

What About The Children?

'Raising awareness about of the never-changing emotional needs of children in our ever-changing society'



APPG for Conception to Age 2 The First 1001 Days
INFANT MENTAL HEALTH
Evidence for Enquiry: factors affecting optimal development
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Introduction

In advanced western societies an increasing proportion of the population struggles with sub-optimal psycho/social health. Professor Hilary Cass, President of the Royal College of Paediatrics and Child Health, informs us that one in ten children in the UK has some form of mental health problem, while some 80,000 young people have severe depression (Smyth, 2014). Data from the US presents a staggering number of one in four teenagers with a diagnosable psychological disorder (Narvaez and Gleeson, 2013). Children's mental health is a matter for serious concern: it cannot be dismissed as just one more 'moral panic'. We must act now.

With reference to recent research findings, including from neuro-science this paper engages with three primary questions:

'What causal factors influence the incidence of poor mental health?'

'What factors promote good mental health?'

'How can we mitigate against risk factors to ensure optimal development?'

The discussion divides in the following way:

1. Infant brain development
2. The 'cortisol story' – causes and effects of stress on the infant brain and longer term implications
3. Mothers and others: early care experience; secure/insecure attachment
4. Policy directions for sound foundations: Recommendations

1. INFANT BRAIN DEVELOPMENT

'Experience sets up the morphology and functioning of brain and body systems'
(Narvaez and Gleeson, 2013)

There are critical windows of opportunity in a young infant's development. In the first year the brain doubles in size and right-brain development which impacts on emotional stability, self-control and conscience develops especially early (Hanson et al., 2014). Healthy, complete and uninterrupted development of the 'right brain' area is therefore necessary for optimum socio-emotional functioning life-long enabling the individual to understand and manage future social relationships in an increasingly complex world. The infant brain is highly malleable. The context of early care is critical for it can literally shape the brain's architecture.

'Right Brain' development

Early experiences effectively 'mould' the brain, even altering gene expression.

Neuroscientist, Michael Meaney (2013) highlights some important ways in which the genome is in constant dialogue with its environment, for the immature nervous system is very much a 'work in progress'. Genes are not fixed entities but are highly sensitive to change – stress, for example, can trigger changes in genetic structure. During the early months, rapid development of the right brain hemisphere, critical for emotional, moral and social features of the personality, is underway. Research by psychiatrists, Carter and Porges (2013) working in Chicago's Brain and Body Centre establishes clear connection between early experience and later levels of 'empathy' in individuals. This 'empathy' quotient has two parts: a 'cognitive' element – how we understand others, and an 'affective' element - how we emotionally respond to them. The empathy circuits lie in the medial pre-frontal cortex described as the 'hub of social information processing... for comparing one's own perspective with someone else's' (Baron-Cohen, 2012). One part critically involved with emotional learning and the regulation of one's behaviour is the amygdala – part of the limbic system. A growing bank of neuro-scientific studies offer insights into these sites and processes revealing the impact of early care environments.

As well as being the critical site for building 'self with other' faculties, right brain is the site for development of the 'internal working model' of the individual. If unformed/disorganised or insecure, or if the attachment process is severed or weakened in the first 12 months of life when the brain is doubling in size and the right brain function is dominant, there can be significantly negative socio-emotional effects reverberating into the future.

In summary, early experience establishes the formation of major neurological pathways in the infant brain, including the direction and level of intellectual competence and psycho/physical health, life-long. Genes can be activated, or permanently de-activated at this stage because environmental processes impact on neuron functioning with important implications for present and future intellectual and social competence: 'The development of the limbic hypothalamus pituitary adrenal (LHPA) pathway in early life has long-term effects on behaviour and cognition' (Mustard, 2006: 571-572). Lack of awareness of the critical nature of early infancy; lack of targeted resources to support parents in their nurturing task; lack of systems to disseminate important information to professionals who may be called on to intervene and support can mean that generations to come may be affected in ways we would not choose (Pereira Gray, 2013).

Left Brain focus

Education reflects our target-driven culture, permeating down to Early Care settings inclined now to focus on cognitive development/competency targets - very much part of 'Left Brain' function. With respect to ideas about 'self' Schore (2014: i) describes Left Brain as the seat of the 'idealised', rather than the 'empathetic' self for it is controlled and functional, often closed off from emotional stimuli and situations. Early Years educators and psychologists committed to holistic development bewail lack of time and opportunity for children's non-functional, exploratory play, free from adult control, to build trust in themselves and

develop cooperative relationships with their peers. Time just to 'be' is increasingly constrained in working families, and things are getting worse (Pereira Gray, 2013). Signs of an over-structuring of children's time has been increasingly in evidence for a while. In research conducted some 20 years ago among pre-school children by Jackie Cousins, UN Advisor on Early Education children were recorded as complaining of being too hurried in their lives and compelled by over-aspirant parents always to engage in 'structured' and 'educational' activities, rather than given space for what they might wish to do: 'All the time it's "Hurry up! Hurry up!" I hate hurrying up' (cited in Ulanowsky, 2000).

Important findings from a major longitudinal study of UK population conducted by the London School of Economics were recently reported by Layard et al (2014). They conclude: 'The most important childhood predictor of adult life-satisfaction is the child's emotional health, followed by the child's conduct. The least powerful predictor is the child's intellectual development'. Yet we proceed along paths least likely to ensure emotional stability and ultimately mental health.

It is clear that the Socio/emotional development of the under 3s must be prioritised in early care settings – rather than a focus on cognitive development and 'school readiness'. Having said that, learning does have a clear place in the early years - once other elements of development are assured, for the link between literacy and lifelong health status is strong. For example, 50% of the least literate in the US (at a basic Level One) have poor physical and mental health. This contrasts with just 2% of the population at Level Five (Mustard, 2006).

Pathways to holistic health are set early in life and much will depend on the quality of infant care (see below, Section 3). Rising levels of psychopathology in western advanced nations may well result from lack of awareness (or denial?) of what constitutes optimal, and conversely, sub-optimal care in the earliest years when brain and body systems are built. Policy should support optimum care environments for young infants and be reflected in tax/benefit arrangements for families. As explained above, appropriate conditions for healthy right brain development are essential. As well as having a critical bearing on children's emotional/social development. 'Right brain' also serves as a regulator (or otherwise) of stress (Schore, 2014: i). Stress generates steroid production which can harm the developing brain. It is to this matter that we now turn.

2. THE CORTISOL STORY

'Stress generates steroid production which can harm the developing brain'
(Pereira Gray, 2013)

The brain's response to stress is driven by interactions between hormones produced by the hypothalamus, the pituitary and the adrenal glands – the so-called HPA axis. Whilst at times it is necessary that individuals react to certain stressors (such as danger) through 'flight or fight' responses, a growing bank of evidence indicates that stress in infancy, when brain and nervous systems are sensitive and malleable, has negative effects on well-being, perhaps lifelong (Taylor, 2010). Stress is registered in the amygdala which alerts the hypothalamus, and, in turn, the pituitary gland which releases a hormone called AVTH into the adrenal gland which then triggers another hormone, cortisol. Over-production of this hormone can

have the effect of shrinking the hippocampus. This area of the brain, and also the pre-frontal cortex, need to develop appropriately and function effectively to address over-reactive and damaging responses to stress.

Positive maternal/child emotional interactions encourage healthy brain development so the child (and later adult) will be more likely to handle stress appropriately through life (Baron-Cohen, 2012: 59-60). However, even in-utero the effects of stress/depression when experienced by the mother may be registered by the foetus, with negative effect. Also, once born and into the perinatal period, a depressed mother may be unable to offer appropriate care for her baby. This may have significant emotional/mental spin-offs for the child requiring costly intervention/support from the state longer term. When the effects of maternal stress and depression are added to the economic input required for pre-term infants with respect to cognitive (Special Educational Needs), emotional and conduct problems, a quite massive cost to the state of £51, 462 for each child has been calculated (LSE Personal Social Science Research Unit, October, 2014).

Care settings – impact on infant cortisol levels

Cortisol levels, including fluctuations during the day, can now be captured from saliva swabs collected from infants simply and non-invasively. Additionally, Functional Magnetic Resonance Imaging offers a clear picture of the neurological basis of behaviour by pinpointing brain responses – for example in cases of maternal/child attachment disorders (see, for example, Taylor, 2010 and Atzil et al, 2011).

With respect to early care environments a rising number of research studies offer useful data for consideration. One, conducted by Vermeer et al (2006), sought to ascertain differences in cortisol levels between children cared for at home and those in Day-care. Their study involved a sample of 505 children aged 2 months to 8 years. Results overall showed higher cortisol levels for children in Day-care, compared with those being cared for at home. Higher cortisol levels were registered especially in children under 3 years; those being cared for in larger facilities, and those cared for in centres rated as of poor quality.

Vermeer et al's (2006) observations indicated better outcomes for children cared for in high-quality Day-care settings with respect to overall lower cortisol levels than children cared for in settings of poorer quality. However, this was not found to be the case in a later study by Watamura et al (2010) which concluded that full-time childcare stresses children, irrespective of quality. The research involved 79 children from middle-class families, aged 3-6 years old, living in New York State and attending high-quality day-care. Saliva samples were taken at different times of each day, including weekends. The usual cortisol pattern of high levels in the morning, gradually (and reassuringly) diminishing through the day did not prove to be the case here as high morning levels remained constant. However, in agreement with Vermeer et al's (2006) study, high cortisol levels were more in evidence in the saliva of younger children than for their older counterparts. Watamura et al's (2010) study would suggest that full-time childcare can generate high stress levels in children, especially younger children, irrespective of quality.

Earlier some research among children in Day-care by Ahnert and Lamb (2004) had recorded situations of considerably-raised cortisol levels, even in children thought by staff to be 'well-settled'. Pereira-Gray (2013) notes that longer hours in day-care generates increased cortisol levels in young infants overall. The Commission on Social Capital has now recognised the insights that measurement of cortisol levels (as a sign of stress) in young children can bring (Pereira Gray, 2014)

There was a different focus for Groeneweld et al (2010) who investigated the extent to which stressed carers can lead to stressed infants. Their study involved 44 children between 20-40 months of age, cared for by non-related home-based carers. As might be expected significant associations were found between carers' stress levels and those of children in their care. Also, children described by their parents as 'fearful' and/or lacking in confidence were found to be more susceptible to care-givers' stress than their more confident peers.

When children are cared for in 'non-family' groupings in nurseries – that is, young infants of same age groups all together in the same room (Babyrooms/Toddler rooms etc) higher levels of stress are detected (Dettling et al., 1999). This may well result from the case of children being moved from room to room, according to age-group, causing loss of contact with key carers they have got to know and trust (for better alternative see recommendation: 'Continuity of Care' in Section 4).

In 2010 Shelly Taylor from University of California Los Angeles Department of Psychiatry published her review of a range of longitudinal studies focusing on early life stress and its effect on later health outcomes. She concluded that both early life experiences and genetic disposition each play a role in how the individual responds to stress. FMRI scans recorded neural responses located in specific parts of the brain: the anterior cingulate cortex, the amygdala – the 'appraisal' part of the brain - the hypothalamus and the pre-frontal cortex. Taylor's overview also took into account socio-economic factors and whether the research subjects' families were 'harsh' with them - in which case the majority of these children demonstrated high levels of 'avoidant' coping. On the other hand, children from 'supportive/nurturing' families coped well with stress and, for the most part, these children generally had high self-esteem As might be expected, the findings overall demonstrated that environments in childhood have significant potential to support or undermine healthy response to stress in childhood impacting on mental health resilience longer term.

For decades, experiments with animals experiencing poor maternal care have found a 'neuro-symphony of stress' involving release of high levels of cortisol and other hormones in the young. More recently, studies among human young have found similarly (Doom and Gunnar, 2013). However, complicating factors must be accounted for in these human studies such as the nature and duration of the stress and the age and developmental stage of the child. As with other studies, genetic disposition is of significance, also (Groeneweld et al, 2010; Taylor, 2010).

The connection between early life experience and mental health status in adulthood is recognised in a range of epidemiological studies. The consensus is that the depth and quality of maternal bonding has significant effect on present and later response to stress.

Weak and/or disrupted bonds can lead to dysregulation of the brain chemistry impacting on future mental health - not least on processes critical for developing the individual's capacity for self-regulation (Maselko et al, 2010). Increased cortisol levels in a temporarily stressed baby can be normal. Having said that, Balbernie (2007) cites work by Gunnar and Donzella (2002) which found that infants in secure relationships with their main carer are less likely to have elevated cortisol levels, even when crying/apparently stressed, than children in insecure relationships, irrespective of cause and personal temperament. Infants (Under 3s) cared for in chaotic households and/or with unresponsive carers, or in poor quality Day-care which offers only limited one-to-one interaction and minimal continuity of care with a key worker present with excessive and persistently high cortisol levels well above normal variation. What science can tell us is that the production of excessive levels of cortisol in early infancy is toxic to the rapidly developing brain - its impact on the limbic system is especially corrosive in the first three years of life impacting as it does on emotional regulation and mental health, longer term.

What does this all mean? What implications do these findings have for future policy? It is clear that the quality of the early care environment is very much at the heart of infant mental health. In general terms, research would indicate that the younger the child the more important the provision of consistent, responsive and committed one to one care – whatever the setting. Increasing awareness of the key constituents of sound infant care must be communicated through education and training programmes beginning with preparation and support for parents. We next consider who provides care, and in what way. We begin with detailed consideration of the vital role of the first carer – the mother.

3 MOTHERS AND OTHERS

'We need to get up close, then we shall be able to part'
(Wallin, 2014)

The early brain is shaped in the intimacy of care. The touch, smell and sound of the mother are the warp and weft of early experience. Having a sense of close connection to the mother and a strong sense of acceptance for who she/he truly is provides sound underpinning for the life to come. Bonding with the key carer creates emotional and psychological stability and a clear sense of self. These bonds are like an 'internal pot of gold' for the individual, to be drawn upon whenever there is need (Baron-Cohen, 2012). In short, reliable love and attention from a significant other offers a level of personal, emotional and social affirmation beyond price (Whitfield, 2005). A sensitive and responsive mother co-creates sound attachment with her child. She is committed to reading and responding to her infant's verbal and non-verbal clues: 'What does she/he need?' 'How can I best supply it?' This attachment process builds a protective buffer for the child's brain against external stressors (Lupin, 2009). Early care interactions influence the child's perceptions of, and reactions to, others for 'Our experience of the world is from the start emotionally charged' (Bavidge, 2014).

'Life must learn to care for life'. A surge of oestrogen, prolactin and oxytocin in late pregnancy chemically prepares the mother to care for her young. Her intensity of focus and concern generates changes in her own brain's size and structure – especially to the frontal

lobes (Kinsley et al, 2011). However, as Mileva-Seitz (2013) from Toronto's Institute of Medical Science reminds us, the intensity of maternal response can vary considerably, being dependent on factors like genetic make-up and personal experience of how the mother herself was mothered. In fact visible reduction in brain volume can be observed in mothers who hold negative feelings towards their infants. For a child, any form of maternal rejection/emotional coldness has the potential of later anti-social personality issues. For, in such cases, 'inside the child is quietly raging against the parental rejection and is developing high levels of hate' (Baron-Cohen, 2012: 50). An inability to express deeply-felt frustration in early infancy can emerge as explosive violence later on. In summary, how we are treated as vulnerable infants can significantly impact on later mental health, not least on levels of empathy towards others, including one's own children (Baron-Cohen, 2012).

The baby's biological capacity to form attachments is present at birth, driven by the survival instinct. The attachment process triggered by the infant is, primarily, a strategy for maintaining closeness with the mother/key carer and is at its most intense from about 6 months to 2 years of age. Attachment is a significant regulator of emotional arousal thus the infant's psyche will be highly reliant on the mother's proximity (Schoore, 2013 and Schoore, 2014 i). Once attachment is well-established and feels 'reliable' the infant will begin confidently to explore the world beyond her/his safe base. Over a century ago Charles Darwin discovered that it is not strongest of the species that survives, nor the most intelligent, but the one most responsive to change. Bowlby found that securely attached infants do develop confident adaptability to new situations, they become effective learners with the facility to reflect and act appropriately on what they know, and don't know. During the early attachment period the child will try to 'mentalise' what the mother is thinking and feeling, and, importantly, how she is thinking and feeling about them. This 'mentalisation' process will then continue into development of empathetic relationships (or otherwise) with others outside the family group as the child grows and matures (Baron-Cohen, 2012, citing Fonagy). Conversely, when the early carer (generally the mother) fails to respond appropriately to need, and/or is inconsistent in the way she cares for her baby, its stress levels will rise, resulting in uncontrolled and prolonged cortisol production which, as explained above, has the potential to bring about permanent neurological changes signalling mental/emotional implications beyond childhood (See Strathern, 2009; Frodl, 2010; Gunnar, 2010 and Maselko, 2010). At the very least, deficiencies in early mother-infant relations can result in a child's inability to emotionally self-regulate. An inability to self-regulate may be manifested in adolescence in a range of stress-related conditions, including anorexia and bulimia. In mid-life there may be problems with digestive and circulatory systems (Schoore, 1994: 394-40). And Pansepp (2013) gives particular warning that early 'vicissitudes' are hardly ever completely untangled in later life.

From their meta-analysis 'Pathways from mother's love to Baby's future' Korosi and Baram (2012) reach a useful conclusion – albeit one articulated by Bowlby half a century earlier: that early interactions between mother and baby, whether loving or neglectful, will 'program' the baby's developing brain, fixing the way it will instinctively respond throughout life. If all is well, high levels of the 'bonding chemical', oxytocin – the so-called 'cuddle' hormone - are produced by a mother in maternal synchrony with her child. Conversely, when this is not the case the mother's emotional activation will not be focused on her small

infant but elsewhere – perhaps on personal anxiety – thus her responses may become asynchronous with her child's (Atzil et al, 2011).

As the child moves into its second and third year sensitive balance is required between the exclusivity of closeness to key carer(s) and a child's developmental need for growing autonomy. At a developmentally appropriate time the child will thus progress healthily and confidently from 'fusion' with the mother/key carer to 'individuation'. It will establish a sound sense of self – crucial for life-long mental health (Baron-Cohen, 2012).

Sensitive mothering is grounded in an ethic of care: it is 'other-centred'. Mothering/parental values and practices, both sound and not so sound, will permeate into what children will become. In summary, early in life children absorb ideas about the world and their place in it through the mediation of those who care for, and about, them.

Psycho-social adversities

There are certain conditions in the home which can have detrimental effect on infant mental health and which may have origins outside the intimacy of the mother/child relationship. Walsh et al (2014) made a study of early life psychosocial adversities in the home environment and their impact on grey matter volume into adolescence. For example, physical/sexual abuse, with a prevalence of 16% in UK population, is of significant concern, as is parental drug/alcohol abuse. Further to this, general family discord, currently measured as 41% in our society, can negatively affect the developing infant. And on some measures one in six children live in poverty (Mc Cabe, 2014). The stress generated through adverse socio-economic circumstances experienced by many families today, can cause significant family discord which impacts on children's health. From a substantial piece of research involving 1,200 young people Walsh et al (2014) concluded that even moderate exposure to adversity can cause high levels of stress in the young infant.

Research indicates that a growing incidence of Attention-Deficit-Hyperactive-Disorder (ADHD) may be the product of critical interaction between the environment and genetic vulnerability in children (see Mustard, 2006, for more detailed explanation). Factors also thought play a part in the incidence of ADHD in young children are pregnancy difficulties and delivery complications and/or prematurity. As in the case of other mammals, human young often adapt to socio/emotionally-deficient environments by resorting to primitive survival mode – aggression, depression or withdrawal. Alternatively, some children in environments which do not meet their needs may develop their own 'mind' – in essence becoming their own 'Carers' – a condition which Winnicott (1949) called an 'Ethology of Self-Sufficiency'. Such children will 'foreclose' on childhood – growing 'beyond it' rather too quickly. This unnatural speed of development, however, can generate negative psychological effects later, when these children actually do become adults. Present-time culture for whatever reason – not least the factor of all-pervasive consumerism/marketing - in very many ways colludes with getting children to move on and grow up rather more quickly than perhaps is good for them.

Women as mothers and others: changing contexts for care

Parenting happens in particular socio-cultural contexts which can define how life roles are managed; motherhood especially can be seen as embodied within an ideology of time and place (Ulanowsky, 2000). In the second half of the 20th century feminism presented powerful argument for women concerning how the minimal rights they had were out of balance with the duties they were expected to perform as care-givers for all, young and old. 'The required altruism for motherhood, previously accepted as biological inevitability, part and parcel of a time-honoured framing of universal concepts and values about gender – the so-called 'essentialist' perspective - was called into question by women no longer prepared to tolerate what they perceived as its injustices' (Ulanowsky, 1998).

In several ways therefore, the last 3 decades of the 20th century to the present time have been as existential terrain for women in the way they have constructed their life roles and identities. Equal opportunities have been implemented in the workplace and a woman's personal right to choose whether she wishes to remain in paid employment when she becomes a mother became embodied as part of her life aspirations. Thus, an increasing number of mothers would seek childcare for their young infants so they might remain part of the economic nexus and retain 'personhood' by managing motherhood with paid work. However, a particular combination of policy and ideology had placed a significant proportion of women in a double bind - themselves as earners but as mothers too. If a high proportion of women don't remain in work they and their families will suffer financially and in terms of career progression, and in terms self-esteem ('I earn, therefore I am'), in tension with an anxiety that if they place their infant children into the care of others they might suffer. Thus an apparently unresolvable tension between 'Personhood' and 'Parenthood' has become increasingly evident for mothers. Perceptions of personal competence and public valuing familiar to their work psyche in some ways sits uneasily with a motherhood identity underpinned by 'other-centred-ness' And unpaid effort in current society is grossly under-valued and unsupported. Subsuming mothers into a feminist discourse devised for women more generally has not so far afforded adequate solution (Ulanowsky, 2008).

Two pervasive values of feminism are 'equality' and 'choice'. Yet, if there is no economic choice but paid employment, then women as mothers will resent being unsupported by a tax/benefit system to make the best choices for themselves and their children. If they opt to work, they may need to take a view whether 'quality time' where one-to-one interaction with their child is designated in particular slots of the day/week, determined by other requirements, like work hours, is sufficient interaction to meet their child's developmental needs. This may well be denying what 'quality time' means for their child which can include those inconvenient moments when they decide they need the attention of the one who loves them most. It is an irony that a mother's right to autonomously choose how she will manage her life may well be undermining her child's right to choose the best way to establish her autonomy. Policy makers and parents alike need reminding of the fact that ultimately children will 'Learn What They Live' (Taylor Hill, 1980). Parenting and the home environment are central to this idea and need supporting.

Childcare: part of the economic nexus

There has been a departure in advanced western societies from long-accepted and time-proven environments for care. Infant development emerges from a vital interplay between nature and nurture. For, rather than being 'resilient', infants are 'malleable' in the context of the care they receive and it is only the best care that will promote 'resilience'. As nurture has become ever more 'delivered' in care settings external to the home, the opportunity of care by unpaid family members who love these little ones and can bring to a care role inter-generational wisdom and experience, is side-lined by policy in favour of 'professional' care. This is not the case in some north European countries – where the value of 'grand-parent care' is both recognised and financially supported.

Care by professional others is increasingly measured and controlled by legislative checks and balances. And policy-makers, parents and practitioners are caught up in the 'education' zeitgeist - the developmental needs of even the Under 2s who learn best in a loving environment with lots of one to one engagement are essentially denied in over-large groups of children worked with under a banner of 'school readiness'. For often inappropriate models of infant care provision for their very young infants, parents can now be rewarded through the tax-benefit system. It seems as if parents are rewarded if they seek alleviation from parenting. Others in society are required to 'provide services and strategies to substitute and support – employers must be enabling; work colleagues adaptive; services must supply and the state must fund' (Ulanowsky, 2000). Half a century ago American psychologist, Selma Fraiburg noticed a growing 'psychic separation' between parents and their children in the United States. This, she observed was caused by the increasing physical separation of babies in day-care before the important psychological connectedness with their parents had been sufficiently established.

There are certainly examples to be found of paid-for settings providing close, sensitive and attuned care. However, with free nursery places now on offer for 2 year olds a closer look is needed at what young infants really need including scrutiny of organisational models across the board. Minimising key person transitions at different developmental stages advocates a beneficial 'continuity of care' approach (Heale, 2014). This can better be achieved through 'family' groupings of different aged children such as these youngsters might experience in their own home, or if cared for by a child-minder (What About The Children, 2014). Society needs to raise the status of 'childcare' very much more than it does currently – whoever is providing it and wherever it happens (Anastasia de Waal, Family and Childcare Trust, 2014).

Some good and less good features of different care arrangements are identified in a growing bank of research. For example, Stein et al., (2012) looked at children's emotional and behavioural responses in three settings – in the home, in day-care nurseries and in child-minding arrangements. The study involved one thousand children. As might be expected 'good' early care was shown to have significant effect on levels of pro-social behaviour in children, fewer peer problems and calmer behaviour. By contrast, poor early care resulted in disturbed behaviour and poor sociability. Parental stress was associated with raised child hyperactivity. At the same time, more hours in day-care was a predictor for higher levels of hyperactivity. In this study, children with child-minders were found to have more 'peer

problems'. In total, children in day-care centres or with child-minders showed more total conduct problems. Teachers' later reports recorded in Stein et al's study indicated that, overall, higher levels of 'maternal care-giving' was associated with fewer peer problems, fewer conduct problems and less hyper-activity in children.

For all that, on one calculation, due to parents' work routines, 18, 000 under 3s are in nursery care for 50 hours a week in the UK. (www.daynurseries.co.uk/news/article).

One basic problem requiring urgent attention for policy-makers, practitioners and parents is to address an apparent conceptual understanding that 'Pre-school' children belong to a single group with similar needs and for whom similar provision can be formulated. This is most certainly not the case as this paper would testify. Individual children vary considerably but a rule of thumb is that up to the age of 30-36 months infants are in a unique and rapid period of development requiring sensitive and consistently-available one to one engagement, whatever the care setting. This can happen during routine daily tasks like changing a nappy or walking to the shops... The most effective teaching happens at such times, and the most effective learning.

Universal and extended childcare provision is being promoted without due attention to the vital elements of what is developmentally appropriate. There is evidence to suggest that adequate development of basic human capacities may be severely compromised. Care practices sensitive to the foundation and continuation of a child's attachment needs must be recognised as a basic human right for youngsters unable to claim this for themselves (World Association for Infant Mental Health', 2014). For too long we have ignored the fact that the 'affective entanglements of childhood... form the basis of more central management of our lives', not least in relation to mental health (Bavidge, 2014: 7).

4. POLICY DIRECTIONS FOR SOUND FOUNDATIONS: RECOMMENDATIONS

'We are the first generation to have this knowledge at our fingertips.
We ignore it at our peril'
(Rowley, 2014)

We remain confronted by Plato's questions: 'How can we educate political rulers to rule justly?' and 'What kinds of knowledge do they need?' In answer to these questions, Plato advised those who care about getting things right to follow the argument, wherever it leads (Norman, 2014: 14).

The evidence is clear – it is children's needs that should drive policy.

Policy needs articulating on the basis of what research is telling us about children's needs and what can happen if these are not adequately met. We must search for a more appropriate balance between short-term economic gains and the population's longer-term well-being. Setting in place conditions for young children to develop healthily does save

money longer term - Heckman (2008) found that for every £1 invested in the early years there is a £10 saving in relation to levels of mental and physical illness and lower crime statistics. And, in Scotland, the Christie Commission found that negative outcomes in children's lives absorbs a massive 40% of public service spending (Sher, 2014). And Schore (2014 ii), in a recent presentation 'Family Care meets Attachment Science' summarised extensive research indicating that not getting the early years right means higher levels of violent behaviour, depression and lower wages longer term - overall negatively affecting a nation's gross domestic product. Yet we persist in focusing most money on 'intervention' – setting services in place when things go wrong for children rather than setting in place the conditions which would prevent them happening in the first place.

The Prime Minister's announcement that all domestic policies will, in the future, be judged on their impact on family life is encouraging, likewise his assertion that it's time we focused not only on GDP but on GWB - general well-being is welcome. One wonders how this sits alongside the short term gain for the Treasury of £1.5 billion if 28,000 mothers can be attracted back into work? It is children's needs that should drive policy at any level and in all relevant departments. The critical importance of emotional health has been proven and it is what people most value according to an extensive longitudinal study conducted by the London School of Economics. This research found that emotional health is the greatest predictor of life satisfaction in UK population (Layard et al, 2014). For all that, parents who stay home to care for their infant children are discriminated against financially and in other ways. New tax breaks and support for childcare costs will apply - but only if neither parent opts to care for their own. And the choice to care for their Under 3s is significantly constrained for low income families who need to work just to meet day to day living expenses.

It would appear that 'Family-friendly Policy' is a misnomer when economic incentives lead parents to spend less and less time being parents. This means less opportunity to build vital parenting skills, knowledge and confidence to utilise as their children grow and mature. Importantly, there needs to be renewed focus on raising children who are emotionally secure and can apply these 'E' skills in day to day relationships, with peers, in school, and later, in the workplace.

Amidst all the challenges of 17th century England, theologian and poet, George Herbert felt able to state confidently that 'Childhood is Health'. Action now is needed to ensure this is the case in the 21st century when we have so much more power, knowledge and resources at our disposal. Our future social ecology depends upon it.

The over-riding question is:

'How can we mitigate against risk factors to ensure optimal mental health in our children?' Below are some specific suggestions for policy-makers:

- (a) Government needs to be aware of what conditions are most likely to establish and sustain mental health, conversely what can undermine this, longer term. A sound understanding of 'Infant brain development' and 'Attachment' is critical for anyone laying down future directions for policy relating to children's mental health.

- (b) The negative effects of stress on the immature brain and its causes also requires in-depth understanding. There is increasing evidence from neuro-scientific studies in this regard which the above discussion has attempted to summarise. However what is required is for a top research team to collect samples with proper controls to establish reliable data once and for all. This idea should achieve support now that the Government's Commission on Social Capital has identified measurement of cortisol levels - linked to stress in children - as a priority (Pereira Gray, 2014). It is urgent that the Department of Health through its NHS Research and Development Director and its representation on the Medical Research Council secures this as a funded research topic with high priority.
- (c) Set in place Perinatal Mental Health Services nationally - currently only 3% Clinical Commissioning Groups have a strategy in place. Yet the LSE Personal Social Science Research Unit found that perinatal depression anxiety and psychosis carries a cost of £8.1 billion for each year cohort of births in UK (Mc Donald, APPG 5.11.14).
- (d) Underpin social policies with a philosophy of 'progressive universalism', as with the NHS. Targets for support and intervention do not currently work on the principle of equal opportunities nor with an eye to the rights and needs of ALL children.
- (e) Add infant emotional difficulties to the Strategic Risk Register at the Department of Health (Pereira Gray, 2014)
- (f) Encourage and support employers to set in place arrangements for implementation of job-share/flexible work arrangements – 'Considerable power resides with government to resolve the production/reproduction tension in women's lives' (Ulanowsky, 2008)
- (g) Develop a bank of information materials presenting key facts for everyone involved concerning how to establish and sustain Children's Mental Health (including information about the infant brain development/the attachment process). This information could be delivered/disseminated via a number of 'platforms' including websites/leaflets/apps etc. More detailed learning programmes could be developed and delivered to pre-parents (in schools); in maternity clinics' ante-natal classes and for the training of Health Visitors; Early Years students; Social Workers; Family Law specialists. A further element of resource aimed at parents and childcare practitioners to include 'What constitutes good childcare?'; 'The importance of Continuity of Care'; 'Ways of building and sustaining healthy attachment'.
- (h) Establish a Royal Commission on the Emotional Development of Children Under Three.

Firstly to look at the issue of child-parent separation and its impact on stress, cortisol release and damage to some centres of the developing brain. Moreover, the centres of the brain most affected are those where conscience and emotional control are learnt.

Meanwhile, quite different research in the behavioural sciences is showing that many groups in society have deteriorating empathy for other people – this includes increasing numbers of medical students.

Lastly, yet other research on physical illness is discovering associations between nursery care for small children and later development of illness in adolescence or adult life.

These topics are of such importance and complexity that no one research group and no one discipline can interrelate all the findings. The implications are profound.

Could we in present time be unknowingly damaging the emotional development of the next generation? This is one of the biggest questions for the whole of society. Only a Royal Commission will have the time, skills and resources to clarify the big picture and get beyond the vested interests in the field (Pereira Gray, 2014) The charity 'What About The Children?' has adopted a policy of seeking a Royal Commission and has been encouraged that other child-centred organisations are now supporting the idea.

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PLEASE DO NOT QUOTE WITHOUT ACKNOWLEDGEMENT

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