BUILDING CHILDREN'S POTENTIAL

A Capability Investment Strategy

ARACY
Australian Research Alliance for Children & Youth
Collaboration • Evidence • Prevention

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About ARACY

The Australian Research Alliance for Children and Youth (ARACY) is a research and results-focused, apolitical organisation. We work with government, philanthropy, researchers, and those providing services to children and their families. Our aim is to help children achieve a better life. We focus on heading off problems before they arise. ARACY is unique in making the link between all areas of wellbeing for young Australians. We also forge alliances between all areas of government, policy making, research, and service delivery to address the issues young Australians face.

ARACY's work is focussed around The Nest, an evidence-based child and youth wellbeing framework developed by ARACY. The Nest presents evidence proving that, for an Australian child to truly have high wellbeing, they must be doing well in six key interlocking dimensions.

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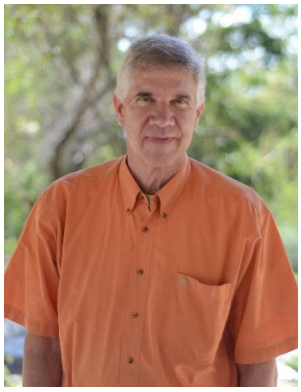
Foreword



Families, communities, and governments want their children to grow up in safe and nurturing environments and to have opportunities which afford them the best start in life. For over a decade Australian governments, institutions, and non-government organisations have been promoting a greater policy focus on, and investments in, the first years of life. “Early Years” strategies such as these have sought to provoke awareness in the importance – across the lifespan – of this opening epoch in human development. This focus has sought to achieve a greater integration of services that underpin developmental expectations and opportunities for families and their children.

Many families do know of the benefits of child development expectations and opportunities in the early years, and into adolescence. These families are earnestly pushing hard to get the best for their children. But a major challenge for policy and practice is how to inform, engage and change the situation for those sections of the population who are deeply disadvantaged and who may not know, or who are helpless, to change their circumstances to take advantage of and participate in opportunities that benefit their child’s development. How do we seek to address this?

As this ARACY policy brief demonstrates, the challenges are substantial – but they are not insurmountable nor out of reach. And the evidence makes it clear that while the early years provide a unique opportunity for effective intervention, it is never too late to invest and take action to help a young person onto a better life trajectory. The science and rationale for early and middle years strategies is well established and outlined here. A broad, evidence-based range of programs, interventions, and supporting policies and regulations exist – many of which are summarised herein. There is a fundamental appetite for greater focus on what the day-to-day practice of such strategies looks like “on the ground.”

This policy brief lays out the logic and supporting evidence to support trialling a Capabilities Investment Strategy as an integrative approach to achieve delivery of developmental expectations and opportunities for children and young people in communities characterised by deep and persistent disadvantage. Beginning within the early years of life, the Strategy detailed here, provides clarity, purpose and methods in how Australia achieves concerted progress in addressing one of its most pressing circumstances: Giving those children, young people and their families most in need, the capabilities to choose a life they value.

Australia’s national and global circumstances have rarely been as challenged as at present. A changing climate and a current pandemic threaten political, social and economic stability in the longer term. Australia’s children will be required to meet prodigious demands and to do so with accomplished capabilities. We owe it to them and to Australia to ensure that all Australian children have the opportunities to acquire skills and talents that lead to better social, civic and economic participation. This policy brief seeks to contribute and advance a strategy to increase this likelihood.

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The need for action now

This policy brief was developed on the cusp of the COVID-19 crisis, and in the wake of drought, flood, and fire disasters. These have increased disruption for children, young people, and their families, magnified the existing inequalities faced by Australian families, and, therefore, made the need to act on and further develop the science in this policy brief more urgent.

Before these crises, in what were relatively good economic and social conditions, Australia was short-changing our own children and young people. Even then, around one-fifth of Australian children were assessed to be developmentally vulnerable on entering school at age five. That percentage rose to more than forty-four percent in communities experiencing disadvantage.

Evidence tells us the effects of disadvantage begin before birth, escalate in the first thousand days of life, and continue over the life course. The evidence also tells us that once a child starts from behind, the prospect of catching up to their peers, in schooling and in life, is much diminished.

These conditions have worsened with the arrival of COVID-19. A just-published paper by the United Nations captures the stark reality[1]:

> *Children are not the face of this pandemic. But they risk being among its biggest victims. While they have thankfully been largely spared from the direct health effects of COVID-19 – at least to date – the crisis is having a profound effect on their wellbeing. All children, of all ages and in all countries, are being affected, in particular by the socio-economic impacts and, in some cases, by mitigation measures that may inadvertently do more harm than good.*
>
> *This is a universal crisis, and, for some children, the impact will be lifelong. Moreover, the harmful effects of this pandemic will not be distributed equally. They are expected to be most damaging for children in the poorest countries, and in the poorest neighbourhoods, and for those in already disadvantaged or vulnerable situations.*

There has never been a more important time to invest wisely in effective, evidence-based approaches to ameliorate these impacts. But this must be done by leveraging not only government funding and expertise, but also that of the private and not-for-profit sectors. This is the case for several reasons:

- First, Australian business must accept that if it is to be the beneficiary of a long-term recovery and a strong and vibrant economy, every child and young person must be given an opportunity to not only reach their potential for a happy and productive life, but also as economic contributors. These aspects of life are inseparable. Both require young Australians to develop the Executive Functioning (EF) skills described in this paper.

- Governments are forced to operate in a political environment which, according to a recent joint study by The Institute of Public Affairs (IPA) and Per Capita Australia, leads to a situation where state and federal governments are failing to apply best practice in developing public policy. A broader approach which includes the business and philanthropic communities, along with the not-for-profit sector, is required so that sound, long-term, evidence-based policy is not held captive in short-term political landscapes.

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[1] United Nations (2020). *Policy Brief: The Impact of COVID-19 on children* 15 April.

As we emerge from the COVID-19 pandemic and begin crafting a new normal, we have an unprecedented opportunity to leverage advances in the biological and social sciences to design new strategies and to transform the way we work to break the insidious cycle of disadvantage. We can use what we now know about brain development in the early years, during adolescence, and across the life course, to build the capacities of children, young people, and parents to manage stress and adversity and chart a pathway to health and social wellbeing.

That is what the Capability Investment Strategy, described in this paper, is all about. It is not the silver bullet to dismantling the cycle of disadvantage; however, it is a promising approach to ensuring that every child and young person in Australia has the fullest chance to benefit from, and contribute to, a cohesive society and a strong economy.

Introduction

The promise of science to maximise children's potential

> *…promoting 'optimal conditions' in early life is the best hope we have of hardwiring 'healthy' physiological, structural, immune and metabolic and behavioural-response patterns.*[2]

> *[adolescence is] what some are calling a SECOND or catch up window. This is a window that provides an opportunity to redress gaps in exposures and vulnerabilities experienced in early childhood*[3]

Over the past couple of decades, there has been rapid growth in our understanding of child development and the devastating impact of chronic stress in the early years. We know that toxic stress embeds itself in our very biology, making it difficult to establish the foundations – skills and behaviours – for lifelong health and wellbeing. Elisabeth Babcock, President and CEO of Economic Mobility Pathways (EMPath), an international charitable organization dedicated to creating new pathways to economic independence for low-income families, describes it this way[4]

> *…poverty and its associated stress affect how our brains develop, including how we analyse problems and achieve goals, and therefore how well we can navigate the many challenges involved with getting ahead. In other words, science has proven that poverty and stress compromise the very same brain-based skills and behaviours most necessary for people to stand a chance of lifting themselves out of it.*

This new understanding of the links between adverse circumstances, toxic stress and compromised brain development in babies and children and young people means that now we have the opportunity and, many argue, the obligation to use this knowledge to give all of our children the best chance to grow, thrive and succeed. The Harvard Center on the Developing Child (CODC) put the matter clearly and forcefully[5]:

> *The time has come to leverage advances in the biological and social sciences to further elucidate causal mechanisms that explain disparities in learning, behaviour, and health. The time has come to catalyse the formulation of enhanced theories of change to guide the design and testing of new strategies that will produce breakthrough impacts in reducing persistent, intergenerational disadvantage…*

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[2] Moore, T.G., Arefadib, N., Deery, A., Keyes, M. & West, S. (2017). The First Thousand Days: An Evidence Paper – Summary. Parkville, Victoria: Centre for Community Child Health, Murdoch Children's Research Institute.

[3] Banati, P and Camilletti, E (2018). *Three Windows of Opportunity: Using Science to Inform Programming for Adolescents and Young People.* UNICEF Connect. https://blogs.unicef.org/evidence-for-action/three-windows-of-opportunity-for-adolescents/

[4] Babcock, E (2014). *Using Brain Science to Design new Pathways Out of Poverty*. http://s3.amazonaws.com/empath-website/pdf/Research-UsingBrainScienceDesignPathwaysPoverty-0114.pdf

[5] Shonkoff, J and Fisher, P (2013). Rethinking evidence-based practice and two-generation programs to create the future of early childhood policy. *Dev Psychopathology*. 25(4 0 2): 1635–1653.

> *The current revolution in the life sciences, particularly in the domains of neurobiology, molecular biology, genomics, and epigenetics, presents tremendous potential to catalyse transformational thinking about how to bend the trajectories of human health and development. The ongoing synthesis, translation, and application of knowledge at the frontiers of scientific discovery can and must drive a creative process of continuous experimentation in the quest for breakthrough impacts for children and adults experiencing significant adversity. The possibility for substantial change in our ability to address seemingly intractable problems is real. The price for not aiming high will be scientifically indefensible, economically exorbitant, and morally prohibitive.*

Even though "giving our children the best start in life" has been on the national agenda for a very long time, there is little evidence of real progress, particularly among those children who lack access to the experiences, relationships, resources and supports we all need to thrive. The fact that twenty to forty percent of our children are not "school-ready" at age five demonstrates just how serious this lack of progress is. The result is growing inequality, which has negative consequences for all of us. Public policy has simply failed to address the barriers that prevent many families from building and maintaining wellbeing, to break the nexus between social and economic deprivation and developmental vulnerability or to reduce its pernicious effects on children.

Why has public policy failed so comprehensively? Is it because this problem is perceived as intractable and beyond our capabilities to solve? Is it poorly targeted public investments? Is it maintaining a service system that is simply "not fit for purpose"? Is it a lack of political will to make tough decisions and stay the course? Is it poor policy making practice? In all probability they are all involved, but in this policy brief the focus is on the policymaking process.

A recent research project undertaken by two rather strange bedfellows – the Institute of Public Affairs (IPA), a self-described 'free-market' think tank and Per Capita Australia, a self-labelled 'progressive' think tank – provides an assessment of policy making in Australia and it is not flattering, to say the least. The project analysed 20 Australian public policies to see how well they stacked up against good policy making processes What they found is that both state and federal governments are failing to apply best practice in the development of public policy[6]:

> *Australia's governments, both state and federal, are failing to undertake best practice policymaking. This failure is undermining the quality of public policy and is having a detrimental impact on faith in public institutions. Public policy in Australia is often made on the run, built on shabby foundations, motivated by short term political gain, and consequently having mediocre outcomes. Policymakers face the challenge of limited knowledge and must remedy this by gathering evidence on the nature of the problem, alternatives to fix the problem and undertake public consultation on the impact of policies. Good process does not guarantee good policy – but bad process has a much higher chance of producing lower quality, uninformed, and harmful policy outcomes.*

Fundamentally, effective policymaking relies on a set of problem-solving and creative skills. It involves the application of knowledge and thinking – deductively (around cause-effect relationships) or inductively (looking for patterns and trends). It appears that these skills and their application are sadly

[6] Lesh, M (2019). Evidence Based Policy Research Project: 20 Case Studies. https://ipa.org.au/publications-ipa/research-papers/evidence-based-policy-research-project-20-case-studies.

lacking or being ignored in Australia's current policymaking landscape: "There is substantial evidence that decisions are being made on an ad hoc basis, responding to immediate political concerns without the full analysis of alternatives, potential implications and consideration of implementation strategies and a policy design framework.[7]"

The Institute of Public Administration Australia drew a similar conclusion in a paper entitled, *Public Policy Drift:*[8] "there is pressure for senior politicians in governments and oppositions to make decisions quickly and confidently in order to appear decisive, pander to populist ideas to appear responsive, manufacture wedge issues to distinguish themselves from their opponents, and to put a spin on everything to exaggerate its significance."

It is patently clear that this style of policymaking is unlikely to help us deal with wicked problems such as entrenched disadvantage and its devastating effect on children, especially in the formative first 1000 days. There is an alternative science-informed policymaking approach as shown in **Table 1** below.

Table 1: Science informing policy

What science tell us	What we should do
Investing in children at high risk of negative outcomes stemming from their disadvantaged circumstances yields the greatest payoff in human, social and financial terms.	Use data creatively and responsibly to find the children most at-risk of disadvantage (that is, families or households experiencing entrenched disadvantage).
"Place" hinders or facilitates the development of children, depending on the type and concentration of disadvantage and the ability of communities to provide support for children and their families.	Focus investment in highly disadvantaged places to strengthen community support for children and families.
Core executive function skills can enable children and adults to manage their lives and ameliorate difficult and stressful circumstances	Build the executive function skills of children and their caregivers (e.g. parents, grandparents), using a multi-generation approach.
People with the lived experience of disadvantage have special insights to contribute to the design and delivery of services.	Engage people with lived experience in the co-design and delivery of services intended to help break the cycle of disadvantage.
Service systems, themselves, inhibit participation by those who need services the most because of their impenetrable access rules, fragmentation, inappropriate culture, and byzantine structures.	Establish navigators in the neighbourhoods that are the focus on investment to help individuals and families access the services they need, when and where they need them.
If we do not measure and evaluate, we cannot determine if services are making a positive contribution to the lives of participants; if we do not monitor, we cannot know if we are on the right track or whether adaptations would improve outcomes.	Engage in strategic learning throughout (e.g., monitoring, evaluation, and adaptation) to refine, adapt and discover works best to stop disadvantage "in its tracks".

[7] Lesh, M (2019). Evidence Based Policy Research Project: 20 Case Studies. https://ipa.org.au/publications-ipa/research-papers/evidence-based-policy-research-project-20-case-studies.

[8] *Public Policy Drift* (2012). Institute of Public Administration Australia (IPAA) Public Policy Discussion Paper. https://www.ipaa.org.au/wp-content/uploads/2019/06/Public-Policy-Drift-policy-paper.pdf

The ***capability investment strategy*** **(CIS)** – that is, building the core life skills of children, young people, and families (human capital), proposed in this policy brief – is a potential way forward to improve public policy and investment decisions to improve social and economic wellbeing. It is a new and innovative approach based on brain science, experimental programs, the experiences of families living with ongoing stress, and the knowledge of many practitioners. The CIS will need to balance the use of existing evidence of efficacy with exploration of unknown and untested territory while incorporating the elements of "best" practice policymaking.

This policy brief is intended to explore the ways in which science can help us develop policies to address the ongoing and seemingly intractable problem of childhood disadvantage and vulnerability in Australia.

> **Section 1** summarises what we now know about the core skills children need to thrive, especially the role of executive function capabilities.
>
> **Section 2** describes the way entrenched disadvantage compromises the development of these core skills.
>
> **Section 3** proposes a promising strategy – *capability investing* – to support children and their families develop these core skills to achieve family wellbeing, social and economic mobility.

It is important to stress that the argument of this policy brief is not that this is the silver bullet for ridding Australia of unequal outcomes for children, but rather that it is ONE VERY PROMISING AVENUE that deserves to be explored, tested, and trialled and, if effective, scaled up to facilitate population-level change. It is about moving beyond a focus on what we KNOW to what we CAN DO, given what we know.

Section 1 – The Core Skills and Capabilities All Children Need to Succeed

Parents, teachers, childcare professionals, healthcare providers, social service practitioners and many others want answers to the basic question: what do all children need to develop well in the early years and succeed later on? Every bookstore is full of tomes claiming to have *the* answer to the question, or at least *an* answer. The truth, of course, is that there is no one answer. However, science – particularly neurobiology – suggests that there is at least *an* answer that has considerable power and promise and it comes from putting together two well-regarded concepts –one from neuroscience and the other from psychology: **executive functions** and **self-efficacy.**

Executive functions are a set of processes that act as the "command and control" centre. They are responsible for guiding, directing, and managing the cognitive, emotional, and behavioural functions that support purposeful, goal-directed, problem-solving behaviour. Since this is still a rapidly developing science, it is not surprising that there are many different ways of characterising this set of skills. Generally, however, they include the following: cognitive flexibility, working memory and inhibitory control.

In children, these skills enable them to focus, remember and follow directions and exercise self-control, while in adolescence, they contribute to problem solving, making ethical decisions, and delaying gratification when appropriate. In adults, they support more complex behaviours such as planning, multi-tasking and weighing multiple options in light of long-term goals, all of which promote effective decision-making. Executive function skills help us to achieve our goals by executing the steps needed to reach them; for example, being able to set goals, identify obstacles and possible solutions, lay out the series of steps needed to achieve goals, set appropriate deadlines and reminders, monitor progress and context, reflect, strategize, and adjust if necessary.

Self-efficacy. Psychologist Albert Bandura defined "self-efficacy" as the belief that you can do what is necessary to achieve your desired goals. It is about "knowing" that you can exert control over your own motivation, behaviour, and circumstances. With it, change seems possible; without it, helplessness dominates.

Self-efficacy beliefs provide the foundation for human motivation, wellbeing, and personal accomplishment. People with a strong sense of self-efficacy approach difficult tasks as challenges rather than threats, recover quickly from setbacks and disappointments and form a stronger sense of commitment to their interests and activities. Our belief in our own ability to succeed plays a role in how we think, how we act and how feel about our place in the world. Self-efficacy determines what goals we choose to pursue, how we go about accomplishing those goals and how we reflect upon our performance.

If we put these two concepts together, what individuals need to thrive and to live a good life are a set of core skills – ***executive functions*** – and the belief that they can use them to achieve meaningful goals – ***self-efficacy***. Perceived self-efficacy and well-developed life skills are highly interactive and interdependent. Together, they influence how individuals cope with life's stresses and challenges.

These life skills begin to emerge during the preschool years, continue to develop during adolescence and finally mature during young adulthood.[9] Sadly, however, executive function skills can be seriously thwarted by the pressures and stress of ongoing adversity and entrenched disadvantage.

The first 1000 days really count

> *It's all about the brain: the first 1,000 days of life is a time of rapid cognitive, linguistic, social, emotional, and motor development. Along with loving relationships, children need safe communities, secure housing, access to green spaces, environments free from toxins, and access to affordable, nutritious foods. This requires whole-of-society efforts and appropriate investment. (Oberklaid)*

In the last couple of decades, breakthroughs in science, especially in neurobiology, have drastically altered the way we think about very early child development. Even though it may not appear on the surface that much is happening in a 3-month old baby, in reality (under the skull), the period from birth to three years of age is one of vigorous brain development that has consequences for the entire life course. At birth, a baby has already produced about 100 billion neurons, or brain cells. During the prenatal period, brain cells are busy sending and receiving messages about touch, hearing and movement and the sense of taste, smell and sensitivity to light are already beginning to develop. Brains are built over time and development continues into adolescence and beyond; however, the biggest and most important leaps are made before age three.

This is when human brains and biology are the most "developmentally plastic", that is, responsive to external influences: positive experiences help children thrive while adverse experiences increase the risk of later difficulties and can be damaging for lifelong development. The interaction of genes, environment and experience actually shape the architecture of the developing brain – genes determine **when** specific brain circuits are formed but experiences shape **how** they develop**.** The Center on the Developing Child at Harvard University summed up the progression of early child development in this way[10]:

> From the beginning of pregnancy to the first day of school, the ongoing construction of brain architecture and the emergence of increasingly complex behaviours and skills progress at a remarkable pace that is characterized by both continuity and change…. the process of development is continuous and ongoing, but the maximal capacity of the immature brain to grow and change means that the early childhood years offer the ideal time to provide experiences that shape healthy brain circuits.
>
> The period between birth and three years is a time of rapid cognitive, linguistic, social, emotional, and motor development. Explosive growth in vocabulary, for example, starts at around 15-18 months and continues into the preschool years.

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[9] Galinsky, E (2010). *Mind in the Making: The Seven Essential Life Skills Every Child Needs*

[10] Center on the developing child, Harvard University. (2007) A Science-based Framework for Early Childhood Policy: Using Evidence to Improve Outcomes in Learning, Behavior and Health for Vulnerable Children. http://www.developingchild.harvard.edu.

The ability to identify and regulate emotions in oneself and others is also well underway by the second year. Language-rich, nurturing, and responsive caregiving fosters healthy development during this period, but not all children have such experiences. When inadequate stimulation is provided or barriers to opportunities for productive learning exist, these can lead to early disparities in capability that generally persist in the absence of effective intervention.

Adolescence opens up another window of opportunity

While children's brains have a massive growth spurt when they are very young, the brain still needs a lot of remodelling before it can function as an adult brain. The transitions from childhood to adolescence to independent adulthood are also crucial periods for establishing positive health and social behaviours. It is a time when the brain develops – or fails to develop – in ways that enable or inhibit young people from reaching their full potential in life.

New cells are constantly being produced in the adolescent brain, and their interconnectivity is sculpted during the process of synaptic pruning. This process involves the formation of new cellular circuits as the prefrontal cortex – the brakes in the adolescent control room – matures. With the development of these circuits in adolescence comes the deepening ability to reason, plan, problem solve and to determine right from wrong. Therefore, this presents a second, crucially important, window of opportunity to influence development[11].

If children do not get what they need from their relationships with adults and the conditions in their environments – or (worse) if those influences are sources of toxic stress – their skill development can be seriously delayed or impaired.

[11] UNICEF Office of Research - Innocenti (2017). The Adolescent Brain: A second window of opportunity, UNICEF Office of Research - Innocenti, Florence. https://www.unicef-irc.org/publications/pdf/adolescent_brain_a_second_window_of_opportunity_a_compendium.pdf

Responsive relationships mould children's development

The circumstances in which children and young people, learn and grow drive differential health and developmental outcomes. The most important influence in this process is the quality of the relationship between children and their parents and other primary caregivers; that is, the critical "serve and return" dynamic that is so necessary to optimal development. Responsive caregiving promotes secure attachments in infants, builds their emotional and self-regulatory skills and provides them with a secure base from which to explore the world.

The importance of the caregiver/child relationship cannot be overstated: one stable, caring and responsive relationship with a parent, carer or other adult – the dyad – can provide the support, scaffolding and protection that buffers children from developmental disruptions and helps build key capacities for planning, regulating behaviour and adapting to changing circumstances – the very skills needed to disrupt the intergenerational transmission of poverty. Parenting is so influential that it can moderate the impact of social and economic disadvantage. For this reason, we must recognise that parenting is a skill that is learned (rather than being inherent) and children and young people thrive in families that are adequately supported by and within the community.

Executive function skills are necessary to healthy development

Prevention science suggests that there is a short list of caregiver capacities – a coordinating set of mental processes – that have important influences on the foundations of healthy development in young children. These capabilities include the ability to focus and sustain attention, set goals and make plans, follow rules, solve problems, monitor actions, shift course, defer gratification, and control impulses. Silvia Bunge, neuroscientist and head of the Building Blocks of Cognition Laboratory, University of California, Berkeley, described these core life management activities as[12]:

- **Planning**, which involves identifying longer-term goals, likely obstacles and possible solutions, the steps needed to achieve these goals, and the timelines for action;
- **Monitoring**, which involves "moment-by-moment awareness" of thoughts, feelings, behaviour, performance and process, context and behaviour of others; and
- **Self-control**, which involves managing one's feelings, thoughts, and behaviours.

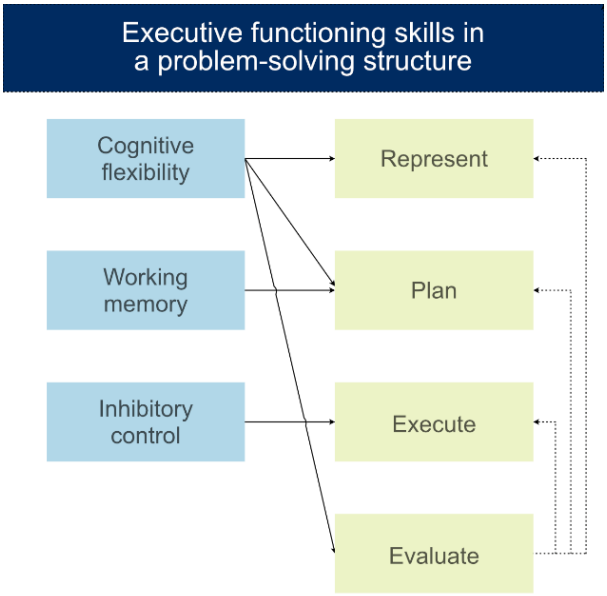
These life management activities are facilitated by three primary brain functions:

- **Inhibitory control** – the skill we use to master and filter our thoughts and impulses so we can resist temptations, distractions, and habits and to pause and think before we act. It makes possible selective, focused, and sustained attention, prioritization, and action. This capacity keeps us from acting as completely impulsive creatures who do whatever comes into our minds. It is the skill we call on to push aside daydreams about what we would rather be doing so we can focus on important tasks. It is the skill we rely on to help us "bite our tongue" and say something nice, and to control our emotions at the same time, even when we are angry, rushed, or frustrated. Children rely on this skill to wait until they are called on when they know the answer, to be good at games like "Simon Says" and "Red Light/Green Light," to stop themselves from yelling at or hitting a child who has inadvertently bumped into them, and to ignore distractions and stay on task in school.

[12] Bunge, S.A. (2015). Adult Executive Function.

- **Working memory** – the capacity to hold and manipulate information in our heads over short periods of time. It provides a mental surface on which we can place important information so that it is ready to use in the course of our everyday lives. It enables us to remember a phone number long enough to dial it, to return to our place in a magazine article before a friend interrupted us, and to recall whether we had added the salt to what we were cooking before we had to help our child find a missing shoe. It enables children to remember and connect information from one paragraph to the next, to perform an arithmetic problem with several steps, to keep track of the moves and make a logical next step in a game of checkers, and to follow multiple-step instructions without reminders ("go to your cubbies, put away your storybooks, bring back your arithmetic books, and open them to page 30"). It also helps children with social interactions, such as planning and acting out a skit, taking turns in group activities, or easily re-joining a game after stepping away to get a drink of water.

Figure 1: Executive functioning skills



- **Cognitive flexibility** – the capacity to nimbly switch gears and adjust to changed demands, priorities, or perspectives. It is what enables us to apply different rules in different settings. We might say one thing to a co-worker privately, but something quite different in the public context of a staff meeting. If a friend asks if we like her new haircut and we don't, we are able to flexibly shift to the social convention that governs not hurting people's feelings. Likewise, we teach our children about "outside voices" and "inside voices" and the different situations in which they should use each. As the author of The Executive Brain, Elkhonon Goldberg, notes, "The ability to stay on track is an asset but being 'dead in the track' is not." Stated differently, self-control and persistence are assets, rigidity is not. Cognitive flexibility enables us to catch mistakes and fix them, to revise ways of doing things in light of new information, to consider something from a fresh perspective, and to "think outside the box." If the "church in two blocks" where we were told to turn right is actually a school, we adjust and turn anyway. If we are missing a recipe ingredient, we call a neighbour or make a substitution. Children deploy this skill to learn exceptions to rules of grammar, to approach a science experiment in different ways until they get it to work, or to try different strategies when they are working out a conflict with another child.

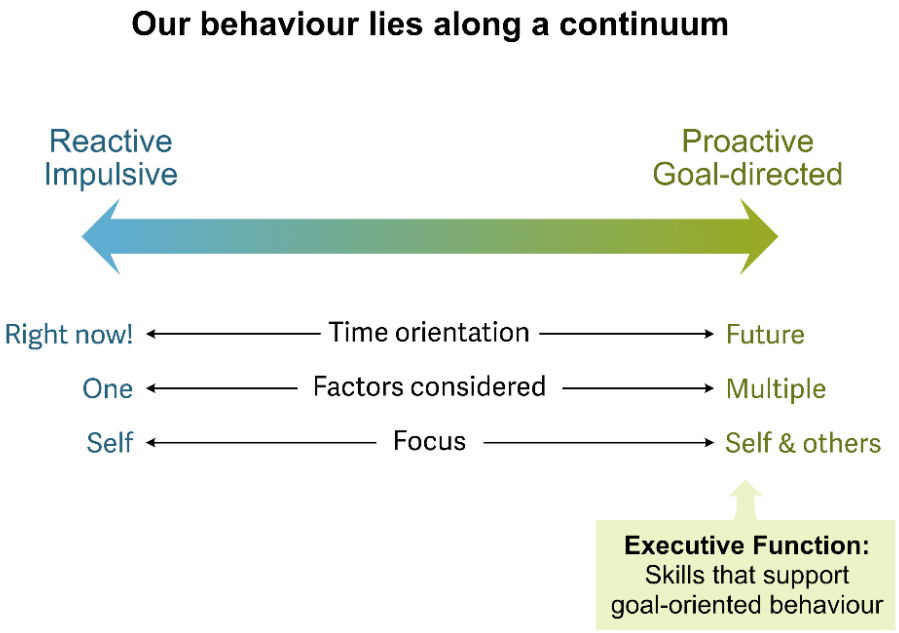
As mentioned earlier, We are not born with these skills, but we are born with the capacity to develop them through the right experiences and practice. Generally, they are learned in the context of parent/child relationships early in life and they continue to develop through adolescence and into early adulthood as shown in **Table 2** below.

Table 2: Development of executive function (EF) skills throughout life

Working Memory	Inhibitory Control	Cognitive Flexibility
ADULT Can remember multiple tasks, rules, and strategies that may vary by situation **5-16 YEARS** Develops ability to search varying locations, remember where something was found, then explore other locations (e.g. a game of Conecentration or hiding a penny under one of three cups) **4-5 YEARS** Comprehends that appearance does not always equal reality (e.g. when given a sponge that looks like a rock) **3 YEARS** Can hold in mind two rules (e.g. red goes here, blue goes there) and act on the basis of the rules **9-10 MONTHS** Can execute simple means-to-ends tasks and two-step plans; also able to integrate looking one place and acting (e.g. reaching) at another place **7-9 MONTHS** Develops ability to remember that unseen objects are still there (toy hiden under a cloth); learns to put two actions together in a sequence (remove cloth, grasp a toy)	**ADULT** Consistent self control; situationally appropriate responses (e.g. resists saying something socially inapproriate, resists "tit for tat" response) **10-18 YEARS** Continues to develop self-control, such as flexibly switching between a central focus (such as riding a bike or driving) and peripheral stimuli that may or may not need attention (road signs and pedestrians vs billboards and passig houses) **7 YEARS** Children perform at adult levels on learning to ignore irrelevent, peripheral stimuli (such as a dot on the side of a screen) and focus on the central stimulus (such as a picture in the middle fo the screen) **4-5 YEARS** Reductions in perserveration (persisting with following a rule even when knowing that the rule has changed). Can delay eating a treat; also can begin to hold an arbitrary rule in mind and follow it to produce a response that differes from their natural instinct (sort coloured cards by shape rather than colour) **9-11 MONTHS** Able to inhibit reaching straight for a visible but inaccessible reward, such as a toy on the other side of a window, and instead delay a moment to recognise the barrier and detour around it **8-10 MONTHS** Begins to maintain focus despite distractions during brief delays in a task **6 MONTHS** Rudimentary response inhibition (able to not touch something instructed not to touch)	**ADULT** Able to revise actions and plans in response to changing circumstances **13-18 YEARS** Continued improvement in accuracy when switching focus and adapting to changing rules **10-12 YEARS** Successfully adapts to changing rules, even along multiple dimensions (okay to shout on playground, not okay in school, okay sometimes in theatre rehearsal) **2-5 YEARS** Succeeds at shifting actions according to changing rules (e.g. takes shoes off at home, leaves on at school, puts on boots for rain) **9-11 MONTHS** Develops ablity to seek alternate methods to retrieve objects beyond directly reaching for what's in view Sources: Best & Miller (2010), Diamond (1991a, 1991b, 2002, 2006)

When EF skills are fully developed, children, young people and adults move from "reactive, impulsive behaviour" to "proactive, goal-directed behaviour" as shown in **Figure 2** below.

Figure 2: Executive function skills: From reactive to proactive behaviour



Modelling is an important component of the learning process. When caregivers demonstrate the use of these skills in making decisions and solving problems, for example, children "copy" this behaviour and develop their own life management skills. However, some adults have not had the opportunity to develop these skills when growing up; others are so burdened by adversity that they find it difficult to employ the skills they do have.

There are a number of factors that can derail our ability to use executive function skills in our everyday lives, for example, chaotic, stressful, and/or threatening situations. Individuals who experience a pile-up of adversity are often even less able to deploy all of the skills they have to cope with challenging circumstances. Early in life, the experience of severe, frequent stress directs the focus of brain development *toward* building the capacity for rapid response to threat and *away* from planning and impulse control. In adulthood, significant and continuous adversity can overload the ability to use existing capacities that are needed the most to overcome challenges.

- **Serious early adversity and trauma** can lead to higher levels of stress, higher risk of stress-related health difficulties and mood disorders, greater difficulty modulating and accurately appraising emotion, and compromised executive function abilities.
- **Chaotic, threatening, or unpredictable environments** that seem beyond our control can lead to poor self-regulatory behaviours and impulse control as well as a low sense of self-efficacy–the belief that one can be an agent in improving one's life–which is an essential component of executing planful, goal-oriented behaviours.
- **Poverty** can overload self-regulation, as a result of a pile-up of stresses associated with trying to survive with inadequate resources

Section 2 – The Impact of Entrenched Disadvantage on Development of Core Skills and Capabilities

Developmental progress is both an outcome of early life experiences and a predictor of future wellbeing. The early development of cognitive skills, emotional well-being, social competence, and sound physical and mental health are critical pre-requisites for individual wellbeing, economic productivity, and responsible citizenship throughout life. All aspects of adult human capital from managing households and family life to workforce skills and cooperative, lawful behaviour, build on capacities developed during early childhood. The intense pressures and stress of living with hardship can impede the development and use of these skills.

Risk and protective factors

The "risk and protective factor framework" that draws on a broad cross-section of research provides the basis for understanding how living conditions can impede or facilitate children's early development. A *risk factor* is a contributor to negative developmental outcomes while a *protective factor* buffers, mediates or moderates the influence of risks factors. Risk and protective factors influence the course of development through their cumulative impact across time. A landmark research report (2015), *Better systems, Better chances,* explained how risk and protective factors alter developmental pathways[13]:

> *There is a core set of protective factors at individual, family and community levels that are strongly predictive of positive outcomes for young people. For instance, at the individual level, relational skills, self-regulation skills, problem-solving skills and involvement in positive activities can protect even highly vulnerable people from negative trajectories, especially when accompanied by strong parenting competencies, positive peers and caring adults, as well as positive community environment, school environment and economic opportunities.*
>
> *Conversely, there is a core set of individual, family and community stressors and circumstances that are consistently predictive of a wide range of adverse outcomes for young people. The absence of positive attachment and warm family relationships, poor parenting behaviours…limited cognitive stimulation….family violence or substance abuse, and community factors such as unsafe neighbourhoods and schools, social isolation and poverty.*

Children who live in poverty are more likely to experience an accumulation of risk factors: e.g., family distress and separation, maternal depression, family and domestic violence, reduced parental responsiveness, and increased use of physical discipline. They are also more likely to live in homes that are overcrowded; in neighbourhoods that are less connected and have fewer social supports; and be exposed to more toxins, crime, and traffic. These social ecologies have powerful influences on children's development, especially in the early years.

During the first 1000 days, the neural circuits responsible for managing stress are particularly malleable. A child's early experiences determine how these circuits are activated and controlled in the future. Prolonged and excessive toxic stress during this period can impact the developing brain circuits

[13] Fox, S, Southwell, A, Stafford, N, Goodhue, R, Jackson, D, and Smith, C (2015). *Better Systems, Better Chances.* Canberra: ARACY

and hormonal systems in a way that leads to poorly controlled stress responses – ones that are overly reactive or slow to shut down when faced with challenges throughout the lifespan.

Our biology literally changes in response to stress, poverty, and other prolonged adverse experiences. They get "under the skin", embedded in our very neurobiology and genetic makeup, which can be passed down to subsequent generations contributing to the persistence of disadvantage in families and communities. Babcock succinctly describes the impact of poverty on brain development[14]:

> The two brain areas most measurably affected by poverty are the prefrontal cortex, which governs executive functioning, including the ability to focus, resist temptations, analyse problems, and achieve goals, and the limbic brain, which assesses environmental threats and governs "fight or flight" responses. Exposed to enough stress, the prefrontal cortex finds fewer opportunities to practice and therefore build executive function skills, and the limbic brain becomes hypervigilant, constantly ready to respond to perceived threats...

Table 3: Adversity and Executive Function difficulties

Managing thoughts, organisation, and learning	Verbal fluency
	Maintaining focus and attention
	Memory retention
	Organisation skills
	Following plans/goals to completion
	Thinking of logical alternatives, choices, options
	Juggling competing priorities
	Time management, meeting deadlines
	Weighing future implications of current decisions
	Building mastery through practice and investment in skill building
	Applying tools and information in different settings
	Spatial awareness and memory
	Managing life changes
Managing behaviour, emotions, feelings	Developing/maintain self-confidence
	Controlling impulsive behaviours/regulating risk taking
	Delaying gratification
	Controlling responses to perceived threats or anger
	Calming down after dealing with stressful events
	Understanding behaviour and motivations of self and others
	Working in partnerships, teams, or groups
	Building, navigating, and using social networks
	Accepting and using feedback and advice

[14] Babcock, B (2018). *Using Brain Science to Transform Human Services and Increase Personal Mobility from Poverty.* US Partnership on Mobility from Poverty.

Entrenched disadvantage produces toxic stress that affects children's neurobiological systems, impedes the "second" stage of brain development in adolescence and compromises adults' executive function skills and caregiving capacities. Is it no wonder that it is difficult to make good decisions. Poverty consumes people to such an extent that they can focus only on the short term – how to pay the rent, how to pay the bills, buying a needed pair of shoes. There's never a break, never the space to think about the longer term. Based on the "science of scarcity" (Shafir, a Princeton University psychologist) and as quoted in the Guardian Australia, poor people "are not making dumb decisions because they are dumb, but because they are living in a context in which anyone would make dumb decisions."[15] These pressures act to diminish opportunities for children to maximise their potential and live lives of their choosing.

Disadvantage in Australia is widespread

According to the Committee for Economic Development of Australia (CEDA, 2019), persistent disadvantage "is unfortunately a well-known feature of the Australian socio-economic landscape, translating into acute despair for individuals and families[16]:

> *Too many individuals and families remain persistently detached from the economic and social opportunities and connections that lie at the heart of wellbeing.*

[15] Bregnan, R (2017). *Utopian thinking: the easy way to eradicate poverty*. https://www.theguardian.com/commentisfree/2017/mar/06/utopian-thinking-poverty-universal-basic-income

[16] CEDA (2019). *Disrupting Disadvantage: Setting the Scene.* https://www.ceda.com.au/CEDA/media/General/Publication/PDFs/CEDA_DisruptingDisadvantagesS1Nov2019_com.pdf

From the inability to address the inadequacy of Newstart, to the challenges of scaling up new approaches and a limited focus on prevention, too few inroads are being made into persistent, deep disadvantage.

This is a clear and concerning sign that our social safety net and social compact are fraying, and this has significant consequences.

The financial and social costs, not just to those struggling with disadvantage, but to the broader community, should not be underestimated.

This is about the struggle of individuals and families to access basic and acceptable standards of living - having a safe and secure place to live, healthy and regular meals, being able to pay the electricity and phone bill and to buy shoes and clothes. It is also about exclusion from the social activities and connectedness that are vital to having a sense of purpose, self-esteem and belonging.

As mentioned in the introduction, the latest brain science unequivocally shows that living in poverty causes chronic stress, which inhibits optimal growth and development. A recent report, *Using Brain Science to Transform Human Services and Increase Personal Mobility from Poverty*, describes the impact of poverty over the life course[17]:

"Getting out of poverty has always been tough, but it has become even harder over the past generation. The increasing costs of housing, health care, and child care, coupled with shrinking low-end wages and rising education requirements for family-sustaining jobs, have made today's pathway out of poverty a journey that fewer than one in four people complete."

Being trapped at the bottom has serious consequences. Science tells us that living in poverty significantly raises the likelihood of incarceration, homelessness, becoming a single parent, failing to complete high school, and even dying younger. Science also tells us that poverty and its associated stress affect how our brains develop, including how we analyse problems and achieve goals, and therefore how well we can navigate the many challenges involved with getting ahead. In other words, science has proven that poverty and stress compromise the very same brain-based skills and behaviours most necessary for people to stand a chance of lifting themselves out of it.

Based on recent statistics, this means that tens of thousands of Australian children are at risk of experiencing serious obstacles to their developmental progress in the first 1000 days of life, during adolescence and subsequently over their life course. Recent reports have found that in 2018, there were just over 3 million Australians (13.2%) living below the poverty line of 50% of median income – **including 739,000 children (17.3%)**[18]. Longitudinal data also show that poverty can, and often does, become a permanent state of affairs for families, with transmission from one generation to the next[19].

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[17] Babcock, B (2018). *Using Brain Science to Transform Human Services and Increase Personal Mobility from Poverty.* US Partnership on Mobility from Poverty.

[18] Productivity Commission (2018). *Rising inequality: A stocktake of the evidence.* Commission Research Paper, Canberra; Davidson, P., Saunders, P., Bradbury, B. and Wong, M. (2018), *Poverty in Australia*, *2018*. Sydney: ACOSS; and BSL & MIAESR (2018). *Social Exclusion Monitor Update*, Available from: https://www.bsl.org.au/research/social-exclusion-monitor/ 3.

[19] Productivity Commission (2018). *Rising inequality: A stocktake of the evidence.* Commission Research Paper, Canberra; Davidson, P., Saunders, P., Bradbury, B. and Wong, M. (2018), *Poverty in Australia*, *2018*. Sydney: ACOSS; and BSL &

What we now know is that the more extreme the causes of stress, the longer it lasts, and the earlier in our childhoods the exposure begins, the more our executive function skills are likely to be affected. Given that poverty, trauma, and discrimination are hotbeds of stress, it's not surprising that these phenomena directly alter people's abilities to succeed in parenting, school, work, and the many other arenas crucial to upward mobility.

Early disadvantage produces developmental vulnerability

Developmental vulnerability refers to lower than average ability in one or more of the basic life competency domains. The best indicator of children's development in Australia is the Australian Early Development Census (AEDC). Since its introduction in Australia, it has acted as a litmus test of how well children are progressing from conception to school age. It measures five areas of early childhood development:

- **Physical health and wellbeing** (e.g. extent to which the child is vigorous, coordinated, and able to manipulate objects)
- **Social competence** (e.g. extent to which the child gets along with other children and accepts responsibility for actions)
- **Emotional maturity** (e.g. extent to which the child helps other children in distress and appears generally happy)
- **Language and cognitive skills** (e.g. extent to which the child writes their own name, counts to 20)
- **Communication skills and general knowledge** (e.g. extent to which the child communicates needs and understands others).

Vulnerability levels in Australia are unacceptably high. The 2018 AEDC results showed that 22% of Australian five-year-olds were assessed to be developmentally vulnerable on one or more of the five domains. That is one in every five school-age children. Many of these children will never catch up and will suffer the negative consequences across their life course.

Not surprisingly, developmental vulnerability is far more prevalent among children and adolescents growing up in families experiencing entrenched disadvantage. The most disadvantaged communities report that up to 44% of their five-year-olds were developmentally vulnerable on one or more domains while their more advantaged counterparts report levels of developmental vulnerability of less than 6%[20] The same disparities show up in high school completion rates.

The current human services system is failing disadvantaged children

After consulting a range of practitioners, organisations that provide services, researchers, and senior representatives of relevant government agencies, CEDA concluded the following[21]:

MIAESR (2018). *Social Exclusion Monitor Update*, Available from: https://www.bsl.org.au/research/social-exclusion-monitor/ 3.

[20] *Australian Early Development Census National Report 2019: A Snapshot of Early Childhood Development in Australia.* https://www.aedc.gov.au/resources/detail/2018-aedc-national-report.

[21] CEDA (2019). *Disrupting Disadvantage: Setting the Scene.* https://www.ceda.com.au/CEDA/media/General/Publication/PDFs/CEDA_DisruptingDisadvantagesS1Nov2019_com.pdf

Most people with knowledge and experience of the system of social service delivery and supports express the same few fundamental problems. These problems sit at the heart of how we approach disadvantage, and too often have the practical effect of compounding disadvantage or at best dealing with disadvantage in a disconnected and ineffective way. The two challenges that were most often called out were:

1. *The fragmented or siloed approach to programs and supports – in other words the system fails to see the whole person.*

2. *An inability to get ahead of disadvantage through prevention because we typically address the symptoms without diagnosing the cause.*

The first challenge points to the need to better connect services and make them easier to navigate, while lifting the quality of the services themselves. The latter points to the need to identify the factors that can increase the chances of a person or family falling into disadvantage and get ahead of the causes with proactive and preventive supports.

As we know, those in or at risk of entrenched disadvantage usually first interact with services at a point of crisis or significant disruption. The focus is understandably on addressing the immediate problem and in the chaotic circumstances that often accompany crises, it is difficult, if not impossible, for families to navigate the complex system of potential supports and services. Even with the best of intentions, it is difficult for practitioners to respond comprehensively given that it requires collaboration across many different areas: e.g., health, housing, child protection, justice, mental health, and income support systems. This is a complex web for anyone to navigate, much less those in a state of significant crisis and distress.

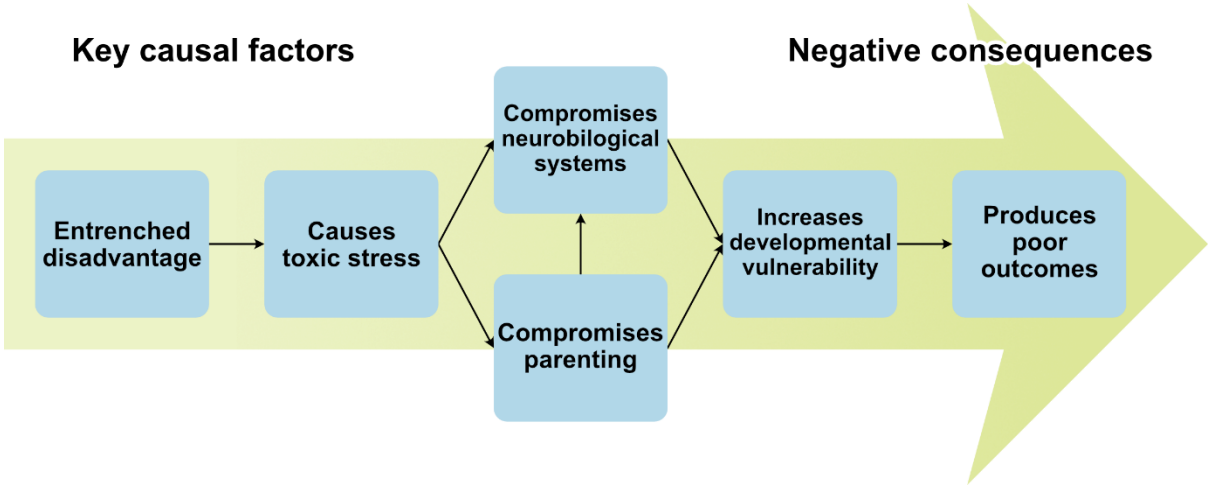
The tragic result is that for many families, these adverse circumstances become their new norm. When this happens, disadvantage becomes more deeply entrenched. The Life Course Centre at the University of Queensland summed up the consequences of living with prolonged distress[22]:

…while both advantages and disadvantages can be passed from parents to children, the intergenerational inheritance of deep and persistent social disadvantage (DPSD) has consequences for individuals, communities and governments. It limits the opportunities for children born into deeply disadvantaged families to realise their capabilities and to participate as full members of society. It wastes human resources and diminishes productivity by undermining effort and motivation. Over time, it contributes to enduring differences between population sub-groups that cannot be addressed by merely equalising opportunities...

Figure 3 demonstrates how entrenched disadvantage causes the kind of toxic stress that disrupts the neurobiological system resulting in diminished growth and development and, ultimately, poor life course outcomes.

[22] https://www.lifecoursecentre.org.au/

Figure 3: Disadvantage leads to diminished growth and development



This can be a lethal cycle for children and adolescents. However, this story is not one of gloom and doom. While it may not be possible to eliminate deep and persistent disadvantage or all forms of toxic stress, there are interventions that can make a difference. There are promising strategies for halting the cycle or at least ameliorating the impact of the stress that accompanies disadvantage by working with parents and their children together using science-based interventions to help them overcome the obstacles they face to social and economic mobility.

Research and program evaluations confirm that there are effective ways to work with children and adults to build, strengthen, maintain, and employ executive function skills. And there is strong evidence that building protective factors can mediate the impact of adverse life events. Together, these can foster the belief that escape from disadvantage is, indeed, possible. Social and economic mobility becomes a realistic goal for families and young people.

Section 3 – A Capability Investment Strategy: Helping Children and Young People Build Skills to Escape Disadvantage

The importance of facilitating the early development of children and ensuring that they are school-ready is a given in Australia and, therefore, there continues to be significant investment in child care and early childhood education. This investment is important but not sufficient as science tells us that to support all children to reach their potential, we must also work with their adult caregivers (parents and other family members, e.g.). Shonkoff and Fisher explain why[23]:

> *…science suggests that significantly greater impacts on the healthy development and life prospects of vulnerable young children could be achieved by focusing greater attention on strengthening the capabilities of their caregivers, improving the economic stability of their families, and building stress-buffering resources in their communities rather than by continuing to focus primarily on the provision of child-focused enrichment, parenting education, and informal support. With this objective in mind, the challenge for policymakers and practitioners is to move beyond the simple coordination of separate child and adult-focused programs and to combine the best of both domains within a fully integrated, intergenerational strategy that is grounded in developmental science, aligned at the program, community, and policy levels, and committed to the pursuit of breakthrough outcomes in lifelong learning, behaviour, and health.*

This science was one of the key drivers in developing the capability investment strategy. Another was the fact that many of the factors that contribute to disadvantage and vulnerability are malleable. A third driver was the accumulation of evidence about intergenerational preventive interventions that work to strengthen protective factors, particularly executive function skills, and reduce both the likelihood and severity of negative outcomes.

In light of the widespread agreement that we actually know what to do and when to do it, we have to ask the question: what is holding Australia back from helping people exit entrenched disadvantage or to prevent it in the first place? Literally taking a page out of CEDA's report, *Disrupting disadvantage*, provides a summary of the most significant obstacles[24]:

> *Perhaps most importantly, the nature of the national conversation on disadvantage is itself a factor. Public debates draw attention to the large amount of resources dedicated to the relative few in our community experiencing deep disadvantage, but most in our community have very little day to day contact with people in these circumstances. This can lead to the conclusion that the individuals and families experiencing disadvantage – and not the quality or efficacy of programs or services – are somehow at fault. This means that while there is broad concern for the most disadvantaged in our society, action is hampered by misconceptions and misunderstandings about the circumstances and capacity of the most disadvantaged – financially and more broadly – to lift themselves out of their current state.*

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[23] Shonkoff, J and Fisher, P (2013). Rethinking evidence-based practice and two-generation programs to create the future of early childhood policy. *Dev Psychopathology*. 25(4 0 2): 1635–1653.

[24] CEDA (2019). *Disrupting Disadvantage: Setting the Scene.* https://www.ceda.com.au/CEDA/media/General/Publication/PDFs/CEDA_DisruptingDisadvantagesS1Nov2019_com.pdf

Against this backdrop, and in the face of budgetary pressures, governments have adopted approaches that seek to limit or restrict access to services and supports for the most disadvantaged, such as the long-term unemployed. Some of these measures are advocated for or adopted despite a lack of clear evidence that they will deliver better outcomes, or in the face of evidence pointing to the detrimental impact of these measures.

Some policies and supports have failed to keep pace and no longer provide adequate support or prevent people falling into deeper disadvantage. The inadequacy of [support] payments place many long-term recipients well below the poverty line and without the financial capacity they need to increase their prospects of securing a job and building self-reliance.

A failure of serious and consistent program evaluation and improvement based on data, evidence and analysis also means that poorly designed and implemented programs persist. Disrupting this status quo is made harder by a tendency for programs to focus on easier to measure inputs and outputs, rather than genuine outcomes and effectiveness. If desired outcomes are not clearly identified, defined, and measured, how can they be evaluated? And if programs are not evaluated, how can we establish they are worth the dollars being invested?

Risk aversion also plays a part in inertia and lack of progress. The persistent nature of entrenched disadvantage means that new approaches are needed, and this requires an element of risk-taking. Taking these policy risks presents the prospect of reward in the form of better outcomes, but requires permission and encouragement, as well as the right skills on the part of those overseeing program delivery and assessment.

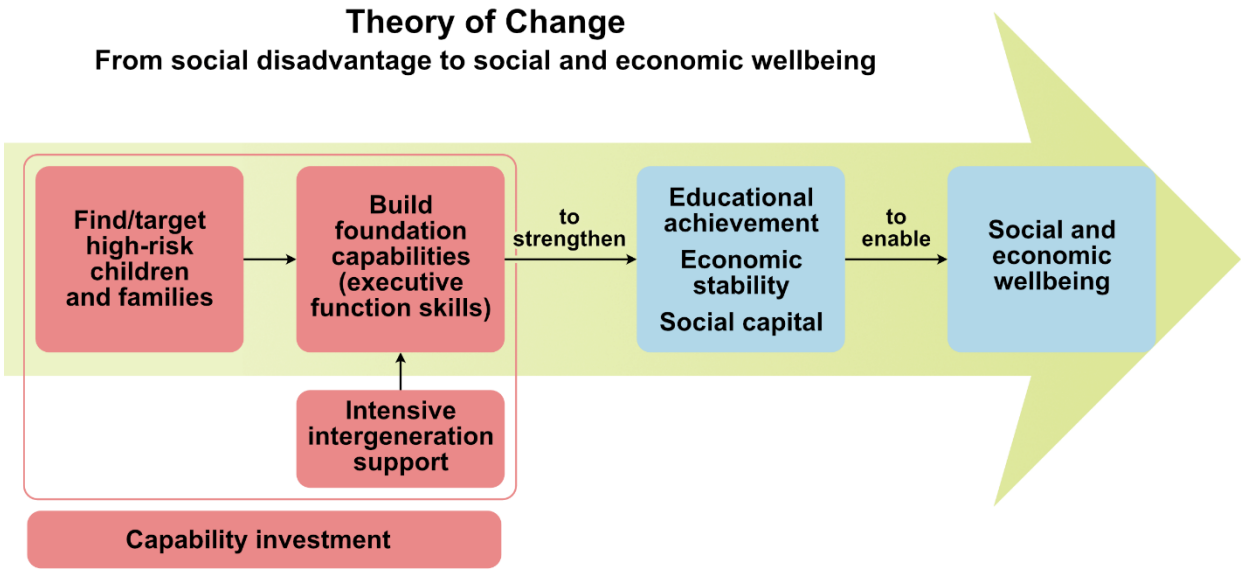
Risk aversion can manifest in other ways that hamper progress. New approaches are often piloted for too short a period – coinciding with budgetary cycles rather than the time required for impact. New approaches are also sometimes expected to deliver unrealistically large improvements in unrealistically short timeframes, to warrant the supposedly higher risk that goes with them. In other words, the hurdles set for the new programs are higher than those applied to existing programs.

Capability Investment Strategy (CIS)

These realities suggest that transformational and structural change may be a long way off. However, that does not mean that we cannot take decisive action now through *capability investment*, that is, building the skills and capabilities of children and families (human capital) now while also building social capital and creating the opportunity structures required to enable participation in paid work, life-long education and community development.

The following section lays out the *capability investment strategy* that could be implemented within existing structures, including: (1) early identification and targeting of at-risk children and families, through joined-up datasets and data analytics, to prevent problems from escalating into full-blown crises; and (2) evidence-informed, but innovative, intensive, intergeneration interventions using rapid prototyping and testing, evaluation, learning and adaptation, responsible risk-taking and scaling up of "what works". **Figure 4** overleaf presents the theory of change underpinning the CIS.

Figure 4: Capability investment theory of change



Finding the children most at-risk: Using data effectively for early identification

> *…there is an opportunity for wise and careful use of data to stem the flow of children into persistent disadvantage and deliver significant individual and societal net benefit*

There is little doubt that if we want to interrupt the transmission of poverty and disadvantage from one generation to the next, we need to identify and understand the circumstances of families most at-risk and assist them as early as possible – before risk escalates into the vulnerability and damage that can last a lifetime.

Even though our understanding of the dynamics of entrenched disadvantage is considerable and we have a great deal of administrative and longitudinal data about the life trajectories of individuals and families, we are not yet using this wealth of information to prevent thousands of Australians from slipping into protracted periods of poverty and adversity every year. CEDA calls this prevention through *'we find you'*: "Perhaps the greatest opportunity to get ahead of disadvantage right now is using integrated data sets and data analytics to identify those most at risk of experiencing deep disadvantage and to alter their life course by building capacity and resilience early through the provision of integrated programs and support for the child and household"[25].

Therefore, this proposed strategy – *capability investing* – starts with finding children and families most at-risk. It is based on evidence that working intensively with families experiencing significant adversity produces the best results. This is not to suggest that the driving factor in promoting capability investment is "efficiency", but rather that it is the best way to break the cycle of intergenerational disadvantage. As indicated earlier, research shows that there is a core set of skills and capabilities that children, young

[25] CEDA (2019). *Disrupting Disadvantage: Setting the Scene.* https://www.ceda.com.au/CEDA/media/General/Publication/PDFs/CEDA_DisruptingDisadvantagesS1Nov2019_com.pdf

people and adults require to be active agents in managing their lives effectively and charting their futures. Capability investment is about helping build those skills, capabilities and sense of self-efficacy. But first, we have to find the children and families that could benefit most.

Some may argue that this flies in the face of the importance of universalism in service provision and access. Over the years, there has been an ongoing debate about achieving the optimal balance between targeted and universal services. The conceptual difference is that universalists believe that everyone should have equal access to services regardless of circumstances, while proponents of targeting believe that services should be provided on the basis of specific, relevant characteristics, like poverty and social exclusion. Both approaches have evidence of efficacy and investments in both are an essential part of an overall social welfare system; however, it appears that targeted support may produce both better outcomes and greater economic returns and, most importantly in this instance, be the most efficacious way of disrupting disadvantage. Targeted services have the capacity to provide intervention before risks become entrenched, which makes turning things around much more difficult and expensive over the long run. If the selection of particular individuals or areas can be done accurately, targeted approaches can be an efficient way of preventing later problems and effective in improving the lives of children and families.[26]

It is important to emphasise that in no way is this intended to be an argument for replacing universal services with targeted ones; rather, it is an argument for trialling a well-funded, highly targeted capability investment approach to interrupt entrenched disadvantage.

Making this work will not be easy. At a minimum, the following are essential steps to creating and implementing an effective "we find you" approach[27]:

- Commitment to the idea and its intention coupled with strong and consistent leadership from the highest levels of government, to activate support, resourcing, collaboration, and accountability.
- A coordinated national approach to data integration and analysis. This could be led by the National Data Commission, with support from qualified institutions and stakeholders such as the Australian Institute of Health and Welfare.
- A clear statement of intent and commitment to not employing identification for the sake of anything other than the provision of additional support/services to improve the lifetime wellbeing of newborns.
- Genuine engagement across sectors and with key stakeholders to build the confidence and trust of service providers and the wider community.

[26] Shonkoff, J and Phillips, D (2000). *From Neurons to Neighborhoods> The science of early childhood development.* National Academy Press. Washington DC.

[27] CEDA (2019). *Disrupting Disadvantage: Setting the Scene.* https://www.ceda.com.au/CEDA/media/General/Publication/PDFs/CEDA_DisruptingDisadvantagesS1Nov2019_com.pdf

- Further work on the most effective early interventions and supports, desired outcomes, and how these should be funded, coordinated, and evaluated. State governments have the required data and linkage capacity to make this shift.

Intensive capability-building support for children and adults

Identifying the populations most at-risk of experiencing long-term disadvantage is obviously only the first step. As indicated earlier, we know that children need a core set of skills and capabilities to manage their lives and achieve their goals and these are most easily and productively developed in the early years of life, particularly the first 1000 days. We also know that adults need these same skills to maintain households, provide nurturing and stimulating environments for their children and to model effective planning, problem solving and decision making, bolstered by a strong sense of self-efficacy and resilience.

There is a growing body of evidence that the best way to build this constellation of competencies – ***executive function skills*** – is through the provision of intensive, integrated, two-generation programs, accompanied by ongoing evaluation, learning and adaptation, all within a three-pronged framework summarised in **Table 4** overleaf.

The importance of intergenerational approaches

It is well known that parent's education, economic stability, and overall health have a significant influence on a child's life trajectory. It has been less obvious that children's education and healthy development are powerful catalysts for parents. Recent findings in brain science confirm that the development of children and parents is inextricably linked. Parents gain motivation to succeed from their children and vice versa; their efforts are mutually reinforcing. This lead the Institute for Child Success to emphasise the potential of two-generation approaches suggesting that serving children and their parents, *together,* provides a core opportunity to strengthen executive function and self-regulation skills of each[28].

Fragmented approaches that address the needs of children and their parents separately often leave either the child or parent behind and dim the family's chance at success. Placing parents and children in silos ignores the daily challenges faced by parents who are working or studying while raising a child, a challenge even more pronounced for those with low wages. By contrast, two-generation approaches provide opportunities for parents and children to make progress together, creating a solid legacy of economic security that passes from one generation to the next.

[28] Institute for Child Success. https://www.instituteforchildsuccess.org/research-policy/search/?_sft_publications-tag=building-stronger-early-childhood-systems

Table 4: Framework for social and economic wellbeing

Education + Economic Supports + Social Capital

EDUCATION	EDUCATION IS AT THE CORE
POST-SECONDARY EDUCATION AND WORKFORCE DEVELOPMENT	Education, from early childhood through postsecondary, is a core competent of two-generation approaches. There is a strong correlation between low levels of educational attainment and poverty. Only 10 percent of those with a bachelor's degree are poor. More than 30 percent of those with a high school diploma or less are poor. The poverty rate does not decrease until people have at least some education beyond high school. In addition, there is a strong link between maternal education and outcomes for children, particularly school readiness for kindergartners. There is also evidence that parent engagement can further enhance these positive outcomes. While education is at the core of a two-generation approaches, education in and of itself is not sufficient if policies, programs, and systems are to move both parents and children beyond poverty.
K-12 EDUCATION	
EARLY CHILDHOOD EDUCATION	

ECONOMIC SUPPORTS	ECONOMIC SUPPORTS PROVIDE A SCAFFOLD
HOUSING	Education, Economic supports, including (but not limited to) housing, transportation, financial education and asset building, tax credits, child care subsidies, student financial aid, health insurance, and food assistance, provide an important scaffold for families as they work to build the skills that lead to better jobs and longer-term financial stability.
TRANSPORTATION	
FINANCIAL EDUCATION	
TAX CREDITS	
CHILD CARE SUBSIDIES	
STUDENT FINANCIAL AID	
HEALTH INSURANCE	
FOOD ASSISTANCE	

SOCIAL CAPITAL	SOCIAL CAPITAL BUILDS ON RESILIENCE
PEER SUPPORT	Social capital appears to be a powerful success factor in programs that help to move families beyond poverty. Social capital manifests itself as peer support: contact with family, friends, and neighbours; involvement in community and faith-based organisations; school and workplace contacts; leadership and empowerment programs; use of case managers and career coaches; and other social networks such as cohort models and learning communities. These elements build on the strength and resilience of families, especially the aspirations that parents have for their children. Source: Mosle, A. & Patel, N. (2012). Two Generations, One Future: Moving Parents and Children beyond Poverty Together. The Aspen Institute. Retrieved from ascend. aspeninstitute.org/resources/two-generations-one-future
FAMILY, FRIENDS, NEIGHBOURS	
COMMUNITY & FAITH-BASED ORGANISATIONS	
SCHOOL & WORKPLACE CONTACTS	
LEADERSHIP & EMPOWERMENT PROGRAMS	
CASE MANAGERS & CAREER COACHES	
COHORT MODELS & LEARNING COMMUNITIES	

Intergenerational services can include any or all the following:

- provide training in specific self-regulatory and executive function skills aligned to the environment and context in which they will be used;
- teach strategies for reassessing a stressful situation and considering alternatives;
- teach strategies for recognizing and interrupting automatic responses, such as intense anger or frustration, to give more time to activate intentional self-regulation in stressful situations;
- strengthen intentional self-regulation through specific training techniques that target the skills that can override automatic responses, such as helping adults identify their own motivating goals and support their pursuit; and
- create a "multiplier effect," in which helping adults see how small actions and successes will make a difference leads to a reinforcing cycle of positive emotional responses.

Adopting an intergenerational approach requires a considerable shift in thinking (**Table 5** below).

Table 5: New thinking about working with families [29]

OLD THINKING		NEW THINKING
Serve child or parent	→	Serve two (or more) generations
Emphasise care *or* education	→	Emphasise care *and* education
Provide information to parents	→	Promote responsive parenting, family life, and leadership skills
Require participation/responsibility of mothers	→	Assume partnership/responsibility include both parents/carers
Give referrals for services	→	Agencies to provide access to: • Education • Economic supports • Social/mental health services
Use data for compliance	→	Use data for continuous improvement

In addition, experience with intergeneration programs suggests important guidelines for effectiveness:

- Combine public and philanthropic resources to support multi-year two-generation demonstrations and trials.
- Blend two-generation programs with community capacity building and system change
- Create a no-wrong door approach supported by service navigators to connect families to appropriate programs, services and supports.
- Measure and account for outcomes for both children and their parents.

[29] Lombardi, J, Mosle, A, Patel, N, Schumacher, R and Stedron, J. 2014. Gateways to Two Generations The Potential For Early Childhood Programs And Partnerships To Support Children And Parents Together. https://b.3cdn.net/ascend/d3336cff8a154af047_07m6bttk2.pdf

- Engage and listen to the voices of families and ensure their perspectives and experience inform program and policy design.
- Foster innovation and evidence together.
- Align and link systems and funding streams to ensure that they are used to best effect. Resources exist to serve children and families, but they must be used more efficiently.

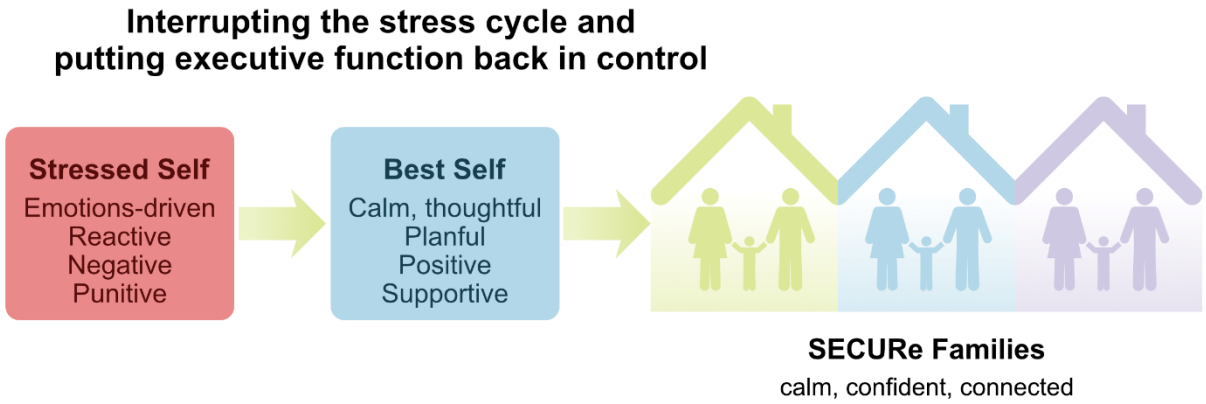
Very promising programs

Following are descriptions of two bold experiments in turning our understanding of brain development into concrete programs that yield positive results for children and families.

1. SECURe (Social, Emotional, and Cognitive Understanding and Regulation in Education)[30]

SECURe works with children, parents, and teachers from pre-K through grade 5 to support the development of executive function and self-regulation skills to allow everyone to manage stress in productive ways. It is about interrupting intergenerational disadvantage by putting EF skills in control so that the *stressed self* becomes the *best self*, which can lead to calm, confident and connected families, an important step to social and economic mobility (**Figure 5**).

Figure 5: Putting executive function skills in control



Three objectives drive the design of SECURe:

- **To use the science of EF to design skill-building strategies for both children and adults.** The goal is to provide supports to children, parents, and teachers in a way that resonates with what children and adults each face in their own settings. At the core of the SECURe approach is a set of concrete, age-appropriate strategies for building EF and self-regulation skills in both children.
- **To employ strategies across home and school**, aligning experiences across settings to generate bigger impacts than focusing in only one place or on one target.
- **To provide direct support for the everyday challenges of parenting**, by providing parents with concrete strategies for handling the everyday pressures and universal challenges of parenting that are exacerbated by the stresses of ongoing disadvantage and adversity.

[30] https://easel.gse.harvard.edu/secure

There are two aligned sets of activities: a series of workshops for adults and a schoolwide program for children.

Key features of the adult-focused workshops:

- A series of nine workshops that unfold over the course of a school year. Workshops are facilitated by a community-based social worker and aim to build a peer network and social support system among cohorts of low-income parents. Workshops are designed to interrupt cycles of stress and problem behaviour at home, by introducing strategies that help adults manage these moments more effectively – for example, building EF skills with daily "Brain Games" learning how to identify when the "stress siren" is taking over, and practicing cool-down strategies.
- A focus on the home environment, because parent-child interactions are a key context for building EF and self-regulation skills. Additionally, the content of each Families workshop is designed to align with what children are doing in the SECURe classroom curriculum, and with what teachers are doing through the SECURe Professional Development system. Across each of these groups (children, teachers, and parents) are a common set of elements. The SECURe strategies (i.e., Brain Games, Feelings/Stress Thermometer, cool-down strategies) are scalable and easily deployable to help children and adults address challenges that arise across multiple environments.
- Organized in a deliberate fashion to reinforce cycles of skill building. Each month, the workshop is structured in the following way (**Figure 6** overleaf):

  Learn Brain Basics – parents learn about brain development and are introduced to a new SECURe strategy for supporting positive behaviour and building EF-related skills at home.

  Plan – parents set a goal for the month and make a plan for how they will use the SECURe strategy to address "pressure points" with their child.

  Try it Out – parents try out the SECURe strategy or activity at home.

  Notice - parents notice and keep track of how often they use the strategy and how it is going.

  Reflect – parents start the next workshop by reflecting on the effectiveness of the SECURe strategy, and sharing with other parents what did or didn't go well during the month; then they begin the cycle again with a new Brain Basics and SECURe strategy.

The workshop structure was designed to give adults repeated practice in key EF skills such as planning, setting goals, problem solving, and reflection. Each month, the SECURe take-home strategy helps adults build additional skills with their children, including self-control, stress management, emotion awareness, and effective communication. These are transferable skills that are intended to support adults and children in multiple spheres of their lives. Thus, although SECURe Families focuses on parent-child interactions, the skills developed through the workshops can be applied to a much broader array of settings – including the workplace, financial planning, health decisions, etc. By engaging in cycles of planning and reflection, we hope to build sustainable habits that are transferred beyond the parent-child relationship to improve other aspects of low-income adults' lives.

Figure 6: Learning executive function skills

Key features of the child-focused program

The schoolwide program is designed to build students' abilities to: focus thinking, understand and deal with feelings, build positive relationships and manage own behaviour. It extends cooperative learning to promote self-regulation; includes a focus on cognitive regulation; has a stronger focus on emotional skills; and integrated self-regulation with academic learning.

Table 6 summarises the "what" and the "how" of the children's SECURe version, which involves daily activities, weekly skill sessions, class councils, home connections and opportunities to extend and connect.

Table 6: SECURe Children's Version

SECURe aims to…	By…
Improve learning	Teaching skills such as focusing attention and managing emotions
Foster engaged learners	Providing tools for positive climate
Build students' abilities to solve problems and face challenges	Using routines and activities that build cognitive, social, and emotional skills
Increase students' social and behavioural outcomes	Teaching strategies for building relationships, making good decisions, maintaining mental health

SECURe is a new and innovative approach to building key life management skills. The original pilot was conducted with a group of families living in high-poverty, high-risk communities. The majority of participants reported that SECURe strategies were doable in their daily routines and were helpful for managing the challenges of parenting young children: 71% said they used the SECURe strategy every day or most days of the week, and 65% said it was helpful most of the time (the remaining 35% said it was helpful some of the time). All the family members who gave feedback said they observed changes in both themselves and in their children as a result of the program.

2. INTERGEN PROJECT/MOBILITY MENTORING (IP/MM)[31]

The IP/MM aims to significantly improve outcomes for low-income children and families in educational success and economic mobility. The approach is rooted in the best academic research on poverty and its effects on the brain, and in decades of first-hand experience working with low-income families. The Intergen Project enhances the capacity of adults with limited education and low income to not only attain goals that move them toward economic independence, but also to build strong foundations for a more promising future for their children.

The IP addresses the effects of the stress associated with deprived circumstances at three different levels:

- Effects on families' educational, career, health, and financial outcomes. Participants set specific goals to improve outcomes for themselves and their children, such as going back to school or getting a new job for themselves and doing educational activities with their children.
- Effects on families' development of specific skills and mindsets at the inner self level that are necessary for navigating the complex path out of poverty: namely, self-regulation skills and the sense of self. Each of the aspects of Mobility Mentoring is specifically designed to optimize self-regulation and the sense of self in participants.
- Effects families' relationships, communication, and alignment (but not bonds). The Intergen Project's family-focused assessment and goal setting help families to set new norms for communicating and helping each other, better aligning toward shared outcomes.

One of the important aspects of Intergen's approach is the engagement of families in the co-design of the integrated intervention, the tools, and processes. Specifically, a suite of three tools have been developed that provide the basis for work with adults, children and families as a whole: The Bridge to Self-Sufficiency, the Children's Bridge to a Brighter Future and the Family Carpool Lane.

These tools are used to assess, set goals, and measure to help frame participants' decisions about how to help themselves get ahead. Using this tool helps participants strengthen the decision-making and self-regulation skills that poverty, trauma, and stress so seriously strain, yet that are so critical to permanently sustaining exits from poverty

While each of the tools can be used on its own together they are designed to create a common language and framework that allows each family member to pursue his or her own goals more effectively and to align family resources, routines, and problem-solving in the shared pursuit of those goals.

[31] https://www.empathways.org/direct-services/intergen-project

The Bridge to Self-Sufficiency® (**Figure 7** overleaf) is the theory of change for all of EMPath's adult-focused work. The metaphor of a Bridge is used to highlight the fact that there are many different domains, or "pillars," which must all be optimized in order to move from poverty to economic independence: Family Stability, Well-Being, Financial Management, Education and Training, and Employment and Career Management. If any of the pillars is weak, the whole bridge is at risk of collapsing. The layout of the Bridge serves as a brain-science informed scaffold for building key self-regulation and executive function skills, including inhibitory control, working memory, and mental flexibility. Along the vertical axis, the Bridge supports future-oriented decision making, allowing the participant to compare where he is today against where he would like to get in the future.

The Bridge breaks up the big tasks of becoming economically independent into smaller benchmarks, which help the participant to see a clear path forward. Along the horizontal axis, the Bridge supports contextualized decision-making, helping the participant to weigh various priorities and see how different domains impact each other.

> *Policies provide the scaffolding and structures that support parents; parents themselves fuel and create their family's successful path toward economic security.*

Figure 7: The Bridge to Self-Sufficiency

FUTURE ORIENTED DECISION MAKING

FAMILY STABILITY		WELL-BEING		FINANCIAL MANAGEMENT		EDUCATION AND TRAINING	EMPLOYMENT AND CAREER MANAGEMENT
Housing	Family	Physical and Mental Health	Networks	Debts	Savings	Educational Attainment	Earnings Levels [Suffolk County, MA]
No subsidy, housing costs 1/3 or less of household gross pay	Fully able to engage in work, school, & family life; children or family needs don't get in the way (OR) No children or dependent family members	Fully able to engage in work, school, and family life; health and mental health needs don't get in the way	Can always rely on networks to provide useful advice, guidance, and support; advocates for others	No debt other than mortgage, education, and/or car loans, and current in all debts	Savings of 3 months' expenses or more	Bachelor's degree or higher complete	Job with earnings equal to or greater than MIT's Living Wage* [income > $66,465]
No subsidy, housing costs exceed 1/3 household gross pay	Mostly able to engage in work, school, and family life; children or family needs rarely get in the way	Mostly able to engage in work, school, and family life; health or mental health needs rarely get in the way	Can often rely on networks to provide useful advice, guidance, and support	Current in all debts and making more than minimum payments on one or more debts	Savings of more than 2 months' expenses but less than three months' expenses	Associate's degree or professional certification complete	Job with earnings 66-99% of MIT's Living Wage* [income = $43,867 - $66,464]
Subsidized Housing – pays $300+ towards rent	Somewhat able to engage in work, school, and family life because of children or family needs	Somewhat able to engage in work, school, and family life because of health or mental health needs	Can sometimes rely on networks to provide useful advice, guidance, and support	Making minimum payments on all debts	Savings of at least one month and up to 2 months' expenses	Job training or certificate complete (beyond high school)	Job with earnings 33-65% of MIT's Living Wage* [income = $21,933 - $43,866]
Subsidized Housing – pays $0 - $299 towards rent	Barely able to engage in work, school, and family life because of children or family needs	Barely able to engage in work, school, and family life because of health or mental health needs	Can rarely rely on networks to provide useful advice, guidance, and support	Behind in payments of one or more debts and making payments on at least one	Savings of less than one month's expenses	High School Diploma or GED/ HiSET complete	Job with earnings less than 33% of MIT's Living Wage* [income < $21,933]
Not permanently housed	Not able to engage in work, school, and family life because of children or family needs	Not able to engage in work, school, and family life because of health or mental health needs	Can never rely on networks to provide useful advice, guidance, and support	Has debts; currently not making any payments	No savings	Less than High School Diploma or GED/HiSET	Not currently employed *Calculation based on 1 adult, 2 children in Suffolk County, MA. See MIT's Living Wage for further information: www.livingwage.mit.edu

CONTEXTUALIZED DECISION MAKING

Child Bridge to a Brighter Future™

Building on the success of the Bridge to Self-Sufficiency®, EMPath created the Child Bridge to a Brighter Future (**Figure 8** overleaf) to serve as a theory of change for all work done with children in the organization, and to form the basis for assessment and goal-setting in intergenerational programs….Like the Bridge to Self-Sufficiency®, the Child Bridge has five pillars that must all be strong in order to ensure optimal child development. These include Health and Well-being, Social-Emotional Development, Self-Regulation, Preparing for Independence, and Educational Progress. Research shows that these five domains are linked to success later in life, and that deficiencies in any one of these domains can put children at risk for poorer outcomes… …The Child Bridge to a Brighter Future, like the Bridge to Self-Sufficiency®, was designed to serve as a scaffold for self-regulation. Along the horizontal axis the Child Bridge supports contextualized decision-making, highlighting how different domains of the child's life interact with and affect each other.

In childhood, different periods of time are marked by different developmental stages, so the vertical axis of the Child Bridge is split into three distinct age groups: early childhood (birth to age 5), middle childhood (age 6 to 11), and adolescence (ages 12 and up). Each age group has its own benchmarks that should be reached by the end of the age group. This format follows the work of the Brookings Institution's Social Genome Project, which showed that success at meeting particular benchmarks at specified ages is predictive of success in subsequent stages of development, and of success in adulthood.

Figure 8: The Child Bridge

Developmental	Health and Wellbeing	Social-Emotional	Self-Regulation	Preparing for Independence	Educational Progress
Adolescence By age 18	Generally healthy. **Physical** health concerns do not pose a barrier to educational progress. **Mental** health concerns do not pose a barrier to educational progress.	Generally gets along with adults and peers. School behavior does not pose a barrier to academic progress. Social behaviors do not threaten to derail youth's goals: they do not put youth at risk for alcohol/drug abuse, crime, or pregnancy.	Thinks before acting. Delays gratification for long-term goals Remembers multiple tasks, and applies divers e rules and strategies in different situa-tions. Can easily revise plans when circumstances change.	Identify a career track that will lead to self-sufficiency. Specific plans for post-secondary education in place. Building work, volunteer, and/ or extracurricular experience related to post-secondary goals. Actively saving money and	<u>College & Career readiness</u>: Consistent school attendance. C+ or better in every class. On-track to graduate high school. School meets the needs of the youth.
Middle Childhood By age 11	Generally healthy. **Physical** health concerns do not pose a barrier to educational progress. **Mental** health concerns do not pose a barrier to educational progress.	Generally gets along with adults and peers. School behavior does not pose a barrier to academic progress. Understands risky social behaviors and how to avoid	Thinks before acting. Ignores distractions while focused on a task. Follows complex directions. Adapts to changing situations and/or rules, in school and at	Has dreams of "what I want to be when I grow up," and knows what it takes to get there. Understands the difference between "wants" and "needs." Has savings account.	<u>Basic Skill Acquisition</u>: Consistent school attendance. Meets grade expectations for Reading and Math. C+ or better in every class.
Early Childhood By age 5	Generally healthy. **Physical** health does not impact child's or parent's daily lives. **Mental** health does not impact child's or parent's daily lives.	Interested in appropriate social interactions with oth-er children or adults. Developing ability to under-stand and communicate feelings, and to share. Looks to others for help.	Follows 2-step directions. Can delay eating a treat. Adapts to changing situations and/or rules, in school and at home.	Learning about different jobs, and how money is earned. Learning about the difference between "wants" and "needs." Has a savings account. Can sleep, eat, and play on own. Practices self-soothing.	<u>School Readiness</u>: Consistent preschool/daycare attendance. Preschool/daycare meets child's and parent's needs. Developing pre-literacy skills.

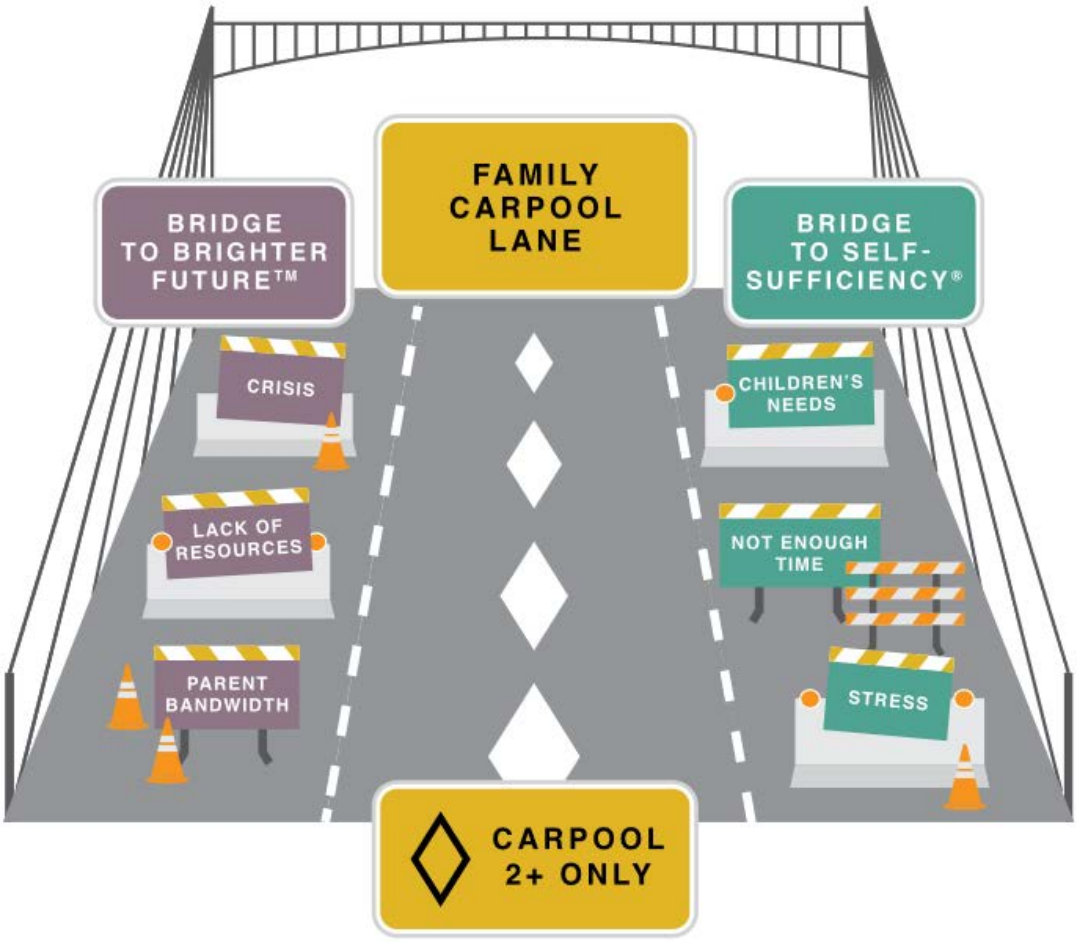
FUTURE ORIENTED DECISION MAKING

CONTEXTUALIZED DECISION MAKING

Please circle each benchmark in GREEN for "on track," ORANGE for "some concern," or RED for "high priority."

Family Carpool Lane™ (**Figure 9**). To explain the power of family-focused work, staff developed a metaphor of a carpool lane running parallel, in-between the Adult Bridge to Self Sufficiency® and the Child Bridge to a Brighter Future™. It is possible to cross either of these bridges alone… However, individual progress is hard, and there are many roadblocks that can get in the way. For children, these roadblocks can be things like crisis in the family, lack of resources for certain activities, and a shortage of parent bandwidth. For adults, the roadblocks can include children's needs, not having enough time, or having large amounts of stress. Any one of these roadblocks can derail an individual's plans to move forward. However, by traveling together on the Family Carpool Lane, the family can avoid these roadblocks and move more efficiently toward a better future. Bringing the entire family together allows them to align their efforts toward shared goals, and work in a way that will move them all forward, together.

Figure 9: The Family Carpool Lane



The Family Carpool Lane Tool is intended to aid the family in starting a conversation about their own alignment. Families use this framework as a way of uncovering their own dynamics: the ways in which life works at home as they all feel it should and the areas where changes might help family members better support each other.

In order to reach alignment, the family must first think about the ways in which family dynamics are helping and hindering their individual journeys, and then must agree on how to remove the roadblocks that get in their way. Ten important domains were identified which are assessed on the tool:

Safety: In order for individuals to work to their potential, they must feel (and be) safe at home. Lacking a feeling of safety leads to toxic levels of stress, which in turn leads to self-regulation difficulties, compromises in decision-making, increased health complications, and more.

Basic Needs: In order for individuals to be able to perform optimally, they must have adequate food, shelter, sleep, and clothing. Lack of food and sleep directly impact brain function, and a persistent lack of any basic need can create toxic stress.

Coping: Every family experiences difficulties; it is important for each individual to have healthy ways of coping with the stress and anger caused by such difficulties. One family member's lack of coping skills–demonstrated in angry outbursts, abusive language, isolation, or drug/alcohol abuse can cause excessive stress for the rest of the family and lead to family breakdown.

Resources: Most families have to figure out how to get by with finite resources. Families living in poverty are forced to figure out how to get by with fewer resources than they really need, adding a lot of stress to the household preventing individuals from attaining their goals.

Time: Families have to budget their time, just as they do their resources. Time is a limited resource for everyone, and a family's use of time can greatly impact individual family members' outcomes. Sub-optimal allocation of time, or inadequate planning, causes numerous problems including tardiness, absences, and poor goals completion.

Space: The home environment itself, its physical space, can promote or impede goal achievement and can even impact health and well-being. The organization of the home, and the amount of chaos or order, can facilitate or discourage work on goals.

Networks: As is true with individuals, no family can succeed in isolation. Families get by through use of extensive networks including extended family, friends, neighbours, schools, community organizations, religious institutions, and other formal and informal networks. Having strong networks, and knowing how and when to deploy them, can make the difference between attaining a goal and not attaining it.

Problem-Solving: When problems come up – whether major or minor – they can derail an entire family. Families need to have good problem-solving skills to efficiently deal with issues as they arise and remain focused on goals.

Consistency: Individuals – especially children – thrive in predictable environments. A family without predictable routines can cause added stress to the individuals in it, as no one knows what to expect day to day. Indeed, predictability in the home has been shown to moderate the effects of poverty on children.

Mutual Support: All human beings crave connection to and support from family: there are biologically driven connections of parents and children, and the more social connections of broader family. It is the mutuality of the family, the deeply rooted experience of shared support, that makes it strong and helps propel family members forward in the face of adversity.

To ensure the more effective use of these tools, EMPath created and piloted an intergenerational model that incorporates the four fundamental components of Mobility Mentoring® which apply across the work with adults, children and families:

> **Individualization**. There is no "one size fits all" path to economic independence; each individual brings their own needs and strengths to the journey. Thus, services must be individualized within the framework of Mobility Mentoring® to best support the individual.
>
> **Horizontality**. The path to economic independence cannot be found in any one "silo," effective service delivery must bridge various domains.
>
> **Time**. There is no quick journey from poverty to economic independence; effective interventions must provide for continuity of support over time.
>
> **Partnership and Co-investment**. Goals attainment cannot be externally directed. It must come from internal motivation and investment. Effective interventions match the participant's degree of investment with equal investment.

By helping the family, early on, to learn how to self-assess and set goals, and helping parents to see themselves as coaches and mentors for their children, Intergen sets the family up to be more successful in the long-term, even without support. Trained program staff work 1:1 with families in the office and in their homes on a regular basis for up to five years, using specific brain science-informed tools to facilitate assessment and goal-setting with each member of the family and with the family as a whole. They coach the family and provide incentives when goals are attained. Importantly, they see the parent as the leader in the process, and over time the assessments and goal setting are done by the parent themselves. The Intergen Project, to paraphrase the words of a participant, completely changes the way the family works, making the parent feel more in control. Early results are encouraging:

- 86% of adults made significant progress toward self-sufficiency-related goals * 89% of children have shown improvements in their self-regulation skills * 100% of families have set and attained goals together
- 83% of families have shown improvement on externally validated measures of confusion and order in the home. While these outcomes have been seen in the relatively short term of one year of services, the Intergen Project is really focused on long-term outcomes.

The Intergen Project also helps other service providers (including non-profits and government agencies) adopt more effective ways of serving low-income families, by sharing the model and best practices, and providing training and technical assistance. The Intergen tools and processes can be applied to any direct service environment where there are people acting as case managers or family advocates.

These two programs are both science-informed exemplars that (1) target disadvantaged and at-risk families; (2) focus on building executive function skills with children and adults (intergenerational); (3) use a mentor/coaching approach; and (4) have monitoring and evaluation built into their DNA. These four elements work together to help families navigate their way to achieving desired social and economic goals.

What Next?

This policy brief has argued that we now have the science, experience, and frameworks to support a way forward in helping all children and families in Australia secure social and economic wellbeing. Section 1 summarised the core skills children need to thrive (executive function skills/self-efficacy); Section 2 explained the devastating impact of entrenched disadvantage and ongoing stress on development of these core skills; and Section 3 laid out a strategy for building these executive function skills through *capability investing* in intergenerational, intensive support targeted at children and families struggling with intense adversity, the Capability Investment Strategy.

There is sound evidence to support trialling implementation of the CIS, perhaps in a small number of communities characterised by deep and persistent disadvantage. This will involve a long-term commitment to an ongoing "try, test and learn" process that embeds ongoing monitoring, evaluation, discovery or knowledge development and adaptation. There will be risks as there always are with innovation; however, the science indicates that these would be calculated risks with significant potential to make a difference.

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