinx, 30% African American, 14% Caucasian, 9% other or multiple races/ethnicities). Based on previous research showing the effects of early life stress on the HPA axis (Loman & Gunnar, 2010), we hypothesized that parents with higher ACE scores would exhibit more mental health symptoms, report more parent-child conflict, and have children with dysregulated cortisol patterns (Miller, Chen, & Zhou, 2007). As expected, parent ACE scores were positively correlated with their depressive symptoms and perceived stress, but not with parent-child conflict. However, structural equation modeling revealed that parents with higher ACE scores reported more depressive symptoms and current stress, both of which positively predicted parent-child conflict, which predicted the flatter cortisol slopes from morning to afternoon (Hays-Grudo et al., 2016), a pattern often observed in children with histories of trauma (Bernard, Dozier, Bick, & Gordon, 2015). These data provide evidence that helping parents recover from childhood trauma is likely to yield benefits to the parent in terms of reduced mental health symptomatology, and that decreasing conflict in the parent-child relationship is key to reducing the biobehavioral dysregulation of stress associated with adversity.

The Tulsa Children's Project achieved its best results for children, parents, and teachers when each group was actively engaged in the process with researchers and interventionists from many institutions and disciplines (Hays-Grudo et al., 2018). The cultural and conceptual divides were not always easily bridged, sometimes creating conflict and confusion. However, those very conflicts provided the source for new insights into the process of applying research-driven knowledge while simultaneously listening to and learning from the parents and teachers engaged in the very real struggle to access and provide to children the nurturing relationships and resources necessary to survive and thrive in challenging environments.

Adopting a listening, reflective, relationship-building approach is precisely how researchers and clinicians alike can more meaningfully and respectfully help families and caregivers in a wide array of community environments. In a recent review of the many evidence-based interventions for high-risk youth and families, two essential elements distinguished programs that increased children's ability to rise above conditions of adversity: psychological and emotional support for their caregivers and programs that address specific dysfunctional parenting behaviors (Luthar & Eisenberg, 2017). These themes are also consistent with the evidence-based programs identified in the recent National Research Council of the National Academies of Sciences, Engineering, and Medicine report on addressing adversity across a number of service sectors that help children and families (National Research Council, 2019). It is increasingly clear that the antidote to the toxic stress of ACEs is having the unconditional love of nurturing and responsive adults (Chen, Miller, Kober, & Cole, 2010; Coatsworth et al., 2015; Morris et al.,

2018). For parents with a history of trauma in their own childhoods, however, this is often a challenging task requiring the assistance and support of professionals and the community of caregivers, as we saw in the Tulsa Children's Project.

Becoming a Child-Oriented Society – “Are we there yet?”

In this paper, we presented two models that we believe hold promise for thinking about the future of research and intervention programming with young children and families. In the PACEs Heart Model, we illustrated how PACEs can counteract the negative impact of ACEs across development, emphasizing the need for nurturing relationships and enriching experiences to promote optimal child development across domains. In the Building Early Relationships Model of Change we described how improving nurturing relationships (by increasing positive Parent × Child interactions and social support for caregivers) can lead to positive outcomes among young children and parents living in poverty. We also presented examples of interventions that support these models and align with a public health perspective of improving the lives of children through scalable, multilevel, wide-reaching prevention efforts across communities in need (see Morris et al., 2017). Over the last several decades, we have certainly made progress in understanding *how* to best help children and families, but we still have a long way to go before our knowledge is actually used to reach all children and families in need.

In 1976, Zigler wrote in the *New York Times* that “the single greatest impediment to improving the lives of America's children is the myth that the United States is a child-oriented society.” He listed a “litany of national failures” and “massive shortcomings in regard to children” that included lack of access to prenatal and pediatric care, child hunger, school systems more focused on warehousing and punishing children than educating and inspiring them, and a welfare system that lacked the resources to help parents learn to parent and keep their children safely within the family. The lack of quality daycare was identified as a problem for millions of families who had few options other than leaving children alone and unattended, with older siblings, or in poor-quality settings.

In reading this indictment of 20th-century America's unwillingness to make meaningful investments in children, one is struck by the similarity to the challenges facing 21st-century children and families. The effects of the coronavirus pandemic and associated hardships that have stemmed from the mandates to quarantine children and nonessential workers, including social isolation, job losses, and the economic collapse of many service industries, have magnified the difficulties experienced by low- to middle-income American families. As we write this, millions of parents are without work, wondering how they will house and feed their children as the social and economic safety net woven for less urgent conditions begins to unravel. Millions more are faced with the choice of sending children to schools (many already overcrowded) that were not designed for physically distancing students, teachers, and staff, or trying to become teachers themselves while juggling their own work demands. Affordable, safe, and quality childcare is an urgent and unmet need for millions of families. Lack of access to medical care continues to be an issue, as the pandemic increasingly overwhelms state and local medical systems. It is not surprising that deaths due to COVID-19 have disproportionately affected racial and ethnic minority individuals, who are more likely to have comorbid conditions, such as diabetes, hypertension, obesity; live in more

crowded conditions; lack access to testing or health care; and be employed in jobs without paid sick leave (Hooper, Nápoles, & Pérez-Stable, 2020; Millett et al., 2020). The social isolation and economic hardships resulting from the pandemic have also increased rates of parental mental health problems and substance use, which are likely to result in increased rates of family violence, child abuse, and neglect (Humphreys, Myint, & Zeanah, 2020). The coronavirus pandemic has exposed the cracks in the foundations of the institutions charged with helping families raise the next generation.

Yet, in spite of the historical and current lack of investments our society has made to ensure that its youngest citizens survive and thrive in spite of adversity, like Ed Zigler, we remain optimistic. We believe that change is possible and may be within our grasp. Cultural norms and attitudes are shifting, as evidenced by majority support for the Black Lives Matter movement and universal health care. As more public discourse and policies reflect the need to end institutionalized racism, opportunities increase to address human rights violations that affect children and families who have been denied basic opportunities because of race, ethnicity, sexual orientation, religion, disabilities, or gender. As recognition dawns that society as a whole, including its more affluent members, suffers when a large proportion of that society is denied access to care, popular support increases for funding of mental health, childcare, schools, and other safety net supports. COVID-19, like disasters and adverse events in the past, is drawing attention to the necessity of the social connections and institutional systems that support our children and families (Masten & Motti-Stefanidi, 2020). As we strive to respond to the challenges facing families today, we draw courage from Zigler's unstinting advocacy and tireless perseverance to improve the lives of children.

Acknowledgment. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Financial Statement. Research reported in this publication was supported by the National Institute of General Medical Sciences of the National Institutes of Health (JH-G, grant number P20GM109097) and the National Institute on Drug Abuse (ASM, grant number R34DA050343-01S2).

Conflicts of Interest. None.

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