

When Brain Science Meets Public Policy:

Strategies for Building Executive Function Skills in the Early Years

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INSTITUTE for CHILD SUCCESS

Scientific advances over the past decade confirm how critical a child's first five years are to health, well-being and early school success. This is when a child's brain is growing at the fastest rate and in the most extraordinary ways. One key area of growth during this period—executive functioning and self-regulatory skills—sets the stage for subsequent learning and successful adult outcomes.

From governors' offices and legislative office buildings to the halls of academia and classrooms for children and adults, interest in the development of executive function and self-regulation skills is increasing dramatically. This white paper explores the development of these critical life management skills, identifies evidence-based and promising practices that foster them, and suggests four strategic opportunities for policy makers.

(what are executive function and self-regulatory skills?)

With technology that enables scientists to literally “look into the brain”¹ coupled with advances in genomic research,² the study of brain architecture and function has increased dramatically over the past two decades. In the public policy arena, interest in brain development has recently focused on executive functioning skills that enable *adults* to secure work and perform successfully and earn their way out of poverty, *adolescents* to make better decisions about their behaviors, and *children* to be able to follow directions and focus, take turns, and regulate their youthful impulses in preschool, kindergarten, and elementary school classrooms.

Researchers at the Building Blocks of Cognition Laboratory³, led by neuroscientist Sylvia Bunge, University of California, Berkeley, describe three core *adult* executive function skills needed to get and keep employment, manage household finances, and care for children.⁴

1 The PET Scan: A New Window into the Brain, *Brain & Mind: Electronic Magazine on Neuroscience*, 1997. Retrieved January 3, 2015. Online at -- www.cerebromente.org.br/n01/pet/pet.htm

2 Early Experiences Can Alter Gene Expression and Affect Long-Term Development: Working Paper #10, Center on the Developing Child, Harvard University, 2010. Retrieved December 26, 2014. Online at -- developingchild.harvard.edu/resources/reports_and_working_papers/working_papers/wp10/

3 Online at -- bungelab.berkeley.edu

4 Bunge, S. Adult Executive Function Skill Development, Harvard Center on the Developing Child, May 2014. Retrieved December 26, 2014. Online at -- www.buildingbetterprograms.org/wp-content/uploads/2014/05/2014-05-14-EFSeries-CBPP-BungePresentation.pdf

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(by)

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- **PLANNING** involves identifying longer-term goals, likely obstacles and possible solutions, the steps needed to achieve these goals, and the timelines for action. Concrete examples of planning include creating a family budget, making arrangements for child care, or identifying the steps needed to complete job application.
- **MONITORING** involves “moment-by-moment awareness” of thoughts, feelings, behavior, performance and process, context and the behavior of others. Examples include asking one’s self the following kinds of questions: “How well am I doing? Is my behavior appropriate in this setting? What is she thinking?”
- **SELF-CONTROL** involves managing one’s feelings, thoughts and behaviors. Examples include “...not getting distracted from a goal, not making an impulse purchase, not getting angry.”⁵

Scientists affiliated with the Harvard University Center on the Developing Child⁶ describe executive functioning as similar to managing air traffic at a busy airport. “Just as an air traffic control system at a busy airport manages the arrivals and departures of many aircraft on multiple runways, executive function skills allow us to retain and work with information in our brains, focus our attention, filter distractions, and switch mental gears.” These are not skills we are born with; they develop over time. “The process is a slow one that begins in infancy, continues into early adulthood, and is shaped by our experiences.”⁷

For many of us, these seem like common sense, everyday abilities that, in fact, we often take for granted -- until and unless they are not present or they are not working well.

While some individuals may be born with executive function challenges, impairment may also be caused by damage to the brain as children or adults.⁸ To better understand these complex brain processes and help policy makers plan for more effective service delivery, research has focused on the role of executive functioning

Three Basic Dimensions of Executive Function and Self-Regulation Skills

Working Memory:

The ability to hold information in mind and use it

Inhibitory Control:

The ability to master thoughts and impulses so as to resist temptations, distractions, and habits, and to pause and think before acting

Cognitive Flexibility:

The capacity to switch gears and adjust to changing demands, priorities or perspectives.

**Center on the Developing Child,
2011—2014**

⁵ *Ibid*, pp. 2-3

⁶ Harvard Center on the Developing Child, online at -- developingchild.harvard.edu

⁷ Building the Brain’s “Air Traffic Control” System: How Early Experiences Shape the Development of Executive Function. Working Paper #14. Harvard Center on the Developing Child, April 2011, p.4. Retrieved December 27, 2014. Online at -- developingchild.harvard.edu/resources/reports_and_working_papers/working_papers/wp11/

⁸ What is Executive Function? ADD & ADHD Health Center, undated. Retrieved December 29, 2014. Online at -- www.webmd.com

with adults experiencing Alzheimer's or dementia,⁹ veterans with Post Traumatic Stress Disorder,¹⁰ and children and adults with Attention Deficit Hyperactivity Disorder.¹¹ Studies are also examining the impact of trauma, toxic stress, and adversity (including chronic poverty) on executive function skills in the everyday lives and learning of both children and adults.¹²

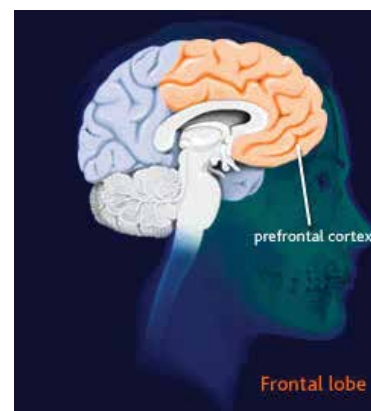
(the developmental course of executive function and self-regulatory skills)

The part of the human brain that serves as the hub for executive functioning and self-regulation is the prefrontal cortex. Put your hand across your forehead and you will have located it. In its widely cited 2011 working paper entitled "Building the Brain's "Air Traffic Control System,"¹³ the Center on the Developing Child reports that "...rudimentary signs of these capacities emerge toward the end of the first year of life."

"By age three, most children can organize themselves to complete tasks that involve two rules, thus showing that they can direct and re-direct their attention to make deliberate choices (mental flexibility), maintain focus in the face of distractions (inhibitory control), and hold rules 'on line' as they figure things out (working memory)..."

"Older preschoolers are capable of conscious problem-solving that involves the ability to shift their attention from one rule to another that is incompatible with the first, and then back again...They also have the capacity to inhibit responses that are inappropriate even if they are highly desirable...or habitual...and to execute multi-step, deliberate plans."

"By age seven, some of the capabilities and brain circuits are remarkably similar to those found in adults. Once these foundational capacities for directing attention, keeping rules in mind, controlling impulses, and enacting plans are in place, the subsequent developmental tasks of refining them and learning to deploy them more efficiently can proceed into the adolescent and early adult years as tasks grow increasingly complicated and challenging."¹⁴



www.brainexplorer.org



9 McGuinness, B., Barrett, S., Craig, D., Lawson, J. & Passmore, A. Executive functioning in Alzheimer's disease and vascular dementia, June 2010, pp. 562-68

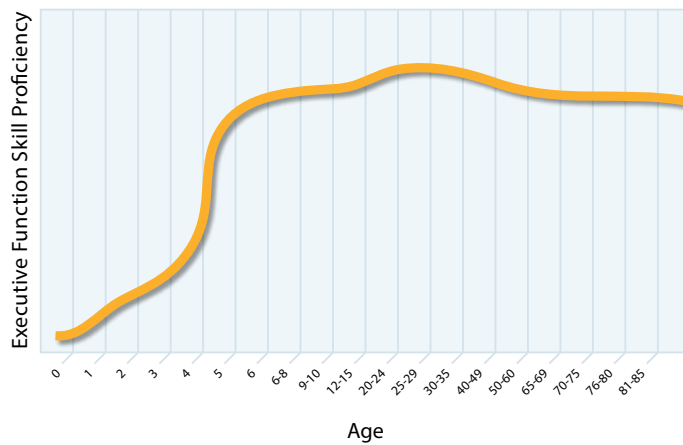
10 Polak, A.R, Witteveen, A., Reitsma, J. & Olf, M. The role of executive function in posttraumatic stress disorder: a systematic review. *Journal of Affective Disorders*, December 2012, pp 11-21

11 What is Executive Function? National Resource Center on AD/HD, undated. Retrieved January 3, 2014 from www.help4adhd.org/faq.cfm?fid=40&tid=7&varLang=en

12 Building the Brain's "Air Traffic Control" System, op cit. For resources on the impact of trauma on child and adolescent development and functioning, see also the National Child Traumatic Stress Network, online at -- www.nctsn.org

13 *Ibid*

14 *Ibid*



Key Concepts: Executive Function
Center on the Developing Child

Importantly, the early growth of executive function and self-regulation skills can be promoted by parents and other caregivers including child care providers and preschool through middle-school teachers. The Center recently published a guide entitled “Enhancing and Practicing Executive Function Skills with Children from Infancy to Adolescence.”¹⁵ This free resource outlines a series of activities, organized according to five age ranges (6-18 months, 18-36 months, 3-5 years, 5-7 years, and 7-12 years), known to promote executive function and self-regulation skills for young and middle-school aged children.

In the teen years, while judgment and decision-making skills are growing rapidly, adolescent behavior is also often impacted by dramatic hormone changes, stressful life experiences, and a still-developing emotional impulse system. Thus, while parents often observe adolescent behavior and ask “What was he (or she) thinking?” the National Institute of Mental Health describes the teenage brain as “still under construction” because the parts of the brain responsible for increasingly “...top-down control, controlling impulses, and planning ahead — the hallmarks of adult behavior — are among the last to mature.”¹⁶ In fact, full development of executive function and self-regulation skills may not appear until ages of 25-30.

(the critical role of first caregivers: the new three R’s)

SERVE AND RETURN. From the moment of birth, young children’s brains develop within the context of reciprocal, responsive relationships with their primary caregivers. Much developmental literature now refers to this as “serve and return,” terminology coined by the Harvard Center on the Developing Child.¹⁷ For the child and caregiver, serve and return behavior “...continues back and forth like a game of tennis or volleyball. If the responses are unreliable, inappropriate, or simply absent, the developing architecture of the brain may be disrupted, and later learning, behavior, and health may be impaired.”¹⁸

For most children, primary caregivers will include parents and other kin (especially grandparents), as well as family child-care providers both licensed and informal. As children enter toddlerhood and the preschool years, center-based child care professionals and teachers often assume a larger caregiving role, and for children removed from their families for substantiated neglect, foster parents become the primary caregivers. For each of these groups of caregivers, the “3 R’s” remain essential to brain development: reciprocal, responsive relationships.

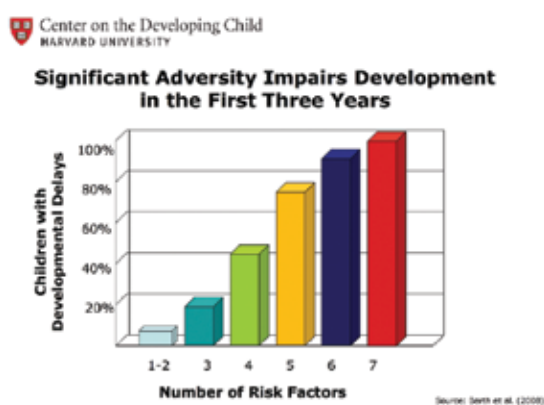
¹⁵ Enhancing and Practicing Executive Function Skills with Children from Infancy to Adolescence, Harvard Center on the Developing Child, undated. Retrieved December 30, 2014 at -- developingchild.harvard.edu/resources/tools_and_guides/enhancing_and_practicing_executive_function_skills_with_children

¹⁶ The Teen Brain: Still Under Construction, National Institute for Mental Health, undated. Retrieved December 30, 2014 from www.nimh.nih.gov/health/publications/the-teen-brain-still-under-construction/index.shtml

¹⁷ Key Concepts: Serve and Return, Harvard Center on the Developing Child, undated. Retrieved January 10, 2015. Online at -- developingchild.harvard.edu/key_concepts/serve_and_return/

¹⁸ The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain. Working Paper #12. Harvard Center on the Developing Child, 2012, p.1. Online at -- p. 1

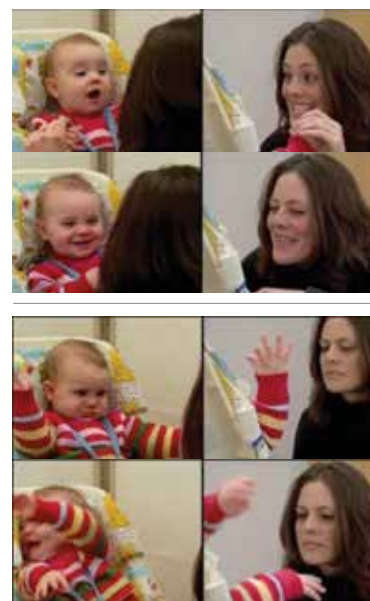
One example of a promising new approach to building adult caregiver capacity among family child-care providers is All Our Kin.¹⁹ This promising program works with unlicensed family child-care providers in Connecticut to improve quality, advance their capacity as small businesses, and bolster the development of vulnerable young children in their care. This program design includes “high touch” mentoring and professional development for the workforce, including educational, advocacy, and leadership opportunities – within an explicit focus on expanding executive function skills in this critical group of adult caregivers. The work of All Our Kin was recently described in a Center on the Developing Child video entitled “Innovation in Action: Building the Capabilities of Home-Based Child Care Providers.”²⁰



ADVERSE EXPERIENCES. While brain development is a natural and sturdy process for many children, early adverse experiences can slow or derail this critical progress. These circumstances are variously called toxic stress, trauma, and Adverse Childhood Experiences (ACEs). They can include maternal health and mental health challenges, especially depression during pregnancy and immediately after, intergenerational poverty, single parenthood when living with inadequate economic resources, abuse and/or neglect, adult substance abuse, domestic violence, death, or incarceration of a primary caregiver.²¹

The cumulative impact of these experiences can lead to significant health and mental-health problems over an individual’s lifetime. It is especially troublesome in the first three years of life when the brain is growing the fastest and executive-function and self-regulation skills begin to appear. As exposure to these risks increases, the likelihood of developmental delays in the first three years of life grows dramatically. More than three-quarters of youngsters ages birth to three who experience five or more risk factors experience developmental delays.²²

THE STILL FACE EXPERIMENT. A compelling study of one of these adverse experiences was conducted by Massachusetts professor Edward Tronick, simulating conditions of maternal depression. In the Still Face experiment, an infant expecting her mother to engage in her normally responsive manner displays great distress as the mother simply sits impassively in front of the child. The baby uses all of her young vocal and



The Still Face Experiment
Edward Tronick

¹⁹ All Our Kin online at -- www.allourkin.org/

²⁰ Innovation in Action: Building the Capabilities of Home-Based Child Care Providers, Harvard Center on the Developing Child, 2013. Online at -- developingchild.harvard.edu/resources/stories_from_the_field/innovation_in_action/building_the_capabilities_of_providers

²¹ See the Adverse Childhood Experiences (ACEs), online at -- www.acestudy.org. See also “Early Childhood Program Effectiveness InBrief,” Harvard Center on the Developing Child, undated. Retrieved January 11, 2015. Online at -- developingchild.harvard.edu/index.php/resources/briefs/inbrief_series/inbrief_program_effectiveness/

²² This slide from the Center for the Developing Child was part of the Early Brain and Child Development presentation by the American Academy of Pediatrics, op cit.

body skills to re-engage the mother, and becomes increasingly and dramatically upset when the mother does not respond. Tronick posted a short video of the Still Face experiment on YouTube in 2009.²³ Since then, the video has had over 2.5 million views.

CHILD WELFARE IMPLICATIONS. The lack of maternal responsiveness and its impact as revealed in the Still Face experiment is particularly relevant to the field of child welfare where referrals for neglect greatly outnumber referrals for abuse. Examining this critical issue in its 2012 working paper “The Science of Neglect: The Pervasive Absence of Responsive Care Disrupts the Developing Brain,”²⁴ the Harvard Center on the Developing Child worries that child welfare agencies have “...relatively limited capacity to address the developmental needs of young children who have experienced reportable neglect.”²⁵



InBrief: The Science of Neglect
Harvard University

The Center’s materials describe the explicit relationship between chronic, serious neglect and children’s developing cognitive abilities. Children who “...have experienced serious levels of deprivation—whether in

homes, foster care, or institutions—tend to struggle with the demands of regulating attention. They are more frequently rated as inattentive and hyperactive by both their parents and teachers...Children who experienced serious deprivation in the first few years of life display greater problems in executive function during middle childhood.”^{26 27}

Importantly, another body of research has revealed a set of place-based “protective factors” shown to buffer the impact of trauma and adverse experiences for young children and reduce the need for child welfare intervention. These include parental resilience, adult social support networks, concrete supports (like food, housing and even diapers), caregiver knowledge of child development and parenting strategies that are effective in crisis situations, strong emotional ties and a positive attachment between children and their caregivers. A large group of states, including South Carolina through the Children’s Trust of South Carolina,²⁸ are members of the Strengthening Families National Network²⁹ and are testing and implementing effective strategies to promote the development of these protective factors at the community level.

Taken together, even this brief look at the role of primary caregivers in the lives of very young children reveals their critical role in children’s neurological development, including the early foundation for executive function and self-regulation skills. Within the context of adult caregiver capacity, three populations are identified on whom policy attention should be focused: parental caregivers, child care providers for infants and toddlers, and the child welfare workforce serving young children referred for neglect.

23 The Still Face Experiment, online at -- www.youtube.com/watch?v=apzXGEbZht0

24 The Science of Neglect: The Persistent Absence of Responsive Care Disrupts the Developing Brain, Working Paper #12, Harvard Center on the Developing Child, 2012. Retrieved January 2, 2015. Online at -- developingchild.harvard.edu/resources/reports_and_working_papers/working_papers/wp12/

25 The Science of Neglect, op cit., p.10

26 *Ibid*, pp.7-8

27 See the video presentation on The Science of Neglect, Harvard Center on the Developing Child. Online at -- developingchild.harvard.edu/resources/multimedia/videos/inbrief_series/inbrief_neglect/

28 Children’s Trust of South Carolina online at -- www.scchildren.org/

29 Strengthening Families National Network online at -- htwww.cssp.org/reform/strengtheningfamilies

(opportunities for public policy makers)

Many opportunities exist today for public policy makers and influencers to promote strategies and investments that have a good likelihood of improving early childhood health, learning, safety, and readiness for early school success. Key stakeholders within the field of public policy include state legislators, city council members, state executive branch agency heads, foundations, and advocates. Four opportunities are briefly presented below along with the identification of resources helpful to the further consideration of each.

- ☑ Adopt a two-generation approach to policy and practice
- ☑ Employ place-based, public-private strategies and tools to identify and direct resources to neighborhoods and municipalities with significant populations of vulnerable young children and families
- ☑ Promote the expansion of early developmental screening, practices, and interventions that identify health, mental health and behavioral problems early and support the development of early executive function and self-regulation skills
- ☑ Expand investment in programs and practices that strengthen adult caregiver capacity

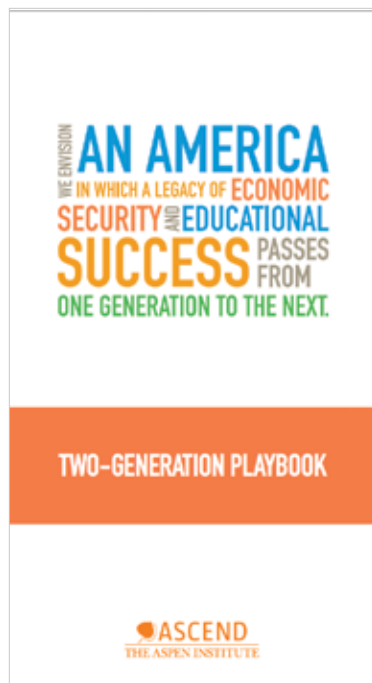
A Two-Generation Approach to Policy

Two-generation approaches focus on assuring that high-quality supports and services for vulnerable young children and their parents (usually their mothers living in single parent households) are provided to the child-parent dyad *together*. As we have seen earlier in this policy brief, the serve and return relationship – so essential to early and later brain functioning – is anchored in the adult-child dyad. Thus, figuring out how best to serve children and their parents, *together*, is a core opportunity if we want to strengthen executive function and self-regulation skills of each.

Attention to two-generation strategies is not new. In fact, its roots in America go back to the settlement house movement at the turn of the 19th century when immigrant families were helped to assimilate into American society and escape poverty. Head Start, launched five decades ago in 1965, and Early Head Start established two decades ago in 1994 are more recent examples of an intentional, federal two-generation approach to jointly improving child outcomes and family well-being.³⁰ Over the past three years, the philanthropic, academic, and national advocacy sectors have re-focused their efforts to learn what works in the “two-generation space” and to support the expansion of effective two-generation approaches.³¹

30 Gruendel, J. Two (or More) Generation Frameworks: A Look Within and Across, March 2014. Online at -- www.buinditiative.org/Portals/0/Uploads/Documents/Two-or-More-Generation-Frameworks_A-Look-Across-and-Within.pdf

31 Gruendel, J. Designing for Innovation in the Two-Generation Space. Policy and Practice, American Public Human Service Administration, December 2014.



Leaders in this effort include the Annie E. Casey Foundation³² and Ascend at the Aspen Institute,³³ both of which have significant resources online. The Brookings Institution and Princeton University dedicated the entire 2014 issue of the *Future of Children* to a review of research on strategies likely to advance adult caregiver capacity and young children’s development.³⁴ This report, entitled “Helping Children, Helping Parents: Two-Generation Mechanisms” is a must read for state agency heads expending funds to support families.

A useful resource for state policy leaders was recently published by the Foundation for Child Development entitled, “Promoting Two-Generation Strategies: A Getting Started Guide for State and Local Policy Makers.”³⁵ This report charts a series of two-generation *system improvements* that could advance program effectiveness for serving adults and children together. These include a supportive policy framework, program administration and leadership, an evidence-based culture, and integrated and flexible funding streams.

Also at the state policy level, the Connecticut General Assembly established a Two-Generational Policy Workgroup in 2014 requiring the legislature’s Commission on Children to “...establish a two-generational school readiness plan to promote long-term learning and economic success for low-income families by addressing intergenerational barriers to school readiness and workforce readiness with high-quality preschool, intensified workforce training and targeted education, coupled with related support services.” A report to the joint standing committees of the Connecticut General Assembly having responsibility over children’s issues, education, workforce development and appropriations is expected by the end of January 2015 and will be accessible online.³⁶

Taken together, these resources suggest a growing belief that policies, practices, and programs employing a whole family, or two-generation approach, will result in improved adult and child overall health and learning by addressing adversity and focusing on the parent-child caregiving context for families with young children.

32 Creating Opportunity for Families: A Two-Generation Approach. A Kids Count Policy Report, Annie E. Casey Foundation, 2014. Online at --www.aecf.org/m/resourcedoc/aecf-CreatingOpportunityforFamilies-2014.pdf. See also Learn More: A Collection of Resources on Two-Generation Approaches, November 2014. Online at -- www.aecf.org/blog/learn-more-a-collection-of-resources-on-two-generation-approaches

33 The Two-Generation Approach, Ascend at the Aspen Institute. Online at -- ascend.aspeninstitute.org/pages/the-two-generation-approach

34 Helping Children, Helping Parents: Two-Generation Mechanisms, *Future of Children*, The Brookings Institution and the Princeton University, Spring 2014. Online at -- futureofchildren.org/publications/journals/journal_details/index.xml?journalid=81

35 King, C., Coffey, R. & Smith, T. Promoting Two-Generation Strategies: A Getting Started Guide for State and Local Policy Makers, Foundation for Child Development and the Ray Marshall Center, University of Texas at Austin, November 2013. Online at -- fcd-us.org/sites/default/files/Dual-Gen%20Getting%20Started%20Guide.pdf

36 Two-Generational Policy Workgroup, Commission on Children, 2013. Retrieved January 3, 2015. Online at -- www.cga.ct.gov/coc/two-generation.htm

Public-Private Place-Based Strategies and Tools

Another area for policymaker attention and investment is at the local level. Called a “place-based” approach, this requires access to or the development of community-level data on needs and assets related to family and child well-being and age-appropriate development. One effort that is expanding across the nation and around the world is led by the Transforming Early Childhood Community Systems (TECCS) initiative, a partnership between the United Way Worldwide and the Center for Healthier Children, Families and Communities at the University of California Los Angeles.³⁷ This initiative is supported by the W.K. Kellogg Foundation and First Five LA and is expanding from five to 30 California communities.

The purpose of this work is to “...collect and map the school readiness of young children using the Early Development Instrument (EDI),” a validated, population-based measure that has been broadly used around the world.³⁸ “This community engagement tool informs local efforts to improve early childhood services and systems. Participating communities receive maps with neighborhood-level data and EDI results showing the percentage of young children vulnerable on each of 5 key developmental domains found to measure school readiness and predict later school success:

- Physical health and well-being
- Social competence
- Emotional maturity
- Language and cognitive development
- Communication skills and general knowledge.”³⁹

Another example of place-based planning, practice change and fiscal investment is the Brighter Futures Initiative sponsored and supported by the City of Hartford, Connecticut and the Hartford Foundation for Public Giving.⁴⁰ This effort employed geo-mapped data from EDI and other sources to identify and focus investments in high-need neighborhoods and elementary schools in one of this nation’s poorest mid-sized cities. Another exemplar of place-based investment is the William Caspar Graustein Memorial Fund’s Discovery Initiative, reaching 50 of Connecticut’s highest need municipalities (out of 169) with a multi-year philanthropic investment, now matched by state government, to create data-driven community-specific early childhood plans and track progress on key developmental indicators.⁴¹ In addition to advancing place-based investment design to improve early childhood knowledge and skills, these two Connecticut place-based efforts have contributed to the legislative creation of the statewide Office of Early Childhood, the expansion of preschool opportunities, the advancement of Results-Based Accountability (RBA) tools and data across jurisdictions, and a twenty-three-member early childhood funders coalition.

37 Transforming Early Childhood Community Systems, Center for Healthier, Children, Families and Communities, University of California Los Angeles. Undated. Retrieved January 2, 2015. Online at --www.healthychild.ucla.edu/ourwork/teccs

38 The Early Development Instrument Fact Sheet, undated. Retrieved on January 2, 2015. Online at -- buildingbrightfutures.org/wp-content/uploads/2012/02/EDI_Fact_Sheet.pdf

39 *Ibid*

40 Brighter Futures Initiative, Hartford Foundation for Public Giving, undated. Retrieved January 3, 2015 from -- www.hfpg.org/HowWeHelp/TargetedGrantmaking/BrighterFuturesInitiative.aspx

41 Discovery Initiative, William Caspar Graustein Memorial Fund, undated. Retrieved January 3, 2015. Online at -- discovery.wcgmf.org/

Taken together, these examples call out the need for policy makers at the state level to be engaged with their local communities for the purpose of charting and addressing family and neighborhood adverse conditions likely to impede children’s overall development and hamper or delay the emergence of executive and self-regulation skills.

Early Developmental Screening and Supports

Policy maker attention to the need for and benefits of early developmental screening is not new. The best-known (but least well implemented) exemplar of early screening is the federal Early and Periodic Screening, Diagnosis and Treatment program (EPSDT), a required part of the federal Medicaid program. Ten screenings may be billed for Medicaid eligible young children between the ages of birth and 24 months with annual screenings thereafter. Based on data submitted to the federal government for Federal Fiscal Year 2013, just two in three eligible children ages birth through age 5 in South Carolina received at least one developmental screening through EPSDT in 2013.⁴²

For parents and other key caregivers who have questions about their young children’s development, South Carolina has launched HELP ME GROW. Services available to families include an online information and referral service, developmental screening using Ages and Stages questionnaires, and referrals to community resources along with care coordination. HELP ME GROW is being implemented in 16 states and now reaches families in four South Carolina counties: Greenville, Pickens, Berkeley and Dorchester. Of note, a 2012 policy brief by the HELP ME GROW National Center reveals that significant cost savings, reduced wait times, and improved child outcomes could be achieved if states universally adopted the HELP ME GROW program design.⁴³

We know that early adversity and exposure to toxic stress in the earliest years of life can lead to lifelong problems. We also know that early intervention can prevent or remediate the consequences of adversity. The expansion of early screening is essential if we are to address challenges likely to disrupt the development of young children’s executive function and self-regulation skills.

Practices and Programs that Promote Adult Caregiver Capacity



Building Adult Capacity
Center on the Developing Child

In a short and very compelling video entitled “Building Adult Capacities to Improve Child Outcomes: A Theory of Change,”⁴⁴ scientists at the Center on the Developing Child report that simply giving adults more information about children’s development is not sufficient. Rather, a redesign of policies, program, and practices is required that both helps adults build their own executive function skills and capacity for positive caregiving *and* strengthens communities to address the root causes of toxic stress.

42 Annual EPSDT Participation Report (Form 416): South Carolina, 2013. Retrieved January 2, 2015.

43 Cost Benefits of ‘De-medicalizing’ Childhood Developmental and Behavioral Concerns: National Replication of Help Me Grow, HELP ME GROW National Center, June 2012. Online at -- www.helpmegrownational.org/includes/research/PolicyBrief_FINAL_31MAY2012.pdf

44 Building Adult Capacities to Improve Child Outcomes: A Theory of Change, Harvard Center on the Developing Child, 2013. Online at -- developingchild.harvard.edu/resources/multimedia/videos/theory_of_change/

WASHINGTON. In 2012 with the National Governors Association, the Center presented an overview entitled “Executive Function in Practice and Policy”⁴⁵ showcasing the State of Washington’s early childhood work to advance executive functioning. This work includes developmental indicators focused on executive function as part of the state’s Early Learning Guidelines. In addition, the Washington Department of Early Learning has developed and posted an online professional development module on executive function development for teachers and other professionals serving children from birth to age eight.⁴⁶

CONNECTICUT. The MOMS Partnership⁴⁷ at Yale University has combined lessons learned from interviews with nearly 2000 low-income urban mothers of young children to design neuroscience-informed community-based mental health and workforce supports. These include an evidence-based mental health intervention (Cognitive Behavioral Therapy) delivered by community “mental health ambassadors” coupled with the use of smart apps for mothers’ phones that, together, strengthen maternal executive functioning skills, reduce depression and strengthen the capacity for stress management. Early results show an increase in positive parenting and a reduction in maternal depression, both of which are expected to improve children’s outcomes and maternal executive function skills.

MASSACHUSETTS. In Massachusetts, the Crittenton Women’s Union has developed a workforce development framework anchored in the science of executive functioning to support vulnerable younger women to progress out of poverty. For Crittenton, executive function skills “...include impulse control, working memory and mental flexibility and govern such processes of strategic thinking as problem-solving, goal-setting, and goal attainment.”⁴⁸ In the Crittenton theory of change, critical domains within which executive function skills are focused include family stability and financial management as along with adult well-being, education and training, and employment and career management.

A recent white paper by the Crittenton Women’s Union entitled “Using Brain Science to Design New Pathways Out of Poverty” describes the design of its *Bridge to Self Sufficiency* framework. This framework aims to strengthen adult capacity to set goals, take real steps to achieve small successes across a set of domains essential to these goals and persist in the work of each step – all of which are essential (and often delayed or unavailable) executive function skills. Ongoing evaluation of this program reveals significant progress among its target population of low-income women participating in the program.

SOUTH CAROLINA. In South Carolina, recent efforts to advance a Pay for Success-financed expansion of the evidence-based home visiting model Nurse Family Partnerships represents a significant step forward in supporting early intervention and support services shown to have long-term positive outcomes for young children. In addition, nearly 500 South Carolina children were served through home visiting programs in 2013 through federal Maternal, Infant, and Early Childhood Home Visiting funding. This program will be reviewed by the United States Congress in 2015 for reauthorization, affording South Carolina policy makers

45 Race, A. & Szekely, A. Executive Function in Practice and Policy, Harvard Center on the Developing Child and the National Governor Association Center for Best Practices, October 2011. Retrieved December 23, 2014. Online at -- earlysuccess.org/sites/default/files/website_files/files/2012-10-2012-10-11-%202012-Race-Szekely-Alliance.pdf

46 Executive Function Professional Development Module, Department of Early Learning, State of Washington, undated. Retrieved December 26, 2014. Online at -- deltraining.com/courses/Executive_Function/content-frame.htm

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an important opportunity to impact the continuation of key federal funding to advance a program design that works to advance adult caregiver capacity and long-term child outcomes.

Taken together, these program examples provide insights and evidence that an explicit focus promoting and strengthening executive function and self-regulation skills hold the potential to advance child and family well-being, including offering new pathways out of such persistent social problems as multigenerational poverty.

“A child’s brain develops at the fastest rate and in the most extraordinary ways during the first five years of life. By strengthening critical life management skills at an early age, we have the opportunity to dramatically improve child and family well being in South Carolina and across the United States, offering new pathways out of poverty.”



– South Carolina House Representative Rita Allison,
Chairman, Education and Public Works Committee

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The Institute for Child Success is a non-profit, non-partisan research and policy organization that fosters public and private partnerships to align and improve resources for the success of young children in South Carolina and beyond. A partnership of the Children’s Hospital of the Greenville Health System and the United Way of Greenville County, ICS supports service providers, policy makers, and advocates focused on early childhood development, healthcare, and education to build a sustainable system that ensures the success of all children, pre-natal through age five.