About this report

This report aims to provide the Royal Commission into Child Protection Systems with an overview of the research literature about the factors which determine 'a good childhood'. In doing so, it also considers some of the implications of a 'not so good childhood' for the developing child.

It is not intended to be all-inclusive, nor a review of such literature which is extensive, covering many disciplines, including psychology, social work, childhood studies, sociology, medicine, education, physiology, history, neuroscience, ethics, philosophy, child development, economics, geography, anthropology, cultural studies, ethnography, human rights, and so forth. Each of these disciplines presents differing, sometimes conflicting, perspectives. This paper will reference a number of these fields and in doing so, attempt to draw out the recurring themes and emerging issues, which surround the areas of childhood, child development and child wellbeing in 2015.

Areas for further reading, including prominent authors in certain fields, are included as footnotes throughout the document, and at the end in the **References** section. Additional references or source materials can also be provided for particular topics if required.

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Key messages

- Childhood is an important period of growth, learning and development.
- The physical, social, emotional, cognitive, behavioural and language development of a child is integrally connected to that child's life experiences and environment. How a child develops across each domain influences wellbeing and competence for life; and the 'nurturing' qualities of the environments where children grow, learn and live - parents, caregivers, family and community - have the most significant impacts on their development.
- Human development is shaped by a dynamic and continuous interaction between biology and experience from conception; and human relationships are the building blocks of healthy development.
- Development unfolds along individual pathways, whose trajectories are shaped by the ongoing interplay between sources of vulnerability, competence and resilience. Learning how to cope with adversity is also an important part of healthy child development.
- Culture influences every aspect of development and is reflected in child-rearing beliefs and practices designed to promote healthy adaptation and survival within the culture.
- Children are active participants in their own development, reflecting the intrinsic drive to explore and master one's environment. The growth of identity, cognitive ability, physical and emotional regulation and self-control are central to childhood development.
- The timing of early experiences is important, but the developing individual remains vulnerable to risks and open to protective influences throughout the early years of life and into adolescence and adulthood.
- An understanding of brain development does not imply any diminished role for the social, cultural, and familial influences on these developing biological systems. Rather, it emphasises how an understanding of biological processes can also enhance the importance of social and other interventions.
- Many of the pervasive socioeconomic differences, or 'inequalities', in adult wellbeing have their roots in socioeconomic inequalities early in life.
- To become productive and competent adults, children need to live in environments that provide some order and meet their developmental requirements, as well as their physical, learning, emotional and material needs. The immediate family environment is most often the context which first structures a child's early experiences with others.
- If society intervenes early enough, cognitive and socio-emotional abilities, and the wellbeing of disadvantaged children can be improved. Such interventions are estimated to have high benefit-cost ratios and rates of return. The longer society waits to intervene in the life cycle of a disadvantaged child, the more costly it is to remediate the effects of that disadvantage.

1. Introduction

One thing we all share is the experience of having once been a child. We all know much about childhood, whether we remember our own childhood experiences, or are parents or carers of children, or engage with children currently. In this sense, we all have our own theories and constructions of children and childhood (Morrow 2011). They are historical, cultural, social, economic, spiritual and emotional reflections of what we recall about the time when we were children, and what we observe and have experienced with children since then.

How we think about and understand children and childhood matters because our collective views, theories and ideas ultimately affect how societies treat and engage with children in daily life and practice (Morrow 2011). In this sense, childhood is "socially constructed", in that childhood has different meanings, and children have differing roles and undertake different activities across historical periods and in different cultures. Experiences of childhood differ according to class, gender, ethnicity, religious and cultural backgrounds, time period and geography. Social attributes such as these do not necessarily determine individual children's experiences, but they clearly influence them, by setting the boundaries of what is possible, appropriate and expected (Morrow 2011). Children, as active individuals, are therefore influenced by the various institutions, social structures and cultures in which they find themselves – whether schools, families, communities or particular geographical locations. These, in turn, shape their experiences of childhood, and our perceptions of them.

1.1 A brief historical view of childhood

It is argued that childhood as a distinct developmental period is a relatively recent phenomenon: that in ages past, children existed alongside adults, and once they were past infancy, were expected to work, firstly with their families, and then often as waged or unwaged labourers, in order that they and their families could survive (Ariès 1960, 1979; Cunningham 2006). They participated in the life of the communities around them, but there were few distinctive practices focused on them as children *per se* (Clarke 2004; Morrow 2011). This remains the case for many children living in low- and middle-income countries today; and may be reflected in the expectations and behaviours of refugee children and their families when they first arrive in Australia from such countries.

There is general agreement that something about the role of children in families and in the wider community changed between the eighteenth century and the present day. This is best described as the emergence and then the spread of a middle-class model or ideology of the family (Clarke 2004). This model is associated with the newly emerging commercial classes in Western Europe and was re-emphasised by the Enlightenment view that children were 'naturally innocent' and needed to be directed by appropriate care and education to become good citizens (Clarke 2004). In the nineteenth century, the exploitation of child labour by industrialism stood in stark contrast to the idealisation of childhood being spread further among the middle classes. This contradiction became the basis for the campaigns to limit and eventually to abolish child labour which ran through the century (Anderson 1980; Clarke 2004).

In 1900, Swedish design reformer and social theorist Ellen Key published *The Century of the Child*, presaging the coming century as a period of intensified focus and progressive thinking around the rights, development, and wellbeing of children (Harrod et al. 2012). Indeed, during the 20th century in many Western countries, childhood became an established and recognised period within a child's life. Limitations on the size of families, the decline in child labour, the gradual extension of compulsory schooling, and the idea of

children and their development as a proper subject for scientific study, were all influential (Clarke 2004). Underlying the concept of childhood was a belief that healthy, educated children would become productive members of the workforce, and 'good and responsible citizens' within society. Children were increasingly seen as the responsibility of the state, which intervened in their education, their health, their diet and their upbringing in ways designed to improve the national wellbeing by developing its future citizens (Clarke 2004).

By the 1950s, there was an expanding view that the care and nurturing of children was a skilled task and not one which came naturally to parents through instinct; and the response was an increase in supports for parents, parenting 'education' and child-focused practitioners who had specialised training (Hardyment 1983; Clarke 2004). Abuse and neglect, which had existed for centuries, were first described as such in the medical literature in the 1960s. The concern of policy makers, civil society groups and welfare institutions with the interests of the child continued throughout the late twentieth century; and in 1989, saw the development of the United Nations' *Convention on the Rights of the Child*, the first legally binding instrument to protect the rights of children, and the most ratified treaty globally (UN 1989). It remains a useful framework to describe what makes a good childhood (Hetzel 1997).

However, by the beginning of the 21st century, researchers and others were highlighting certain changes in society as being 'toxic' for childhood, and some described these as 'modernity's paradox' (Garbarino 1995; Keating & Hertzman 1999; Stanley et al. 2005). The latter refers to the growing perception and increasing evidence of substantial threats to the wellbeing of today's children and young people, despite high-income countries, like Australia, having reaped the benefits of expanding market-based economies and relatively greater material wellbeing for their families (Keating & Hertzman 1999). Examples include increases in mental and behavioural problems, obesity and physical inactivity, youth unemployment, learning disabilities and school failure among children and young people.

Over the last four decades, there have been major social and economic changes in Australia, especially in the areas of work, learning and communication, resources for families, community supports and the balance between them (Glover et al. 2006). These changes are not unique to Australia, occurring as well as in other high-income countries. Some examples of these are:

- marked alterations in the nature and amount of available work and in opportunities for the employment of young people, with globalisation and technological advances, placing greater demands on education and skills development (ABS 2009);
- rapid technological change bringing new ways of learning, communicating and interacting across communities (Robinson 2009);
- greater challenges in balancing work and family responsibilities (Pocock 2003);
- pressures on affordable housing, particularly public housing;
- significant economic hardship and joblessness for many households (Gregory 1999);
- challenges for rural and remote communities, and the dramatic impact of climate and water issues;
- a rise in those affected by mental health problems and addictions to alcohol, drugs and gambling (Productivity Commission 1999);
- a greater awareness of the effects of stress on children and young people as a result of serious family problems (Stanley et al. 2005); and
- the persistence of significant disparities in development, learning, health, and other aspects of wellbeing across the population (Glover et al. 2006; Lixia & Weston 2015).

These changes have been widespread and the ensuing disruptions experienced by individuals, families and communities, substantial. The rate of change has been rapid and without precedent in its scope and impact on different segments of the population, particularly children (Stanley et al. 2005). We are witnessing greater inequalities in economic and social outcomes, as individuals, families and communities attempt to adapt. The transitions appear to be continuing, and the long-term impact of such a rapidly changing society is not known (Keating & Hertzman 1999).

These influences set the scene for determining what makes a good childhood in 2015.

1.2 Terms and concepts

In this report, the term "child wellbeing" is used as an umbrella term to describe the health, development, participation, learning and other positive attributes of children's and young people's lives, up to the age of 18 years.

Where the term "Aboriginal" is used, it denotes both Aboriginal and Torres Strait Islander peoples.

2. Models of child wellbeing and development

For well over fifty years, the works of Bowlby, Gesell, Piaget, Winnicott, Bronfenbrenner and others[1] have provided important insights into human development by identifying the critical events occurring in pregnancy, infancy and childhood, including parent-child attachment, emotional regulation, and language acquisition (e.g., Piaget 1952; Bronfenbrenner 1979, 1986). Much of this knowledge focuses upon the idea of consecutive stages of development in an individual, each building upon the former, with competencies being established in a hierarchical fashion over time[2]. Development pathways, from infancy to adulthood, have been described for language, cognitive, socio-emotional, moral and the physical domains of learning, growth, health and development[3].

However, there is a growing body of new research about the determinants of human development. In particular, knowledge from a range of disciplines about the impact of early experiences on brain and behavioural development is proving influential in Australia, and internationally (McCain & Mustard 1999; Labonté et al. 2012; Blackburn & Epel 2012).

It is now evident that there is an important inter-relationship between children's brain development and biology, and their early experiences and environments (McCain & Mustard 1999; Keating & Hertzman 1999; Meaney 2010). The physical, social, emotional, cognitive, behavioural and language development of a child is integrally connected to that child's life experiences and environment. How a child develops across each domain influences wellbeing and competence for life; and the 'nurturing' qualities of the environments where children grow, learn and live - parents, caregivers, family and community - have the most significant impacts on their development (Hertzman 2000).

2.1 Core concepts of human development

As knowledge from different disciplines has evolved and been integrated with lessons from program evaluation and practice experience, a number of core concepts have emerged that enhance our understanding of human development, learning, wellbeing and capability.

- Human development is shaped by a dynamic and continuous interaction between biology and experience from conception; and human relationships are the building blocks of healthy development.
- Culture influences every aspect of development and is reflected in child-rearing beliefs and practices designed to promote healthy adaptation and survival within the culture.
- Children are active participants in their own development, reflecting the intrinsic human drive to explore and master one's environment. The growth of identity, cognitive ability, physical and emotional regulation and self-control are central to childhood development.
- Development unfolds along individual pathways, whose trajectories are shaped by the ongoing interplay between sources of vulnerability, competence and resilience.

[1] For a useful summary, see *A basic introduction to child development theories*, NSW Department of Education and Training, 2002 – at http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/LRRView/7401/documents/theories_outline.pdf

[2] For example, see *Child development basics*, Myers R – at http://www.healthyplace.com/parenting/child-development-institute/child-development-basics-table-of-contents/

[3] For example, see the resources at the Centre for the Developing Child, Harvard University – at http://developingchild.harvard.edu/resources/reports_and_working_papers/working_papers/wp13/

- The timing of early experiences is important, but the developing individual remains vulnerable to risks and open to protective influences throughout the early years of life and into adolescence and adulthood.
- The course of development can be altered in childhood by effective interventions, thereby shifting the odds in favour of more adaptive outcomes (Shonkoff & Phillips 2000).

In summary, humans are born ready to learn and develop. Early environments are vital, but are not deterministic; and nurturing relationships remain essential for human development throughout life.

2.2 New knowledge about brain development

Recently, interest in the underlying neurobiological mechanisms that drive human development has burgeoned, as investigators seek information about both normal and atypical development. The brain is the major organ of learning, and neuroscience, the study of the nervous system including the brain, has the potential to make important contributions to human development research, policy and practice along with molecular geneticists, evolutionary biologists, epidemiologists and social and behavioural scientists (Atherton 2007; Goswami 2008; Boyce et al. 2012). These include new understandings of the biological and environmental processes that underpin wellbeing throughout life; the discovery of neural and genetic markers for developmental and other risk; and the impact of adversity on wellbeing and development (Szücs & Goswami 2007; Blackburn & Epel 2012).

The nascent but increasingly coherent evidence[4] traces many of the chronic disease morbidities, behavioural problems, and lasting afflictions of adulthood to experiences of adversity, maltreatment, and stress sustained over the early years of life, and the resilience of some individuals despite such experiences (Boyce et al. 2012; Blackburn & Epel 2012; Rutter 2012). The converging, multidisciplinary science of human development has implications for our ability to enhance the life prospects of children and to strengthen the social and economic fabric of society (Shonkoff 2012).

In work undertaken for the World Health Organization's *Commission into the Social Determinants of Health,* some of the main findings from this recent brain research are summarised; and they apply universally to early brain development, irrespective of the society and a child and family's place within that society (Siddiqi et al. 2007).

- The early years of life are marked by the most rapid development, especially of the brain and other parts of the central nervous system.
- There are a number of sensitive periods in the development of the human brain that occur during this time. For each of these periods, specific regions (and therefore specific functions) of the brain undergo essential growth and formation.
- The environments of the infant and child determine the experiences which shape or 'sculpt' the networks and patterns within the developing brain (Cynader & Frost 1999). The more nurturing the physical, social, and economic environments of children during these early years, the greater the chances for their successful growth and development.

[4] For a summary of some of the neuroscientific research, see *Understanding the nature and significance of early childhood: new evidence and its implications,* Royal Children's Hospital, 2014 – at http://www.rch.org.au/uploadedFiles/Main/Content/ccch/PCI_Tim-Moore_Summary-Understanding-nature-significance-early-childhood.pdf

- The brain development occurring during this time provides essential building blocks across many domains, including economic, social, cognitive and physical wellbeing. Although individuals continue to develop beyond their childhoods, the environmental conditions to which children are exposed in the early years of development can have consequences for the rest of their lives (Power & Hertzman 1997; Shonkoff et al. 2009).
- Many of the pervasive socioeconomic differences, or 'inequalities', in adult wellbeing have their roots in socioeconomic inequalities in early development. That is, during the earliest years of life, differences in the extent of benefit provided by children's environmental conditions lead to differences in early developmental outcomes; and the effects of these early inequalities translate into inequalities in learning, development and wellbeing in later childhood, adolescence, and adulthood (Shonkoff et al. 2012).

Infancy and childhood represent receptive periods in brain development, that is, times where particular sensory experiences produce permanent, large-scale changes in neuronal circuits (Ito 2004). These broadly defined 'sensitive periods' in human development follow the same chronology for all human beings, and it is important to identify sensory problems such as vision and hearing impairment in young children as early as possible, because of likely lasting effects (OECD 2007). The first two years of life in particular, are thought to be highly sensitive for the creation of neural pathways for attention, perception, memory, motor control and the modulation of emotion (Davies 2002).

By the time that children begin school, they have already developed key communication, learning and thinking skills; learned to build and maintain relationships; and formed a strong sense of their own identity (Halfon & Hochstein 2002). By middle childhood, a child's brain development and functioning have been shaped by the nature of earlier experiences. However, emerging research findings indicate that the crucial brain developments in the first years of childhood now extend well into middle childhood, and beyond.

There are at least two aspects of brain development of particular interest in the period of middle childhood (up to the end of primary school). The first is that brain synapses (connections between cells in the nervous system) that are initially present as children enter this developmental phase may be gradually eliminated if they are not used. A pattern of *synaptogenesis*, or the creation and fine-tuning of brain synapses in the human cerebral cortex during early childhood, is followed by a gradual pruning process of unused connections, which eventually reduces the overall number of synapses to their adult levels. These waves of intense branching and connecting, followed by a reduction in neurons through pruning, occur before birth through to about the age of 3 years, and again at the age of 11 or 12 years (Freund 2004).

Synaptic pruning is thought to bring an improvement in the speed of information processing and a greater ability to undertake complex problem-solving, but details of these functions are still to be elucidated (Giedd et al. 2009). However, the loss of synapses may also explain why it is more difficult for an adult to learn a new language without a foreign accent, or to become a concert pianist, without having first acquired a degree of skill before puberty (Dahl 2004). For example, the areas of the brain that specialise in language grow rapidly until about the age of thirteen and then stop, with no further enlargement.

The second finding from research is that the regions of the brain appear to develop according to different time lines. Children grow cognitively at different rates and may not achieve the same developmental stage at the same time. Thus, it is difficult and may even be unhelpful to limit interventions up to a specified biological age (Cunha & Heckman 2006). Variations in brain and other body system development and functioning also appear to play

an important role in learning abilities and disabilities as well as patterns of behaviour (Bergen & Coscia 2001). During middle childhood, identification and potential diagnosis of special needs, including issues such as Attention Deficit Hyperactivity Disorder and autism spectrum disorders, typically peak. Sex-based differences in brain functioning are also observed, and contribute to the findings that boys are at higher risk than girls for poor literacy performance, special education placement, and school drop-out (Vialle 2008).

In early adolescence, further development of brain structure and function takes place, and there are effects from hormonal influences (Cameron 2004). Maturation of specific brain regions including the prefrontal cortex occurs during this window, but the complex mechanisms underlying these dynamic changes are not well understood (Morrison et al. 2014). During this time, behaviour and emotion may be less adequately controlled because of a disjunction between novelty and sensation seeking (both of which increase dramatically at puberty) and the development of self-regulatory competence (which does not fully mature until early adulthood) (Steinberg 2004). This disjunction is biologically driven and normative; and some young people are more likely to engage in risky behaviours, and to be impulsive and react emotionally. At these ages, adolescents tend to learn best when appropriately challenged in an environment that encourages taking risks, but where it is not subjected to high levels of stress or negative emotional reactions (Dahl 2004).

In spite of this, many adolescents are able to get along with their parents and teachers most of the time, complete their schooling, have positive relationships with peers, do not become addicted to drugs or alcohol, and emerge as productive and competent adults (Arnett 1999). However, there is also evidence that a significant proportion of adolescents experience substantial stress, struggle, and emotional turmoil (Masten et al. 1999; Bennett et al. 2009).

The frontal lobes of the brain, which are responsible for high-level reasoning and decision-making, now appear to mature fully in early adulthood, after the age of twenty (Keverne & Curley 2008). Research on the prefrontal lobes indicates that, when deciding what to do, humans rely on a mix of cognitive, ethical and emotional elements in their decision-making (Damasio & Damasio 2006). These capacities are not reducible back to brain structure, but rather they involve complex interactions between experiences, emotional wellbeing, our relations with people and the spaces we are in, as well as the neuro-anatomic structures and functions of our brain (Damasio & Damasio 2006).

While our brains show the greatest degree of plasticity during the early years of childhood, a certain level of flexibility and adaptability remains throughout life (DiPietro 2000). The structure of the brain at any time is a product of interactions between inherited and environmental factors, including both the outside environment and the internal physiological milieu. Stresses placed on the developing individual, by a mismatch between existing capacities and demands placed by the environment, results in compensatory physiological responses and behaviours that, in time, may affect brain structures. This can be part of a normal learning process, or, if the mismatch is too severe ('toxic stress'), can result in pathology (NSCDC 2005).

Between the microscopic components of the brain and the elements of psychology lie the means by which familial and educational experiences also intersect with developmental biology to shape our cognitive abilities, learning capacities, behaviours and wellbeing (Stern & Hines 2005). All of these are patterned by the social and economic influences on the nature of the experiences which shape development. In other words, 'one's experience becomes embedded in one's biology' (Keating & Miller 1999). This interactive process is highly complex and yet to be fully understood.

As outlined above, neuroscientific findings can help to delineate underlying developmental processes in ways that may inform more effective interventions and social policies to promote better development across the population. However, we now know that complex cognitive, behavioural and social factors are so intertwined with biological development as to make simplistic policy goals based solely on neuroscience, unhelpful (Bessant & Watts 2012; Pickersgill 2013). An understanding of brain development does not imply any diminished role for the social, cultural, and familial influences on these developing biological systems. Rather, it emphasises how an understanding of biological processes can also enhance the importance of social and other interventions (Dahl 2004).

As the socioeconomic environment is a key determinant of early development, in turn, early development is a determinant of wellbeing across the rest of life (Siddiqi et al. 2007). This new research offers the most robust evidence for understanding (and therefore, acting upon) the social and economic determinants of development and wellbeing at an individual, and a population level (Siddiqi et al. 2007).

2.3 New research into stress and its impact on child development[5]

Learning how to cope with adversity is also an important part of healthy child development. When we are threatened, our bodies prepare us to respond by increasing our heart rate, blood pressure, and stress hormones, such as cortisol. This is often called the 'fight or flight reflex'. When a young child's stress response systems are activated within an environment of supportive relationships with adults, these physiological effects are buffered and brought back down to baseline. The result is the development of healthy stress response systems.

The following paragraphs explain how this occurs:

> *'Normal development, expressed in play and exploratory activity in children requires the presence of a familiar attachment figure or figures, who modulate their physiological arousal by providing a balance between soothing and stimulation. The heart rate curves of mothers and infants parallel each other during interactions. This capacity of the caregiver to modulate physiological arousal reinforces the child's attachment to her, and allows a smooth alternation between activities, that increase and reduce arousal as they go back and forth between exploring the environment and returning to their caregiver.*
>
> *The response of the caregiver not only protects the child from the effects of stressful situations by providing soothing where appropriate, it also enables the child to develop the biological framework for dealing with future stress. In this process, the caregiver plays the critical role. The caregiver is the leader of the child, helping the child to know their own feeling states by giving words to their experience (oh, you look tired, what a beautiful smile, you look so happy, you're really upset now) helping the child to regulate their physical bodies and to know physical boundaries by holding, touching, playing with and comforting them. Without these early experiences, children grow up not recognising or understanding their emotional and physical states and consequently not able to make good decisions and judgements, not able to manage strong emotions and lacking trust in the world.*
>
> *Another important thing a secure infancy gives a child is the capacity to cope with stressful or traumatic events. If a child has been well cared for, she will respond to stress and trauma but will recover more quickly than those who had neglectful or harsh early parenting. Those children who had a caring, attentive caregiver were more likely to be comforted when something painful or scary happened, than those who did not.'* (*Downey 2006*)

[5] This section has been adapted from *Toxic stress*, The Centre for the Developing Child, Harvard University – at http://developingchild.harvard.edu/key_concepts/toxic_stress_response/

However, if the stress response is extreme, and long-lasting, and buffering relationships are unavailable to the child, the result can be damaged, weakened systems and brain architecture, with lifelong repercussions[6] (Perry 2007; Blackburn & Epel 2012).

Three different responses to stress are now recognised: *positive*, *tolerable*, and *toxic*. As described below, these three terms refer to the stress response systems' effects on the body, not to the stressful event or experience itself:

- **Positive stress response** is a normal and essential part of healthy development, characterised by brief increases in heart rate and mild elevations in hormone levels. Some situations that might trigger a positive stress response are the first day with a new caregiver or receiving an injected immunisation.
- **Tolerable stress response** activates the body's alert systems to a greater degree as a result of more severe, longer-lasting difficulties, such as the loss of a loved one, a natural disaster, or a frightening injury. If the activation is time-limited and buffered by relationships with adults who help the child adapt, the brain and other organs recover from what might otherwise be damaging effects.
- **Toxic stress response** can occur when a child experiences strong, frequent, and/or prolonged adversity—such as ongoing physical or emotional abuse, chronic neglect, caregiver substance use or mental illness, exposure to trauma and violence, and/or the accumulated burdens of family economic hardship—without adequate adult support. This kind of prolonged activation of the stress response systems can disrupt the development of brain architecture and other organ systems, and increase the risk for stress-related disease and cognitive impairment, well into the adult years.

When toxic stress response occurs continually, or is triggered by multiple sources, it can have a cumulative toll on an individual's physical and mental health—for a lifetime. The more adverse experiences in childhood, the greater the likelihood of developmental delays and later health problems, including heart disease, diabetes, substance abuse, and depression (Edwards et al. 2005). Recent research indicates that these may be mediated by damage to parts of our DNA known as 'telomeres', which are the ends of chromosomes that serve as protective caps essential for preserving our genetic information, and that the enzyme, telomerase, can replenish telomeres[7].

Under stress, the body increases its production of certain hormones, such as cortisol, and other biochemical factors. These compounds help to mediate an appropriate response to short-term stress. However, when overproduced for months or years, they can alter gene expression, probably with deleterious effects (Blackburn & Epel 2012). Several studies indicate that stress can begin eroding and shortening telomeres in infancy, and maybe even before children are born. For example, studies have found that the more violence children had experienced, or the longer they had spent in an orphanage, the shorter were their telomeres. Even young healthy adults whose mothers had experienced severe stress while pregnant (for instance, because of a close family member dying) had shorter telomeres than people whose mothers had relatively stress-free pregnancies (Blackburn & Epel 2012). Further research is required to understand to what extent such changes can be ameliorated or reversed.

Childhood adversity and stress can also play a causal role in most mental health problems in childhood (e.g., conduct disorder, ADHD and oppositional defiant disorder) and in

[6] For example, see *Maltreatment and the developing child: how early childhood experience shapes child and culture,* Perry B, 2005 – at http://www.lfcc.on.ca/mccain/perry.pdf

[7] For example, see *Telomeres and telomerase,* Blackburn E - at http://www.ibiology.org/ibioseminars/genetics-gene-regulation/elizabeth-blackburn-part-3.html

adulthood (e.g., depression, anxiety disorders, eating disorders, sexual dysfunction, personality disorder, dissociative disorder, post-traumatic stress disorder, psychosis and substance misuse) (Kessler et al. 2010; Read & Bentall 2012). However, research also indicates that supportive, responsive relationships with caring adults as early in life as possible may prevent or ameliorate some of the damaging effects of a toxic stress response (Perry 2007).

2.4 What factors determine wellbeing in childhood?

While there are many theoretical models which aim to describe the determinants of wellbeing, each has its limitations because of the difficulty in accurately depicting the complex web of interactions, which are known to contribute to positive outcomes over the life span. There is also much that is still to be understood about the multiple influences on development and their significance.

Although it has been established that the prenatal stage and the early years are crucially important in the trajectory of human development, less is known about what outcomes of early development are reversible and which outcomes cannot be reversed (Britto & Pérez-Escamilla 2013). However, models can simplify the myriad of different factors and help explain what we know of their relationships to each other. Today, most models utilise a socioecological approach with radiating circles of influence, from the individual level to the global level (Bronfenbrenner 1986).

The model[8] used in this report (Figure 1) draws on the work of Siddiqi and colleagues on early childhood development, and that of a number of leading authors of bio-ecological development and population health and wellbeing models (Bronfenbrenner 1986; Dahlgren and Whitehead 1991; Kelly et al. 2009).

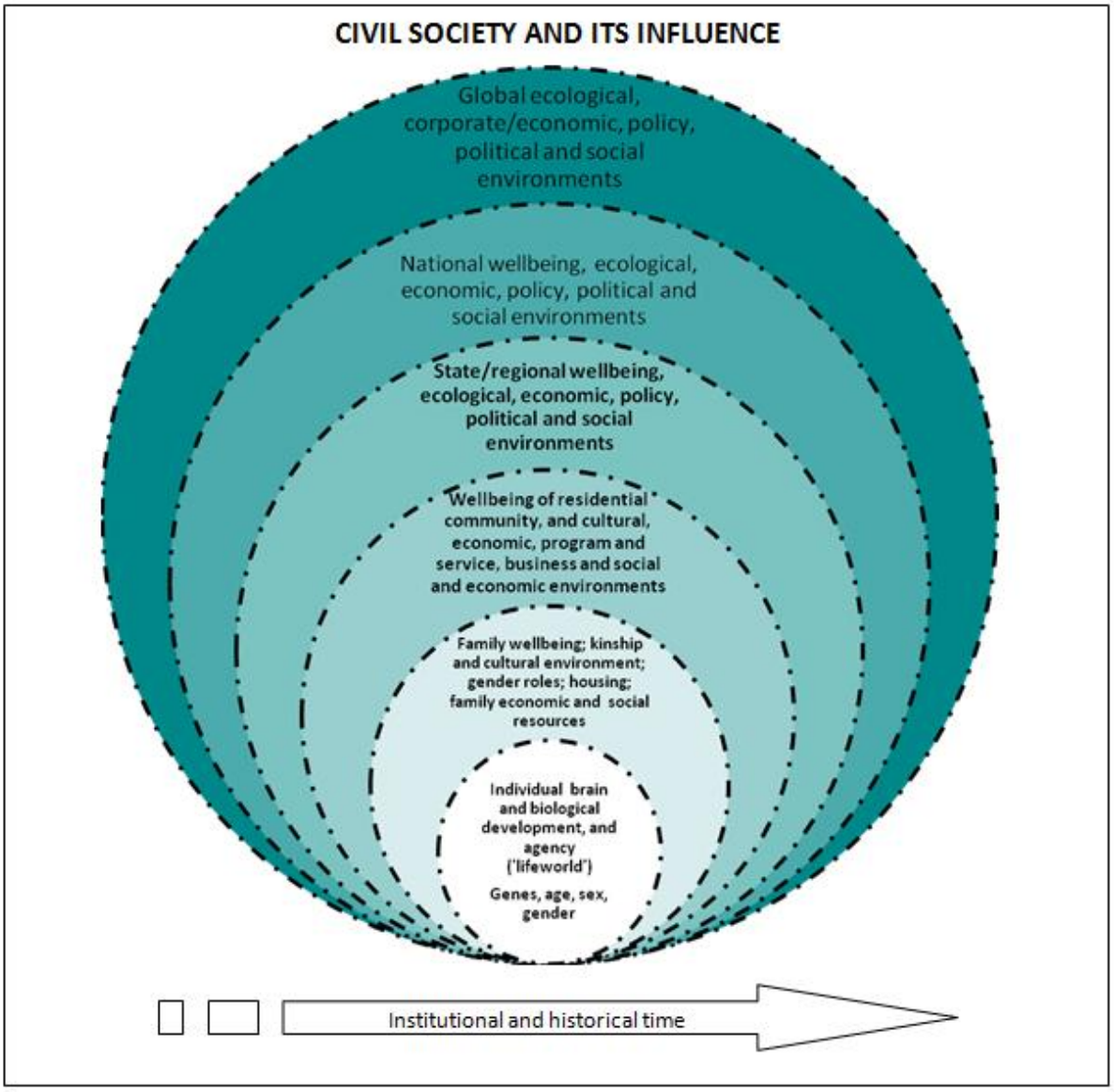
Interacting and interdependent environmental 'spheres of influence' are used to illustrate those factors which are universally important in providing enriching experiences and determining beneficial development outcomes from conception, through childhood and adolescence, and into adulthood (Siddiqi et al. 2007). These influences also operate according to the nature of the culture and/or society in which they occur.

The environments are not strictly hierarchical, but overlap, interact and interconnect, and represent social as well as physical and geographical milieus (Siddiqi et al. 2007). The developing individual lies at the centre. At the most intimate level is the family environment, which includes extended family and kinship groups who are children's first and most important educators. At the next level are residential communities (such as local neighbourhoods), 'relational' communities (such as those based on religious, cultural or other social bonds), and the program and services' environment, which includes early childhood programs, childcare, schools, training centres and adult educational institutions, as well as other key services such as health, welfare and housing (Siddiqi et al. 2007).

Each of these environments is situated in a broader socioeconomic context that is shaped by factors at the regional, national, and global levels (Irwin et al. 2008). Each can be described according to the physical, social, cultural, and economic aspects, which seek to optimise development, and maximise the equity of enriching experiences. Underlying the framework is the role played by civil society groups that may act at every level (i.e., on every sphere of influence) (Siddiqi et al. 2007).

[8] This model and its description were developed by me for a project for the SA Department of Education and Children's Services in 2010, but are relevant to the subject of this paper.

Figure 1: The key influences on wellbeing and development across the life span (adapted from Bronfenbrenner 1986; Dahlgren & Whitehead 1991; Siddiqi et al. 2007; Kelly et al. 2009)



Note: The dotted lines indicate interactions between and among the various spheres of influence.

All of these influences are time-related, both in terms of a person's life course and in the changes that occur over time in the policies, knowledge, research, institutions and structures that affect wellbeing and development positively and negatively (Irwin et al. 2008). The path that leads to a particular outcome may be very different for different individuals and populations: for example, children achieve developmental outcomes in many ways, and at varying rates and times. The timing and sequence of biological, cognitive, psychological, emotional, cultural and historical events and experiences all influence the development and wellbeing of both individuals and populations.

2.4.1 Influences at the level of the individual child

At the most fundamental level, development is the result of the interplay between the environment and an individual's inherent predispositions (e.g., genes, gender, temperament and so forth), both before and after birth. We are now discovering that, far from being purely deterministic, the activation of genetic information is stimulated by environmental influences, which affect the ways in which genes are expressed during life (Collins et al.

2000; Meaney 2010). This is the emerging field of 'epigenetics', the study of changes in gene expression caused by mechanisms other than changes in the DNA itself i.e., it refers to the regulation of the genome: the mechanisms that can change a gene's function, without altering its sequence (McGowan et al. 2008; Pickersgill et al. 2013; West & Orlando 2014).

A person's genetic endowment was once thought to be pre-determined and not amenable to change. Evidence now indicates that the ways that genes are expressed can be shaped by a person's physical, psychological and social environments; and social relationships and environments may influence the expression of DNA throughout one's lifetime (Francis 2009). A growing body of research is revealing that external factors affect wellbeing and development not only via psychosocial mechanisms, but through epigenetic mechanisms as well. Research has also shown that early life experiences can produce changes in the genes that affect brain development; and these changes may help explain, for example, why abuse and neglect early in life can result in a high risk for suicidal behaviour many years later (McGowan et al. 2009; Boyce et al. 2012).

From conception and through pregnancy, many biological and physical factors influence the developing fetus before birth, with lifelong effects on development. Maternal nutrition; *in utero* exposure to tobacco, alcohol and other harmful substances; infective agents such as bacteria and viruses; physical growth; and maternal exposure to toxic stress and violence, are all significant (Hyman 2009; McEwen 2011).

Nutrition from the mother provides the essential building blocks for intra-uterine growth, and deficiencies transmitted to the fetus can impair development. For example, a diet that is very poor in fatty acids and iodine will not be able to provide the fetus with the elements essential for physical and brain development, resulting in reduced visual function, behavioural abnormalities, and cognitive, intellectual or other disabilities (Pollitt et al. 1997; Grantham-McGregor et al. 2007; Haddow et al. 1999). In fact, nutritional deficiencies at all stages of childhood can have long-term damaging effects on intellectual, physical and psychological development (Siddiqi et al. 2007; Grantham-McGregor et al. 2007).

Intra-uterine growth restriction, leading to a low birth weight, can affect postnatal health and neurological development in childhood and later life (Barker 1997). Very low birth weight infants born prematurely are at higher risk of developing cognitive, neuromotor and neurosensory disabilities, including blindness and hearing loss. These disabilities in turn may lead to other deficits in speech, language and learning and behaviour problems affecting later school performance (Cole et al. 2002).

During the first year of life, breastfeeding plays an important role in infant nutrition, and is associated with healthier physical, brain and social development, and increased resistance to infection. It also encourages attachment and bonding to the mother, another factor contributing to optimal child development (Britton et al. 2006).

While genetic predisposition and biological characteristics at the individual level partly explain how environment and experience shape early development, other research highlights the significance of regulatory and control systems for competent individuals (Friedman et al. 2002). For example, emotion regulation, cognition, attachment and emotional security, and internal thought processing and appraisal systems are anchored in the developing brain and its operation. Environmental influences, particularly the quality of the interpersonal relationships experienced in infancy and early childhood, can both foster and hinder the development of these systems, which are essential for competent emotional, social and cognitive functioning (Keating & Miller 1999; Brooks-Gunn et al. 1997).

As discussed earlier, the relationships children have with their caregivers play critical roles in regulating stress hormone production during the early years of life (NSCDC 2005). Parents and other caregivers help to modulate emotional arousal by attending to an infant's needs. Inhibitory biological mechanisms also develop to influence the way children adapt positively to stressful situations. These include diminished stress hormone release in response to stress, and less neuronal loss in the relevant area of the brain as children age (Fenoglio et al. 2006). The appropriate development of emotion regulation predicts better social and cognitive competence and behaviour; and self-regulation in childhood affects coping strategies in adolescence and adulthood (Eisenberg et al. 1997; Rutter 1985).

Attachment, the formation of secure relationships, is another area which has long-term implications for developmental pathways (Bowlby 1988; Cassidy 1999). The young child is a social agent who shapes, and is in turn shaped by the environment (Irwin et al. 2008; Kelly et al. 2009). Secure attachment to a trusted caregiver, with consistent caring, support and affection early in life, provides a basis for a child to learn about her or his environment, and to become competent and self-confident (Ainsworth 1989; Cassidy & Shaver 2008). Secure attachments in early childhood are central to emotional wellbeing, and predict fewer behaviour problems and healthier relationships in childhood, adolescence and adulthood (Greenberg 1999; Berlin et al. 2008). An insecure attachment during infancy and early childhood, especially one that is disorganised, is an important component of the cumulative risk factors on a developmental pathway toward childhood socio-emotional problems and future academic and psychiatric problems (Lyons-Ruth & Jacobvitz 1999).

Parental care can modify the cognitive development of offspring. The mother-child relationship influences the expression of genes responsible for behavioural and neuroendocrine responses to stress, as well as synaptic development in the hippocampal area of the brain (Meaney 2010). Mechanisms involved in cognitive processing are a further area of development, which is critical for longer term adjustment and behaviour. Young children integrate their observations and experiences into internal working models of human interaction, cultural rules and expectations of behaviour, regarding themselves and others (Dodge & Price 1994). These inner beliefs and appraisal systems (or 'lifeworld') play a large part in social competence, learning, wellbeing and functioning in later childhood, adolescence and adulthood (Kelly et al. 2009).

How a child develops across each domain influences health, learning, wellbeing and competence for life, and there are many avenues for these to evolve (Hertzman 2000). The role of play, for example, is universal to all cultures, and is essential for children's social, physical and cognitive development. Play fosters important social skills, and is an arena for learning, physical activity and the expression of children's feelings. Play processes influence synaptic formation in the brain, and are linked to secure attachments with caregivers and relationships with other children (Ginsberg et al. 2007). In older children, play contributes to positive peer relationships, emotional regulation and motor skill development and coordination.

Competence in these developmental domains as a result of nurturing relationships and experiences has become a better predictor of wellbeing outcomes than relying solely upon the socioeconomic conditions in which children live and learn (Siddiqi et al. 2007). This is because many children from disadvantaged backgrounds are able to learn and develop well, despite adverse circumstances (Ramey & Ramey 1998; Rutter 2012). Such resilience is predicted by attributes of a child's disposition (e.g., temperament, self-belief, cognitive abilities), family characteristics (such as warmth and closeness), and the availability and use of external support systems by family members (Garmezy & Rutter 1983). The presence of

one or more of these protective factors is associated with better child and adolescent outcomes in the context of adversity (Friedman et al. 2002; Willms 2002).

The early childhood period is crucially important in developmental terms, representing untapped learning potential which, if nurtured and nourished, can transform an individual child's outcomes (Barnett 1998; Schweinhart et al. 2005). While scientific research increases our knowledge of the child's neural pathways and critical periods for development, it cannot tell us how to produce the best outcomes with certainty for all young children, because children's development is complicated and influenced by many environmental factors; and children help to form their environments through their own actions (MacNaughton 2003). Social and economic determinants shape brain and biological development through their influences on the qualities of stimulation, support, and nurturing available to the child through their families and communities, and the resources available from regional, national and global contexts (Siddiqi et al. 2007). These influences also remain critically important to wellbeing through adolescence and adulthood.

2.4.2 The influence of family

To become productive and competent adults, children need to live in environments that provide some order and meet their developmental requirements, as well as their physical, learning, emotional and material needs (Bronfenbrenner 1979). The immediate family environment is most often the context which first structures a child's early experiences with others. Public discussion often focuses heavily on the form of family, but what matters for children is how family members interact and are able to meet their children's fundamental needs. Critical to the family environment are its social, cultural and material resources (Irwin et al. 2008).

A family's social resources include parenting skills and education, cultural practices and approaches to child-rearing, the physical and mental health of family members and the nature of intra-familial relationships. Responsiveness, cohesion, organisation, consistency, warmth and safety are all essential qualities of a family that will promote optimal development for a child (Friedman et al. 2002; Linver et al. 1999).

Families are also responsible for mediating a child's exposure to the wider community, and for the degree to which a child is appropriately protected from negative influences. Research findings about children who manage to thrive in spite of adversity indicate the critical importance of a consistent, caring adult who is able to engage the child in an ongoing relationship (Masten & Reed 2002). Other studies show that children require adults in their immediate environment who are capable of instilling a positive sense of responsibility and passing on social and moral expectations (McCain & Mustard 1999). In addition to sound relationships with adults in their communities, children need freedom from discrimination, opportunities to build self-reliance and confidence, and a sense of justice in their world (Rutter 1985).

Looking at the function of families leads to the question of whether a family is supported or hindered to fulfil its roles and responsibilities. To be the good parents that most want and hope to be, parenting needs to be effective: responsive to the child's needs, and characterised by warm and nurturing interactions that are accepting and mindful of the child (Sawyer et al. 2014). Parents and carers also need support and knowledge of what a child requires in order to develop well and realistic expectations of what a child can achieve at each developmental stage.

Parents also need meaningful employment and learning opportunities. To ensure wellbeing for all family members, there must be access to adequate health care, housing, safety, clean air and water, nutritious food, transport and quality childcare. For optimal child

development, families need support from neighbours, schools, community agencies and governments, and opportunities to develop relationships, maintain good parenting practices and pursue their interests (Weissbourd 2000). A lack of any of these resources decreases a family's ability to fulfil its purpose. Without adequate income, the likelihood of having good health, safe housing, education, satisfying work or other life expectations diminishes substantially (Marmot & Allen 2014; Bezruchka 2015). Family economic circumstances also determine the ability to access early childhood education, high quality childcare and other programs which can enhance children's development. For families without these resources, the resulting tension increases the likelihood of instability and stress in relationships among family members, further decreasing the family's ability to maintain a supportive environment for the development of its children (Slee 2006).

The effect of differences in the social and economic resources of families is the most powerful explanation for differences in children's development across societies; and these resources profoundly affect all other aspects of the family environment (Irwin et al. 2008). The association between socioeconomic status and a wide range of outcomes over the life span is consistently strong in population-based research across many different fields of child development. For example, there is a demonstrated association between socioeconomic circumstances and language and cognitive development in young children, largely based on the richness of the language environment available to the child (Hart & Risley 2003). Family socioeconomic status is also associated with other developmental outcomes for children such as low birth weight, risk of child abuse and neglect and family violence, poorer cognitive test scores, risk of disengagement from school, difficulties with behaviour and socialisation, and adult education attainment, health and employment (Taylor et al. 1997; Hyman 2009).

2.4.3 The influence of communities, programs and services

Relational communities

Children's development is also shaped by the nature of the relational communities (social ties to those with a common identity) which surround their families (Siddiqi et al. 2007). Relational communities help to form an individual's social identity, which is a critical factor for wellbeing over the life span. It may be based on tribal, ethnic, religious, spiritual, language and/or cultural attributes (Irwin et al. 2008). Relational communities are a primary support for many families, and are often the means by which child-rearing practices and information about child development are transmitted across generations (Irwin et al. 2008). As such, they influence how children identify themselves and others, help build self-worth and a sense of belonging, and can be a source of social inclusion, and also of exclusion (Portes 1998). Membership of such a community may engender discrimination, racism, and other forms of injustice from an intolerant wider society, with deleterious consequences for learning, development and wellbeing in the short and longer terms (Krieger 2000; Awofeso 2011).

Residential communities

The development of children is also influenced by the nature of the residential communities where they and their families live. These communities can benefit families in many different ways - from services that assist with parenting and other roles, to support networks which offer learning opportunities and build social cohesion – all of which are important for child and family wellbeing (Slee 2006; Altschuler et al. 2004). Volunteer programs, play groups, non-government agencies, service organisations, small businesses and governments provide many necessary services to families at a local community level.

Key to maintaining the wellbeing of a community are available resources to support child development, starting before birth, followed by coordinated, comprehensive, local services to deal with the small and large crises that inevitably occur in the normal life of any family. These resources may come from outside the community itself, from the larger system of institutions created to provide support for all families, and services when children or families need them (Siddiqi et al. 2007). However, differences remain in the extent to which families' needs are being met, and may be seen in the differences in the developmental attributes of their members.

The socioeconomic environment of residential communities can be described in many ways: for example, by the average or median income level, the proportion of jobless families with children or those who are dependent on income support, or the percentage of people who have completed Year 12, or its equivalent, of secondary school (Glover et al. 2006). Research has shown that more advantaged neighbourhoods are associated with better disposition to learn and school achievement (including verbal and reading ability) in their children and adolescents (Leventhal & Brooks-Gunn 2000; Browning et al. 2004). These effects may operate indirectly via parental behaviour, quality of the home environment and family functioning; and are also influenced by attributes of the neighbourhood such as its collective efficacy, developmental health, and demographic, ethnic and economic diversity (Brooks-Gunn et al. 2003; Lesaux et al. 2007).

As children reach school age, their interactions and experiences within various contexts such as school, peers and the neighbourhood increase and exert more structured influences on their development. For example, in a Canadian study, children from poor families living in economically mixed neighbourhoods appeared to do better in assessments of their learning ability (i.e., maths and verbal achievement) than similar children living in uniformly disadvantaged neighbourhoods (Kohen et al. 2002). Behaviour problem scores were higher when children lived in neighbourhoods with low cohesion, fewer affluent residents and high unemployment rates, after controlling for family socioeconomic factors (Kohen et al. 2002). Children's sense of self and belonging in their environment are integral to their social and emotional development, and help them develop a stronger connection to their community (Irwin et al. 2006).

Children's development is also directly influenced by physical aspects of their residential communities. The socioeconomic status of a community is inversely associated with the risk of exposure to pollutants, poor air and water quality, excessive noise, residential crowding and other hazards for children's development (Trasande & Landrigan 2004). Restricted space, polluted soils and unsafe environments may reduce opportunities for play, physical activity and other forms of recreation, and social and emotional development can also be hampered in communities marked by high levels of interpersonal violence and trauma. Many Aboriginal children living in remote communities have experienced unacceptably high levels of exposure to all or some of these hazards, with consequences for their health, learning and development (ABS & AIHW 2011).

Programs and services

There is a wide range of services and programs, which influence child development. Many of these sit within the education and health sectors, but welfare, local government, community, business and a myriad of other sectors also contribute.

Early child development programs are an effective way to address avoidable inequalities in learning and development across a population (WHO 2009). There is good evidence that investment in effective programs that enhance all aspects of children's development – physical, emotional, cognitive, language, social, cultural, spiritual – can reap benefits many

times over for children, families, communities and nations, if they start early, and are continued throughout childhood (Schweinhart et al. 2005; Heckman 2006, Ludwig & Sawhill 2007). Quality programs have been shown to foster and promote human capital, that is, individuals' competence and skills for participating in society and the work force as adults (Knudsen et al. 2006). Programs which also link to preventive health services and incorporate health-promoting measures, are more likely to bring sustained improvements in physical, social, emotional, language and cognitive development as well as reducing the future burden of disease and poor health, especially for those who are the most disadvantaged (WHO 2009).

The quality and appropriateness of these programs and services is critical to achieving good developmental outcomes, especially for children from disadvantaged families (Willms 2003; Magnuson et al. 2004). Principles for sustainable programs include cultural sensitivity and appropriateness; community ownership; a common purpose and consensus about outcomes related to the needs of the community; partnerships among community and service providers, parents and caregivers; enhanced community capacity through active involvement of families and other stakeholders; and an appropriate management plan (including users) that facilitates the monitoring of quality and evaluation of effectiveness (Irwin et al. 2008, Karoly et al. 2005).

Successful programs build on existing resources and local networks, and create and maintain collaborative relationships with parents, elders and cultural leaders, other family caregivers and older siblings (Engle et al. 2007). Programs should be universally offered, but tailored to the specific needs of children and their families, such as for Aboriginal families, children with disabilities or those who are recent arrivals as refugees. Programs can include parent education, play and parent support groups, in-home support with early stimulation and care, community-based childcare, and health and community development programs, intensively offered according to the level of need. To be effective, programs must converge at the level of the family and the local community in a way that puts children and their interests at their centre (Irwin et al. 2008).

Research on targeted early childhood programs in the USA has consistently shown short-term cognitive improvements as well as long-term gains in terms of academic achievement and reduction in special education placement, employment, earnings and crime (Karoly et al. 1998; Karoly & Bigelow 2005). Parents also received positive benefits in terms of maternal employment and increased parental involvement in their child's school (Hill et al. 2002; Currie 2001). In the UK, research has also demonstrated positive long-lasting effects from early education on cognitive skills in adolescence, and on the likelihood of obtaining qualifications and to be employed at the age of 33 years (Goodman & Sianesi 2005).

By the time that children start school, they are already proficient learners who bring into their new learning environment, knowledge about the world and their interactions within it. They also may reflect the different experiences and the impact of social and economic disparities of their family and community in their skill sets and behaviours (Pungello et al. 2009; Magnuson et al. 2007).

The process of development that occurs within the school system is complex, and outcomes for students may be attributed to many different factors. Much research has been undertaken to elucidate the impacts of its numerous dimensions (teacher attributes, class size, curricula, institutional milieu, disciplinary approaches, philosophy and so forth) on individual students of all ages who are the recipients. All children bring with them both vulnerabilities and strengths. The role of the education system is to create contexts that

address the vulnerabilities and enrich competence and support further development of all its students (NICHHD 2006).

There are a wide range of factors that influence developmental outcomes for students, from the relatively stable influences of family background, school sector, type and size of school, to the more dynamic or contextual influences of leadership, school organisation (related to curriculum, teacher development and school climate) and student characteristics (related to students' self-concept, mobility, attitudes to school, learning and involvement) (Silins & Murray-Harvey 1998).

The impact of socioeconomic disadvantage on student achievement is substantial, as risk factors for adverse outcomes often occur together, and can have cumulative effects over time on children's development. Ongoing family adversity is a risk factor for attention difficulties, poor cognitive performance, delinquency, and greater absenteeism from school due to ill health or truancy (Hattie 2003; OECD 2005). The cumulative effect of familial stressors such as low income, poor parental education, young maternal age at birth, large family size, family violence, insecure housing and family instability can have a pervasive effect on the developmental wellbeing of children and young people at school (Slee 2006). However, it is also apparent that for any characteristic or group of characteristics predicting low school achievement, some children possessing them will achieve at higher levels than those risks alone might predict. There remains much debate in the research literature about whether the differences, on average, in the achievement levels of disadvantaged and privileged students are more a function of the quality of schooling they receive; background characteristics (family, community, social, and economic) that influence achievement after controlling for instructional quality; or school quality and background characteristics acting together; and the size of the contribution of each (Rothstein 2004; Lietz 2009).

Learning is marked by a series of developmental stages and transitions between stages. Successful completion of the learning and developmental tasks at each stage is dependent upon successful completion of tasks at previous stages (Silburn 2002). While early childhood is an important period, pathways are not immutable and transitions occur throughout life. It is important to intervene early in a pathway, not only early in life; and to intervene at times of transition, when an individual is open to learning new things that are relevant to achieving the transition (Ludwig & Sawhill 2007; Homel et al. 2006). Supports for learning and development and safety nets are needed throughout the life course.

2.4.4 The influence of regional, state, national and global environments

An ecological understanding of the relationship of children to their families and families to their communities is incomplete without recognising the important influence of regional, state and national agencies, policies and practices. The impact of these environments is fundamental in determining the quality and accessibility of services and resources to families and communities. They are also important to understanding where inequalities in opportunity and outcome exist and the levels of society at which restorative action can be implemented (Irwin et al 2008).

Changing environments at the state or national level can influence outcomes across multiple determinants of development for far larger numbers of children and their families, through wealth creation and redistribution, employment, public investment in social support services (such as education, early childhood, welfare, disability and health), child- and family-friendly policies, income safety nets, legislation and the protection of children's rights (Irwin et al 2008).

The global environment is, increasingly, a powerful influence on national economic and social outcomes, and ultimately, on a nation's citizens (Siddiqi et al. 2007). It is also

characterised by important international conventions such as the United Nations' *Convention on the Rights of the Child*, which offer opportunities to gauge a nation's efforts with respect to the development and wellbeing of its children. In this regard, civil society groups also play a pivotal role. When civil society is enabled, there are many ways in which advocates for children, young people and families can work to improve the life outcomes of those who are disadvantaged, both within a country and internationally (Siddiqi et al. 2007).

3. Children's development: protective factors, risks and resilience

3.1 Protective factors and risks

In the socioecological model discussed in Section 2.4, child development is seen as a process in which child characteristics interact reciprocally with the environment over the course of life, meaning that children affect their environments as well as being influenced by them (Irenyi et al. 2006). Developmental outcomes therefore represent the result of multiple influences, which may be harmful and increase vulnerability (Figure 2) or protective and enhancing (Figure 3, next page). While risk and protective factors are common to certain outcomes, the pattern of risk and protection will vary considerably from child to child. It is important to recognise the limitations of research in this area. Risk and protective factors are often only correlated with certain outcomes; they are not necessarily causally related to these outcomes.

Risk factors are individual, school, peer, family, cultural and community influences that increase the likelihood that a child will experience a developmental problem. However, the presence of a risk factor does not ensure or guarantee that a specific outcome, such as school failure, will inevitably occur. Rather, the presence of a risk factor suggests an increased chance or probability that such a problem might develop.

Figure 2: Developmental pathways to vulnerability (Silburn 2003)

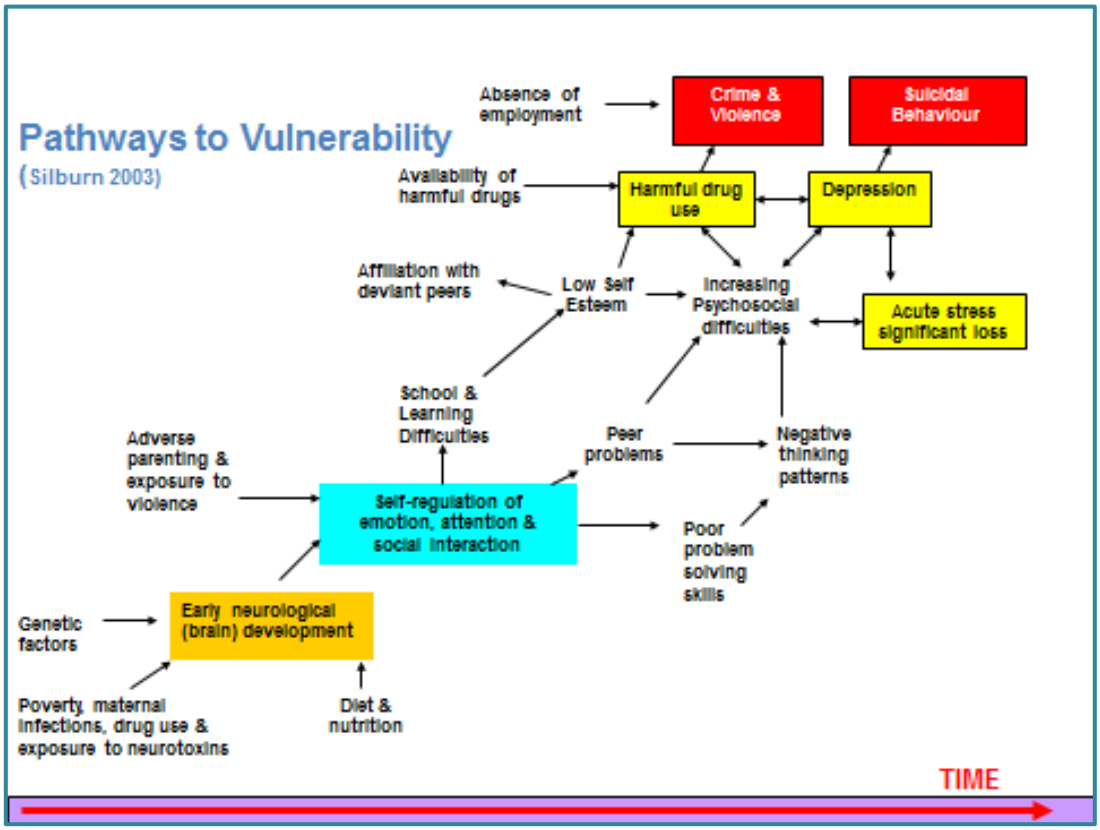
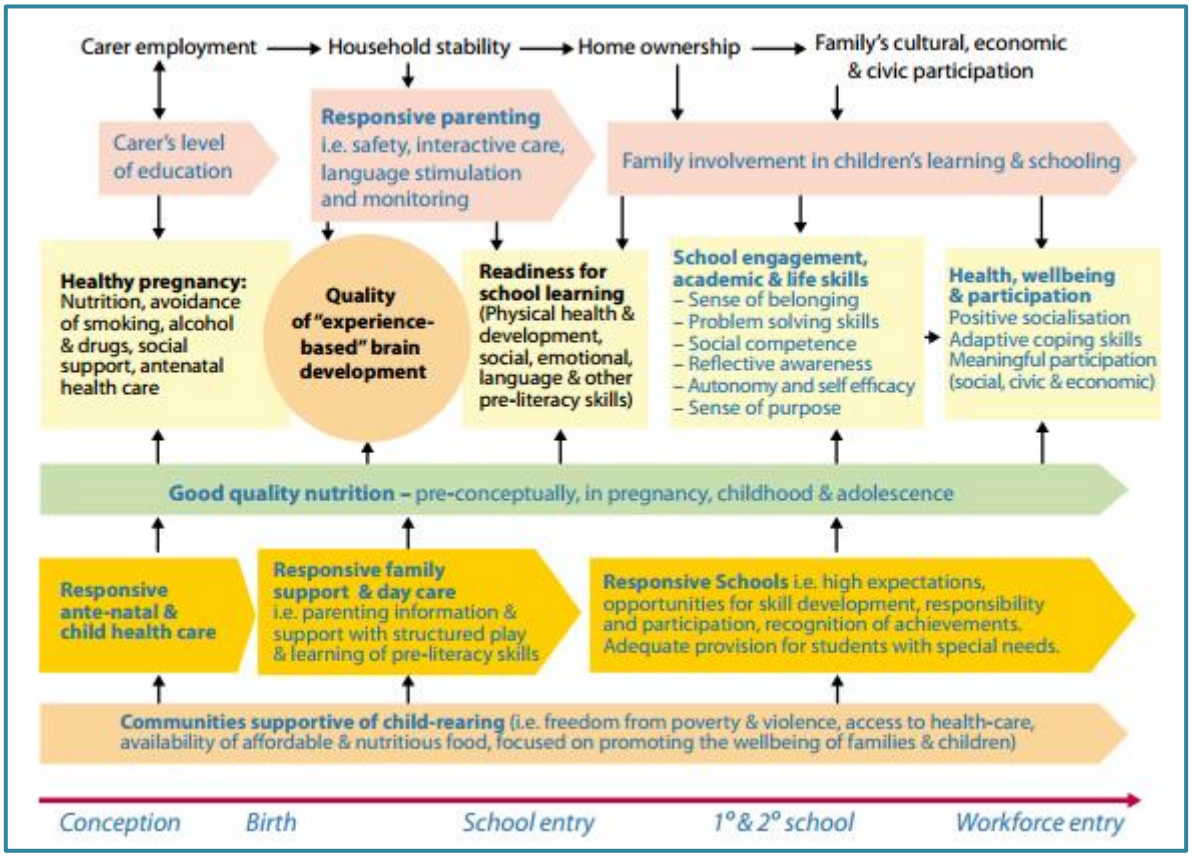


Figure 2 summarises what is known about the main developmental pathways to vulnerability in children, some of which are proximal to the child, such as the quality of parenting, and others are more distal, such as poverty.

Protective factors are those influences, characteristics, and conditions that buffer or mitigate a person's exposure to risk (Jenson & Fraser 2006). They are individual characteristics and environmental conditions, which interact with specific risk factors present in either the child or the child's environment (Jenson & Fraser 2006).

Figure 3: Developmental pathways to health, wellbeing and participation (Zubrick et al. 2008)



Until recently, the main approach to understanding childhood vulnerability was to study how specific risk and protective factors within individuals and populations were related to various undesirable life outcomes. This risk and protective factor model failed to recognise that child development is highly complex and determined by the joint interaction of genes, biology and environment (Silburn 2003). It also implied that outcomes generally were explicable as the balance between risk and protective factors (Rutter 2012). That suggests that protective factors can be identified on the basis of their nature, rather than their effects. In many circumstances that may be true, but protection may also come from risk experiences that lead to successful coping (see Section 3.2 below). It also assumes that most individuals will respond to stress and adversity in much the same way and to the same degree or that, at the very least, prevention may best be achieved by acting on that assumption. However, that is not the case (Rutter 2012).

While our understanding of risk and protective factors is not complete, research indicates that the presence of a number of co-occurring risk factors (sometimes referred to as 'cumulative' risk) rather than the presence of a single risk factor affects negative outcomes. The cumulative risk hypothesis asserts that the accumulation of risk factors, independent of the presence or absence of particular risk factors, impacts developmental outcomes, such that the greater the number of risk factors, the greater the prevalence of clinical problems (Rutter 1979; Sameroff & Rosenblum 2006; Evans et al. 2013). Timing also seems important

with the number of risks in early childhood predicting an increase in behaviour problems in adolescence (Appleyard et al. 2005). Other research suggests that the impact of abuse and neglect on children's wellbeing may be greater during critical periods of early brain development (Glaser 2000; Perry 2007).

Two models of the effect of cumulative risk on development have been proposed:

- a 'threshold' model, which assumes that after a certain number of risk factors, there is a dramatic increase in negative outcomes; and
- an 'additive' model, which proposes that, with an increasing number of risk factors, there will be a reasonably steady increase in problematic outcomes.

Recent research supports the 'additive' rather than the 'threshold' model of risk (Appleyard et al., 2005). This finding is important as it suggests that there is not 'a point of no return' beyond which intervention for children is useless, and that every risk factor we can reduce matters (Appleyard et al. 2005).

The importance of cumulative impact from a combination of factors also appears to apply to protective factors just as it does to risk factors. With an increasing number of protective factors, there is likely to be an increase in positive outcomes (Rutter 1999).

3.2 Resilience: when a child prevails over adversity

Resilience refers to an individual's capacity to adapt successfully to change and stressful events in healthy and constructive ways (Garmezy 1991). It can be defined as 'reduced vulnerability to environmental risk experiences, the overcoming of a stress or adversity, or a relatively good outcome despite risk experiences' (Rutter 2012). Thus, it is a dynamic process involving an interaction between both risk and protective processes that act to modify the effects of an adverse life event (Rutter 1985, 1999). In this context, resilience does not so much imply invulnerability to stress, but rather an ability to recover from negative events, rather than being an innate attribute (Garmezy 1991; Oliver et al. 2006).

Resilience is the outcome of a process that takes into account both the level of risk exposure and the presence of protective factors. When exposure to risk is high, evidence suggests that most children and adolescents experience some type of problem or developmental difficulty (Cicchetti & Rogosch 1997). In circumstances when the risk level is high, protective factors exert their influence on developmental outcomes; however, in circumstances in which the risk level is low, protective factors are more likely to have a neutral or relatively benign effect (Fraser et al. 1999).

Resilient individuals utilise a set of coping skills and resources that allow them to deal effectively with stress; and resilient attributes are generally classified as personal characteristics (e.g., positive social skills, a sense of spirituality, personal efficacy), family or social characteristics (e.g., connectedness to a parent or caregiver), and environmental characteristics (such as involvement in one's community, access to health services and the presence of supportive adults) (Garmezy 1985). Children may be resilient to some kinds of environmental risk experiences or outcomes but not others. Resilience can also change over time, according to a child's developmental stage and subsequent experiences, and should be considered as positive adaptation over time (DoCS 2007).

> *"The great surprise of resilience research is the ordinariness of the phenomena … Resilience does not come from rare and special qualities, but from ordinary everyday magic of ordinary, normative human resources in the minds, brains, and bodies of children, in their families and relationships, and in their communities." (Masten 2001)*

Complex interactions of child resources and family and community supports are likely to be the best predictors of resilience. Resilience can be enhanced by encouraging positive

environments within families, schools and communities, to counteract risks in children's lives. Of these three environments, the family is the most immediate care-giving environment and has the greatest impact on the development of resilience in children (Brooks 2006). However, there is evidence from Australian and international studies that the level of neighbourhood advantage and disadvantage is also strongly associated with children's behaviour and development (Slee & Murray-Harvey 2008). Strengthening protection within communities and neighbourhoods may therefore provide a buffer for the risks experienced by some children (DoCS 2007).

3.3 The importance of considering proximal and distal influences together

While factors that influence children's flourishing very directly (i.e., are proximal) are critical for child wellbeing, the social, cultural and economic contexts of children and their families' lives are also highly significant. This is because proximal influences, such as the quality of parenting, cannot be fully understood, and neither can interventions to support successful childrearing be implemented effectively, unless they are placed within the economic, social, historical, and political contexts in which children live (Taylor et al. 2000).

The quality of parenting serves as a useful example. In defining 'good parenting', the current state of knowledge has brought us nearer to agreeing where the parenting is clearly good—children are flourishing in all areas; and where it is undoubtedly bad—there is clear evidence of abuse or neglect (Figure 4). The difficulty is in relation to the borderline cases where definitions fail or specific factors come into play—for example, a parent with intellectual and learning difficulties, or a child with complex needs.

Figure 4: Characteristics of "good" and "poor" parenting

Good parenting	Poor parenting
Realistic expectations of the child	Unrealistic expectations of the child
Providing a secure environment, attentive to the child	Inability to provide security or continuity of care
Good supervision	Poor supervision/ Intrusion
Attachment and bonding	Lack of bonding and attachment
Maturity	Inexperience/ ignorance
Affection	Conditional affection
Flexible control	Cruel control
Acceptance	Rejection
Positive affectivity	Negative affectivity
Warmth and positive regard	Low warmth, provocation and high criticism
Consistent, predictable, appropriate and non-harsh discipline and limit-setting	Unpredictability, harmful or cruel discipline Laxity and inconsistency
Absence of violence in the family	Violence in the family
Meets the child's physical, emotional and developmental needs	Unable/unwilling to meet the child's physical, emotional and developmental needs
Child centredness	Lack of empathy for child
Absence of hostility and aggression	Hostility and aggression
Behaviours/activities that promote health, learning or development	Behaviours/activities that impair health, learning or development
Teaching by example	Exposure to inappropriate role models
Engaged with child's education	Not engaged with child's education

Sources: Taylor et al. 2000; Hoghughi & Speight 1998; McLloyd 1998.

From a useful review of different parental styles, the combination of the parenting attributes listed in Figure 4 is also critical:

> *"Although parental warmth and parental control are separate dimensions of caregiving, they combine to form different parenting styles that reflect the amount and type of child disciplinary practices employed by parents. The four possible parenting styles can be summarised as follows:*
>
> - *Authoritative parents are warm and use firm control.*
> - *Authoritarian parents exert firm control, but do so in a rejecting or unresponsive manner.*
> - *Permissive parents are warm, but exert little control.*
> - *Rejecting/neglecting parents not only set few limits, they are also unresponsive.*
>
> *Caregivers who engage in violent child discipline most closely resemble authoritarian parents. Their discipline tends to be harsh and punitive. Instead of discussing misbehaviour with the child, they are more likely to immediately punish. Research has shown that children raised by authoritarian parents have less academic success, are more hostile and aggressive and less popular with peers, and are less independent and engage in more substance use as adolescents."*

The review further describes positive parenting approaches:

> *"Understanding child discipline requires an appreciation of the full range of disciplinary behaviours, including non-violent as well as violent practices. Non-violent child disciplinary practices include acts that are closely associated with authoritative parenting, such as taking away privileges or explaining why something is wrong. Authoritative parents monitor their children closely, have clear standards and high expectations, use disciplinary methods that are supportive, and allow the lines of communication to go both ways between parent and child. While such parents are understanding and supportive, they set boundaries and institute appropriate consequences if the child does not behave. Children raised by authoritative parents enjoy greater academic success, are less hostile and more popular with peers, have higher self-esteem, and show more purpose and independence. Encouraging non-violent parenting behaviours is essential to creating and implementing effective prevention efforts. A recent review examined proven parent education programmes, mostly in the United States but also in some low-income countries. The authors identified several key parental behaviours that are associated with decreased violent discipline and increased non-violent discipline. These include ignoring and use of distraction or redirection before behaviour escalates, reducing the use of parent directives and commands, and using specific behavioural approaches such as loss of privileges." (UNICEF 2010)*

In order to assess parenting capacity within a child protection context, legislative approaches to protect children in jurisdictions, such as the UK, have adopted the strategy of threshold criteria for determining significant harm. This combines the concept of establishing that a child's development (physical, intellectual, emotional, social or behavioural) is impaired compared to what could be reasonably expected of a 'similar' child, with the attribution that the impairment results from the provision of care not being what it would be reasonable to expect a parent to offer. This is an attempt by the legal and welfare systems to define 'not good enough' parenting and upon which action to separate parents and children can be taken. The notion of 'good enough parenting' is somewhat contentious, particularly because it can fail to accommodate the life histories of family members and the social, cultural and economic contexts in which they live (Taylor et al. 2000; Slee & Murray-Harvey 2008). This is especially pertinent in the case of many parents who have experienced being in the care of the state, and exhibit the intergenerational consequences of the parenting failures of both their biologic and 'state-appointed' parents.

However, as discussed earlier, not all children with care experience fail as parents, because of their resilience despite hardship, and/or beneficial experiences while in care. Understanding the mechanisms by which such families achieve a positive means of

functioning is at least as important as understanding those who do not (Luthar & Zigler 1991). While both psychosocial and economic deprivation can impact adversely on children, the common pathway for this is the effect that these factors have on the quality of parenting (Hoghughi & Speight 1998). The importance of parenting as a critical variable even among poor parents is supported not only by research, but by the observation that some affluent parents can also be abusive and damaging to their children, while many poor parents are nurturing and effective (Hoghughi & Speight 1998). However, parents in situations of socioeconomic hardship face particular stresses and factors that make effective parenting a much more difficult task.

4. Putting it all together: child wellbeing and what makes a good childhood

4.1 Frameworks to assess child wellbeing and factors that promote or hinder it

Increasingly, there is international research into the nature of child wellbeing, in part highlighted by the use of the *UN Convention on the Rights of the Child* as a framework to assess and monitor nations' progress with respect to their child citizens. This is reflected in UNICEF's series of *Innocenti Report Cards*, designed to compare the performance of the OECD countries in securing the rights of their children (UNICEF 2014). There is now a burgeoning field of research around child wellbeing[9], with the development of frameworks and indicators, in an effort both to describe wellbeing (and therefore the factors that make a good childhood), and to measure how nations and communities are faring by assessing the different domains of the lives of their youngest citizens (Statham & Chase 2010). While the term can refer to the wellbeing of an individual child, it is more commonly used to describe populations of children at different ages, from birth to 18 years or beyond.

An important distinction in the wellbeing measurement literature is between understandings of childhood wellbeing which adopt a developmental perspective, and those that adopt a children's rights perspective (Statham & Chase 2010, citing Pollard & Lee 2003). A developmental approach is more likely to adopt measures associated with deficits and hindrances, such as poverty, lack of education, behavioural problems and physical ill health. While such indicators are important to begin to redress inequalities and reduce those factors which negatively impact on children's wellbeing, they tend to ignore the attributes and strengths of children themselves (Statham & Chase 2010). Where an understanding of children's rights is central to a concept of wellbeing, indicators and measures tend to focus more on factors which provide opportunities and help them reach aspirations, and which focus on the quality of their lives now rather than only in the future - 'children as beings, not just becomings' (Morrow & Mayall 2009). Both approaches are useful, and most monitoring frameworks now include both positive (strengths-based) and negative (deficit-based) indicators, and also reflect the views of children themselves.

Some of the frameworks organise positive child and youth developmental assets into five domains: (a) physical health, development, and safety; (b) psychological and emotional development; (c) social development and behaviour; (d) cognitive development and education; and (e) religiosity and spiritual development (Lippman et al. 2009). Others take a life domains approach. One of the first OECD countries to develop a framework for children was the United Kingdom in 2003, at least partly in response to the death from abuse of Victoria Climbié. *Every Child Matters*[10] was implemented in England and Wales and covers children and young adults up to the age of 19, or to 24 for those living with disability. Its main aims are for every child, whatever their background or circumstances, to have the support they need to:

- stay safe;
- be healthy;
- enjoy and achieve;
- make a positive contribution; and
- achieve economic wellbeing.

[9] For a summary of some of this research, see *Child well-being: a brief overview,* 2010 at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/183197/Child-Wellbeing-Brief.pdf and resources from *Child Trends* at http://www.childtrends.org/our-research/child-well-being/

[10] The framework document is available at http://cw.routledge.com/textbooks/9780415485586/data/EveryChildMatters-OutcomesFramework.pdf

The five outcomes are mutually reinforcing, and within each of these five domains of children's lives are indicators, which are the measures to assess progress towards identified goals.

Two examples of Australian frameworks of child (and youth) wellbeing follow.

i) Australian Research Alliance for Children and Youth (ARACY), initially developed by Professor Fiona Stanley in 2010:
   - covers children and young people from birth to 24 years;
   - includes a Report Card to compare Australia with other OECD countries;
   - has a vision - *'All young people are loved and safe, have material basics, are healthy, are learning and participating and have a positive sense of identity and culture,'* and an action plan, *The Nest*.

   At https://www.aracy.org.au/projects/resources-and-related-documents

ii) SA Council for the Care of Children, which was developed in 2007:
   - covers children and young people from birth up to 18 years, in line with the legislative requirements for the Council;
   - is a monitoring framework to assist in determining how South Australian children are faring and their rights are upheld, using indicators for which published data are available (due to the limited resources of the Council to undertake the required data collection itself);
   - based upon the UK *Every Child Matters* framework, it encompasses five domains of children's lives: health and development, safety and protection, enjoyment of life and achievement, contributions to family and community life, and preparation for adult life.

   At http://www.childrensa.sa.gov.au/wellbeing/outcomes-framework.html#lookout

Both of these serve as reliable examples of what research has shown are the factors that contribute to a good childhood, at the population level.

4.2 Children's views of wellbeing and what makes a good childhood

Internationally, researchers have recognised the importance of incorporating the views of children themselves and what they believe is important to their wellbeing both individually, and to all children. From 2006 to 2008, the UK Children's Society conducted *The Good Childhood Inquiry* and as a part of this, surveyed over 18,000 children and young people living in England, Northern Ireland, Scotland and Wales for their views[11] as experts in childhood in the twenty-first century.

The seven significant elements, which emerged from this survey of what children need in order to flourish, follow.

- *They need loving families, where they observe and experience love, and thus learn how to love others. They also need boundaries to be set by parents and carers who are firm but not dictatorial.*
- *They need friends, as they begin to explore relationships outside the family. From developing their friendships, they learn many of the basic lessons of living.*
- *They need a positive lifestyle, in which they develop interests which satisfy them and avoid the enticements of excessive commercialism and unhealthy living.*
- *Such a lifestyle can only be built on solid values, which give meaning to life and are acquired from parents, schools media, political and faith organisations.*

[11] A summary of this work is at http://www.childrenssociety.org.uk/what-we-do/research/good-childhood-inquiry

- *Children need good schools, where they can acquire both values and competence.*
- *They need good mental health, and children with difficulties need help.*
- *And they need enough money to live among their peers without shame* (Layard & Dunn 2009).

There is a paucity of similar research in Australia, although ARACY consulted with around 4,000 children and families about their aspirations and expectations of child and youth wellbeing, while developing the action plan, *The Nest*.

In another project, researchers worked extensively with 126 children (aged 8-15 years) in rural and urban locations to develop indicators of wellbeing from the children's perspectives (Box 1). The study concluded that the three over-riding concepts of wellbeing as defined by the children were: a positive sense of self, security, and agency. Emotional and relational wellbeing were integral to these concepts (Fattore et al. 2007, 2009).

Box 1: Children's perspective of wellbeing – an Australian study

- Feelings of happiness but also the ability to integrate sadness into one's life and be able to deal with it.
- Feeling secure in social relations.
- Being a moral actor in relation to oneself, making decisions in one's own best interests and behaving well in relation to others.
- Having autonomy and agency and being able to act freely, exert choices and exert influence but being able to do so within strong social relations.
- Keeping safe and feeling secure. This was understood in relation to personal safety; feeling secure within families, and global safety.
- Having a positive sense of self including being valued by others; and having a positive self; taking time out / having your own space to reflect.
- Having material resources which linked to having enough money for a decent standard of living for the family. Such needs were not viewed on an individual basis but were centred on the family having enough money.
- Having a good physical environment and home to be in. Young people valued open spaces in which they felt safe; the home as a place of safety and security; the family as a place for having fun and having time out.

Source: Fattore et al. (2007)

To conclude, the assessment of what makes a good childhood is far from simple, both for an individual child and for all children more generally. All the differing influences and contexts need to be considered, based upon knowledge from research, practice, experience and professional judgement, and should include the views of children and young people themselves. Even then, there are factors, causes and interactions which we are still to recognise, and others that we do not yet fully understand.

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