

Why Love Matters: How Affection Shapes a Baby's Brain

by Sue Gerhardt

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SUMMARY

Why babyhood rather than childhood?

The case that I want to make is that babyhood is much more important to our lives than many people realise. A lot of the behaviour that worries us in later childhood, such as aggression, hyperactivity, obesity, depression and poor school performance, has already been shaped by children's experiences in babyhood. For those of you who have not studied the scientific literature, this might seem a bit far-fetched. I was rather amazed at just how significant babyhood is, when I first undertook the research for my book 'Why Love Matters'.

Just to take one recent example, the World Health Organisation recently published a report from their Commission on the social determinants of health - which stated that

"Research now shows that many challenges in adult society – mental health problems, obesity/stunting, heart disease, criminality, competence in literacy and numeracy – have their roots in early childhood." They went on to say that "Economists now assert on the basis of the available evidence that investment in early childhood is the most powerful investment a country can make, with returns over the life course many times the amount of the original investment."

Recommendations for Policy Makers and the Members of the European Parliament.

I would love to see all policy makers routinely bringing babies into the picture and taking for granted that what happens to children under 3 is at least as important as anything that happens later.

Recently the World Health Organisation echoed this view. They made the recommendation that: 'Local, regional and national governments should incorporate the 'science of early child development' into policy.'

Investment in early intervention and prevention is key to reducing problems further down the line such as teenage pregnancy, crime, mental illness, obesity and drug abuse.

This article is based on a verbal presentation given to the Quality of Childhood Group in the European Parliament in December 2009. Notes taken during the presentation were formulated into the article below, which has been checked and approved by Sue Gerhardt.

Two specific areas requiring investment are:

There is a real need for more widespread and easily accessible psychological services for families. The really good approaches and programmes offer a two-pronged approach – giving empathy and support to the parent, whilst teaching them how to notice and be more sensitive to their baby.

Secondly, paid maternity and paternity leave is the key. Jane Waldfogel has found that it is only paid leave which is associated with better maternal and child health, lower maternal depression, lower infant mortality, more breastfeeding and so on.

Perhaps it is time for the EU to set up a project to look at the most effective ways of promoting social and emotional health through early prevention – along the same lines as is currently done with the Nutrition Project.

The case that I want to make is that babyhood is much more important to our lives than many people realise. A lot of the behaviour that worries us in later childhood, such as aggression, hyperactivity, obesity, depression and poor school performance, has already been shaped by children's experiences in babyhood. For those of you who have not studied the scientific literature, this might seem a bit far-fetched. I was rather amazed at just how significant babyhood is, when I first undertook the research for my book 'Why Love Matters'.

But over and over again, as people look into it, they discover that this really is the case. Just to take one recent example, the World Health Organisation recently published a report from their Commission on the social determinants of health – which stated that "Research now shows that many challenges in adult society – mental health problems, obesity/stunting, heart disease, criminality, competence in literacy and numeracy – have their roots in early childhood." They went on to say that "Economists now assert on the basis of the available evidence that investment in early childhood is the most powerful investment a country can make, with returns over the life course many times the amount of the original investment." I will come back to that later. But first let me make the case for the importance of infancy.

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The over-riding importance of early conditions

The strange fact is that very often the early conditions of our lives have a profound impact on the whole of our development. Let me start by describing how this works with regard to the body and physical health, which might seem more obvious, because we can see that nutrition affects the body. The body grows or it does not. It develops healthy organs or it

does not. And actually, the early development of the body's organs and other systems are affected by the nutrition available at that time. There is a lot of evidence to suggest that birth weight and early nutrition have a big influence on later health such as susceptibility to heart disease, obesity and Type 2 diabetes. Much of the early research was done by David Barker from Southampton University. He explains the process in terms of the foetus or baby adapting to the conditions in which it finds itself. If those conditions are of under-nourishment, the growing body has to adapt the way it handles sugar and fat, or the way the heart manages blood pressure. These adaptations, as he put it, 'tend to have permanent effects on the body's structure and functioning – a phenomenon referred to as programming.' The poorly nourished baby has also been found by other researchers to have higher cortisol levels throughout adult life, suggesting that their stress response has been programmed in the womb or in infancy (Seckl & Meaney 2004). As Barker explains, these early adaptations allow the foetus and the baby to survive the immediate dangers of their situation, but have long term consequences – often at the price of a shortened lifespan.

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The links between infancy and later health and longevity are already being taken seriously by the European Union (EU). For some years the European Union has been funding an Early Nutrition Programming Project based in Munich¹, which has been looking at these links. Other major organisations recognise the links too. The World Health Organisation recommends at least 6 months of breastfeeding to protect the development of a child's immune system.

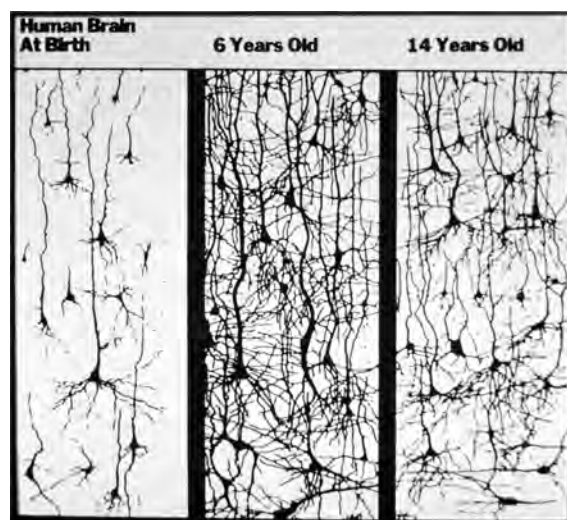
But my focus is on emotional health, and in particular how the brain systems that manage our *emotional* responses are just as much shaped by early events. They too are 'programmed' in a very similar way. Not by food input – although that plays its part in nurturing our biochemical systems – but by the way that a baby adapts to the relationship environment and structures his brain accordingly, in order to survive in the situation in which he finds himself. Just as the baby's body adapts to a shortage of nutrition, so the brain adapts to inadequate emotional input.

The Human Brain

So what I would like to do now is to give you a brief tour of the brain to explain how this works.

The human brain is unique. It shares many of the same features as animals' brains, but it is a kind of extended version. It starts off with a basic reptilian brain based around the brain stem – this is what supports the basic life functions, and this is the first part of our brains to develop too. Then, like other mammals, it adds various new capacities (based in

the centre of the brain) including nurturing abilities. But what really makes humans human is basically the massive post-natal development of the *outer* layers of the brain, the cerebral cortex. One of the first parts of this layer to develop is the pre-frontal section, which grows extremely rapidly in the first year or two of life. It is an area which is not fully formed at birth but which connects up in response to social stimulation in infancy. Brain development, or learning, is actually the process of creating, strengthening, and discarding connections among the neurons. These connections are called synapses. As you



'Rethinking the brain', families and work institute Rima Shore 1997

can see there are not many at birth but they sprout rapidly in the first year of life and eventually form neural pathways that connect the different parts of the brain and organise its functions.

The pre-frontal cortex is the area of the brain I am most concerned with. It is what I call the social brain, which is a shorthand way of referring to a range of areas in and around the pre-frontal cortex. We know from scientific research that this social brain area is activated when we are involved in controlling our emotions, paying close attention to other people and their social signals, thinking about feelings, and having empathy for others. It is the area of the brain that extends out of the more basic instinctive ways of behaving – such as fight or flight reactions – which are based in the amygdala and hypothalamus. The social brain's job is basically to organise and supervise those more basic responses.

But this human emotional control centre does not develop automatically. The social brain develops in response to the social experiences that a baby actually has. Neural pathways get laid down as a result of actual experiences, so, for example, the baby needs someone to give her an experience of emotions being managed helpfully, before she can learn to do these things for herself and manage her own feelings well. Basically, babies learn how to do things through their experiences with other people, not through words or instructions.

They learn how to cope with stress by having an experience of someone being with them and helping them to cope. But they need to have these experiences consistently, over and over again, to lay down the pathways, during the first and second years of life. As I mentioned earlier, the first year of life is about making connections in the brain. But in the second and third years of childhood that huge tangled mass of connections starts to get "pruned" – on a "use it or lose it" basis. Basically, we keep the pathways that are most used and most useful in our particular social environment – and lose those pathways that have not been used that much. That means that if as babies and young children we live with angry, aggressive people, we will keep pathways that help us to be alert to anger and aggression, and if we live with people who are attentive to other people, we will keep the pathways that help us to be attentive.

Basically, babies learn how to do things through their experiences with other people, not through words or instructions. They learn how to cope with stress by having an experience of someone being with them and helping them to cope.

Biochemical Systems – the stress response and the soothing system

Some of the first pathways to be established in babyhood are the biochemical ones. These biochemical pathways, which I think of as a sort of liquid "grease", helping information to travel around the brain, help the baby to react to his environment quickly and appropriately. In particular, I want to mention two biochemical systems that are really important for emotional well-being – I refer to them as the stress response and the soothing system.

The stress response is a very important biochemical system which develops in infancy. It is basically a useful system which releases the hormone cortisol to generate extra short-term energy to cope with stresses and dangers of all kinds. Once the objective has been achieved, and safety and social equilibrium is restored, the cortisol is dispersed. But in early babyhood, the stress response is not yet fully functional; babies are very vulnerable and easily stressed – particularly by situations that feel unsafe, such as being separated from their mother or a familiar person, or being physically hurt. Babies cannot protect themselves from stress or danger nor can they calm themselves down. They are dependent on an adult to protect and calm them, to quickly disperse their cortisol for them and to help them get back to a stable state. If the adults taking care of them do not manage their states for them, they can become flooded with cortisol without having any way of getting rid of it. Even in toddlerhood, they are still vulnerable, and need to feel that their world is safe and predictable, and that they can rely on others for help when they need it.

If babies or toddlers end up being flooded with cortisol on a chronic basis, because the adults looking after them do not respond quickly, do not resolve problems for them, or are, in fact, perhaps emotionally frightening themselves, the stress system will adapt to that particular human environment, and the baby may develop an unusual cortisol response – high or low

baseline levels of cortisol – which can have some very negative effects on him/her.

Let me give you a glimpse of how this might be passed on from parent to child in practice. I had a client who was a violent offender. He had just come out of prison and was building a relationship with his son, wanting desperately to be a good father. However, the way in which he interacted with his baby son –unpredictably shouting at the baby, or laughing at the baby's distress – was frightening to the baby. If this had continued, the father would have passed on to his son a feeling of not being safe, having to be vigilant and alert to others' aggression.

When experiences like this go on day after day, they can have lasting effects on the child's biochemical systems. A child who experiences rough treatment, humiliation, aggression, shouting, and so on, has to adapt psychologically. But this is also happening at a biological level. It is thought that high levels of the stress hormone cortisol are eventually down-regulated and children like this end up with a low baseline cortisol level which has been found to be associated with later aggressive behaviour. (For a summary of this research, see Megan Gunnar et al, 2006, *Development and Psychopathology* 18, p 651-677)

Most people probably develop a healthy stress response if they have a normal childhood. This gives them a good chance of being able to bounce back after difficulties. It means that they have a resilience to stress. Even though they might be temporarily overwhelmed, and start to forget things or lose the ability to pay attention, if they have established a healthy stress response in infancy, they are likely to be able to get back to normal quickly. It takes quite a lot of stress over a very long period to create any permanent damage in a basically resilient adult (although it can happen).

However, when babies are chronically stressed, this can create permanent damage to their systems and they grow into adults who are not able to recover quickly from stressful events. They become more vulnerable and sensitive to stress as adults and may seek help in regulating themselves through drugs and alcohol. When adults like my client ignore their child's feelings, laugh at them or punish them, the child basically is not going to be learning how to manage feelings or to regulate his/her feelings. I'm reluctant to say any more about the effects of early insecurity and stress because it does just go on and on. But it really does have quite far-reaching effects. Another aspect of too much cortisol early on is that it can have a knock on effect on other biochemical systems – such as the **soothing system** which is based on the neurotransmitter serotonin. When this system is not in good shape, the baby can grow up with problems in staying calm under stress, and become prone to impulsive outbursts and aggression. Low serotonin levels are part of the picture of mood and anxiety disorders, sleep disturbance and aggression on into adulthood.

I think of these biochemical imbalances as a bit like a physical handicap, a vulnerability which is not necessarily immediately visible, but can play out in later life, even after

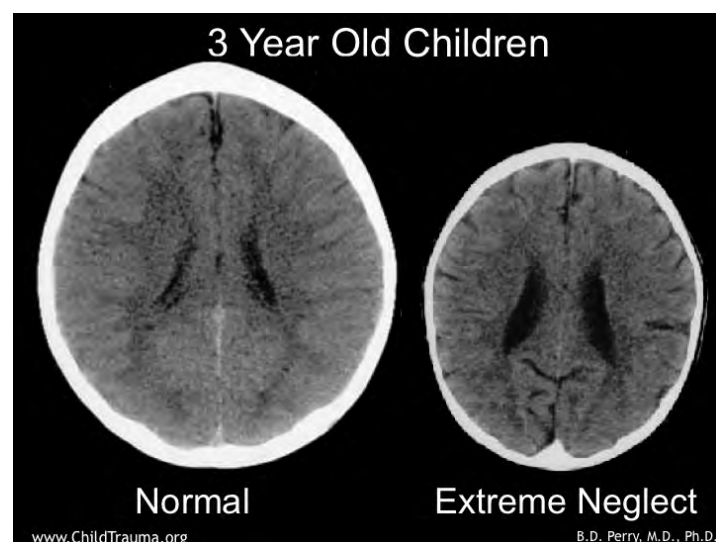
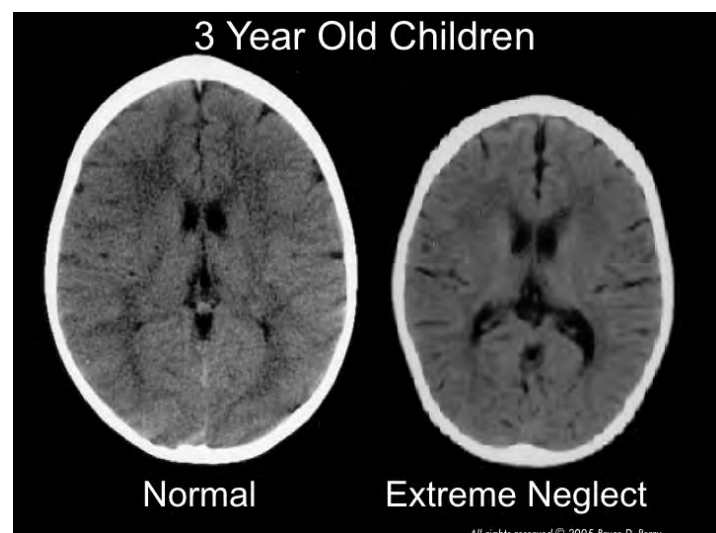
decades. High levels of cortisol are connected to physical health problems too; in particular research is now demonstrating links with later obesity and heart disease. (Shonkoff et al 2009, JAMA)

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Prefrontal development

What I have not yet come to is that too much cortisol early on – in the first three years in particular, when the daily pattern of cortisol is established can even affect brain structure. In particular, it can damage those areas of the brain that are developing rapidly in the early years, because it can be toxic to the development of neural connections just at the time when the connections are being made and the pathways established. Children who are traumatised early on often have reduced brain volumes in a number of areas, especially the pre-frontal cortex – literally they have smaller brains.

The brain volume of a child can be shaped by experience and evidence has shown that a child who is severely neglected physically as well as emotionally can have a dramatically reduced brain size.



'These images illustrate the negative impact of neglect on the developing brain. The CT scans on the left are from healthy three year old children with an average head size (50th percentile). The image on the right is from a series of three, three year old children following severe sensory-deprivation neglect in early childhood. Each child's brain is significantly smaller than average and has abnormal development of cortex (cortical atrophy) and other abnormalities suggesting abnormal development of the brain.' (from the studies conducted by researchers from the ChildTrauma Academy www.ChildTrauma.org led by Bruce D Perry, M.D., Ph.D.)

So it can seriously affect the social brain, and other areas such as the amygdala, the cingulate, and the hippocampus, which are all important for emotional life. The crucial timing for pre-frontal emotional development is the period from the second part of the first year through toddlerhood, when the medial prefrontal cortex is developing most rapidly and is most susceptible to influence. It becomes functional at around 18 months to 2 years, by which time the child has become a self – she can recognise herself in the mirror, and has acquired the basic programmes for self-awareness and self-control.

The importance of positive experiences

On the other hand, it is just as important to make sure that babies receive positive experiences as it is that they avoid negative ones. The whole process of developing a social brain and developing a strong sense of self is based on the quality of social attention the baby gets. The more pleasurable social experiences the baby has, the *more* this part of the brain connects up. The less attention a baby receives, the less this part of the brain connects up. In the worst cases, like some of the most damaged Romanian orphans, this area of the brain was virtually a black hole according to one researcher, Harry Chugani. Basically, humans have to *pass on* a social brain. It does not develop automatically, but as the result of investing attention in the baby. Babies learn to notice their own feelings when they get lots of feedback about their feelings from the adults looking after them. Then, in turn, once they have that self-awareness, they can use it to become aware of other people's feelings and to have empathy for others.

It is the same with self-control. The social brain has the potential to influence and control our impulsive reactions based in the amygdala, reactions like wanting to hit someone when we are angry with them. However, these inhibitory brain pathways are only laid down through the toddler having the *experience* of adults making firm but kind demands on him to restrain his inappropriate behaviours, and doing it consistently, over and over again. These capacities are also established very early on indeed. A researcher in the U.S.A, Grazyna Kochanska, has shown that self-control measured at 22 months predicts it at ages three and four, and another researcher showed that early self-control is linked to later empathy aged 8 (Guthrie 1997). It is a central aspect of social behaviour.

In fact, it is not only important for managing behaviour, but interesting recent research by Clancy Blair (at Pennsylvania State University) is suggesting that it is this same self-control and self-regulation which underpins academic ability, over and above the child's intelligence. These learnt social and emotional abilities are what make it possible for children to pay attention to teachers and to learn in other ways.

Basically, the brain is built up through actual experiences. What you put in is more or less what you get out. If we want to produce children who are calm, well-regulated, capable of empathy and foresight, we need to help parents to pass on these qualities by providing a lot of support for early parenting, and helping parents who are not confident in their parenting, like my client. We also need to make it possible for parents to spend a lot of time

with their babies and small children, paying lots of attention to their feelings and helping them to manage their behaviour.

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Poor early care leads to problems

I have not really got time today to go into all the things that I talk about more fully in “*Why Love Matters*”. But perhaps I should just make it clear that I am not just talking about providing the optimum conditions for children’s brain development, but I also see early development as the key to preventing future social problems.

Often, I feel that there is a lack of awareness about the early roots of problems. For example, I recently read a piece that suggested that bullying at school led to later mental health problems – low self-esteem, depression, and anti-social behaviour. Yet the writer assumed that it had all started in school with the bullying. He did not seem to be asking why particular children are bullied or how this might be the effect of patterns of behaviour established much earlier in life. Actually, bullies rarely target children who have high self-esteem and confidence. They are more likely to target those who already show anxiety and vulnerability.

I would like to briefly outline a few of the ways in which poor early development can play out in later life:

For example, babies who live with a depressed mother are at risk of growing up to be depressed themselves; they may develop a hypersensitive stress response and a less active left brain. This is not true of those whose mothers are depressed in later childhood.

Mental health problems such as personality disorders are, in many ways, a manifestation of inadequate early emotional care: people who have not been taught how to manage feelings well or to think about them, who have extreme emotional reactions and who often display a lack of empathy for others.

A similar story lies behind anti-social behaviour. Children who experience hostility from their parents, in particular, and whose parents who, during their babyhood, do not model how to resolve conflicts or how to maintain self-control often become the offenders of tomorrow. A lack of a warm bond at the age of 2 tends to predict later anti-social problems (Belsky 1998), whilst, as I have said, a lack of self-control at age 2 tends to predict it at subsequent ages (Kochanska). Without a warm attentive early relationship, the pre-frontal brain is less likely to develop well.

What are the implications for policy?

Psychological Interventions

The first thing I would like to establish is that in order to address the emotional needs of these youngest children, we are inevitably looking at providing families with psychological support as well as material support. This means that we will need to find ways to get this support to the families that need it.

But it is not easy to find the right way to make policies that will do this. Babies are still regarded as no-one’s business but their mother’s – and maybe their father’s, these days. In fact, in the past, the lives of babies were quite hidden from view in the private sphere of the family and there is still an element of that today. Until the child abuse scandals of the 1980s – relatively recently – it was very difficult to intervene in early family relationships at all. It still is very easily regarded as intrusive.

However, I would also argue that in the modern age of greater psychological understanding, we should now be able to recognise that a great many parents and babies are in *need* of psychological support. I argue for this on the basis that it is not at all easy for parents to offer their children more emotionally literate parenting than they received themselves. We do what comes naturally... and that is generally the way it was done for us. The problem is that what comes naturally does not necessarily meet the emotional needs of children. So emotional deprivation just gets passed on down the generations – with huge impacts on and costs for society.

If we ignore this, we are just going to go on wasting our money and letting social problems continue. Instead, I would like to see a big social project that ensures that inadequate emotional and social learning *is not* passed on to the next generation, so that society as a whole can benefit and move forward. There are various things already starting to happen: the growth of parenting programmes and so on which are all helpful. But I would like to add a warning that many of the parents who have the most difficulty will not learn how to do it better through advice about parenting on its own.

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The client I gave as an example, for example, did not *know* he was making his child feel unsafe or that he was passing on his own dismissive attitude to feelings. In his life, he had not had much experience of being empathised with. He did not know *how* to be sensitive to his son’s feelings. He had to learn this, not by being told to be sensitive, but by having an experience of it – through a therapeutic relationship where he received some empathy for himself. This helped him to start to feel that the world might be a safer place than he

had thought, and to notice that other people had feelings. He did not change overnight, but he did stop frightening his baby, and he began to treat his son like a person with feelings. That was enough to improve the situation. But it was intensive and skilled work over a number of months, and this costs money.

The problem is that social and emotional learning is basically experiential – for adults as well as children. It is learnt through relationship *experiences*. This makes it rather harder to fix than other forms of learning. For example, we know that an impoverished educational environment in childhood – not much conversation, no trips to museums, fewer books and games – hinders cognitive learning and puts many children at a disadvantage. But you can make sure children get that sort of stimulation relatively easily. It is a bit more tricky with an impoverished emotional environment.

The main ingredients of the really good programmes, including parent/infant psychotherapy which I practice, are that they offer a two-pronged approach: giving empathy and support to the parent, whilst teaching them how to notice and be more sensitive to their baby. You help parents to give more attention to their young children, especially quality attention, by giving emotional attention to the parents. You help parents to notice how they are responding to their baby by noticing how the baby is *with* them, or by using video techniques to hold up a mirror. These are very effective means of helping which enable people to learn much faster. Of course, you also have to establish some consistency and make sure this learning is sustained, and registered in the brain, and this means it does take time and support over a period of time. This is why the David Olds nurse/family partnership achieves such good results – they provide input from pregnancy through to two years of age. (Antoine Guedeney's French study of a long term programme for enhancing attachment over the first two years of life (a randomised controlled trial), will publish results in 2011.)

Fortunately, babies themselves are incredibly rapid learners and adapt very quickly to improved environments. But you need to get in quickly while the systems are being created. If you want resilient children (and adults) you need to make sure the stress response is not overloaded in infancy and not wait until later in childhood when the children are already having difficulties in managing stress. If you want thoughtful, empathic people, the easiest and most cost effective way to "create" them is to make sure that babies and toddlers receive lots of sensitive attention.

Financial Support

So there is a real need for more widespread and easily accessible psychological services. But I also want to stress the importance of practical, financial support. In my own view, this is just as crucial. If parents do not feel able to stay at home and look after their own babies, they are not going to be able to give this kind of quality attention to their babies. For me, **paid** maternity and paternity leave is the key. I stress the word **paid**.

In fact, according to Jane Waldfogel's researchⁱⁱ (she is a Professor of Social Work at Columbia University), *paid* parental leave has a very different impact to unpaid leave. She found that it was only paid leave which was associated with better maternal and child health, lower maternal depression, lower infant mortality, more breastfeeding, and so on.

Jane Waldfogel Professor of Social Work at Columbia University, found that it was only paid leave which was associated with better maternal and child health, lower maternal depression, lower infant mortality, more breastfeeding, and so on.

We might speculate that it feels very different to be financially supported: it is a way that society acknowledges the importance of the work of parenting, and it also cushions the financial stress for the parent. And, of course, if leave is not paid, very often parents feel obliged to leave their babies with other less motivated people who are less in love with the baby.

I was intrigued to notice that Waldfogel's research really fits in with the statistics presented by Richard Wilkinson and Kate Pickett in their book *The Spirit Level*. When I looked at their graphs, what struck me was that the countries which had the most generous paid maternity leave or parental leave, had the fewest health and social problems. (And, of course, conversely, those countries which offer the least *financial* support for early parenting (particularly the USA, Britain, Australia and New Zealand) have the highest levels of mental illness, use of illegal drugs, teenage pregnancies and so on.)

To me, this made perfect sense, since this financial backing really helps parents to look after their own babies and give them quality attention without feeling pressured back into work, particularly full-time work. We know that when mothers are not financially supported in the early years, they tend to return to paid employment more quickly – often returning to work when paid maternity leave expires. (Waldfogel's most recent research has confirmed that mothers' full-time employment – though not part-time employment- in the first year is associated with more behaviour problems in the child. (2010, Monographs of the Society for Research in Child Development).

Richard Wilkinson and Kate Pickett, in their book *The Spirit Level*, have a rather different thesis, although they recognise the importance of early care. They argue that inequality and living in a hierarchical society is the most important cause of social problems and mistrust of others. They hold up Japan and Sweden, in particular, as prime examples of the benefits of having more equal societies. Both have high levels of social trust as well as doing extremely well on various other measures.

But actually Japan also offers 58 weeks maternity leave on 60% of pay whilst Sweden offers 55 weeks on 80% of pay – and then more on top of that. I wonder if it is equally

likely that it is their support for early parenting which consolidates social harmony: perhaps well-supported parents are more likely to give the kind of attention and sensitive care that will help their babies to establish a stable stress response and good pre-frontal brain development, which will enable them to co-operate with others? It is a chicken and egg situation.

In reality, we all start with our experiences in the family: and we learn incredibly early how to relate to other people, to have confidence and trust in them – or not. Our bodies are programmed in infancy to cope well with stress and to be resilient – or not.

Conclusion

To sum up, I think that we *are* slowly getting greater and greater recognition of the importance of infant mental health, but it is patchy. There is a great deal of good will around with regard to improving the quality of childhood, and thinking about children's poverty, their exposure to television and video games, their behaviour at school and their academic achievements. But it is still not sufficiently clear to everyone, I believe, that all of this is underpinned by the first three years of life.

I would love to see all policy makers routinely bringing babies into the picture and taking for granted that what happens to children under three is at least as important as anything that happens later. Recently, the World Health Organisation echoed this view. They made the recommendation that: 'Local, regional, and national governments should incorporate the 'science of early child development' into policy.' They then went on to make the wonderful suggestion of a 'social marketing campaign' that would reach finance and planning departments of government, the economic sector, the corporate world, and the media. They said that they wanted to see early childhood development policy integrated into the agendas of each sector, so that it is routinely considered in decision making.

This is pretty ambitious and far-reaching, but absolutely what we need.

So if we really want to make a difference to children – which of course we do – then I would argue that policies must recognise the part that infancy and the very earliest years play. At the moment this is the Cinderella group in terms of public spending. In the United Kingdom (U.K), we currently spend very very little (0.3% of GDP in this area, compared to 2% in Sweden) on the under threes. But to me, this is crazy. This is when investment most matters and could be most effective.

A recent report from the New Economics Foundation has calculated that the United Kingdom (U.K) spends £161.31 billion annually on social problems such as teenage pregnancy, crime, mental illness, obesity, and drug abuse – this covers the cost of special schools, social workers, foster parents, and prison sentences. This report (called Backing the Future, September 2009) has calculated that we need to spend at least the same amount again on early intervention and prevention. But they calculate that if we did so,

within ten years we would be breaking even in terms of social expenditure. If we chose to invest in the future, over a twenty year period we would even bring net returns to the U.K economy totalling £486 billion (roughly five times the annual budget of the National Health Service).

Unfortunately, even the New Economics Foundation fails to emphasise the importance of intervention in infancy. The only provision for 0 to 2 year olds in their proposals is a nurse/parent partnership scheme for single parents. Most of its proposals are schemes spread throughout childhood. This is typical of current policy thinking. What tends to happen is that we wait until problems appear, usually during school or pre-school. Then help starts to become more available and people start to get concerned. I find this over and over again, babies are just ignored as if they do not quite exist until they can walk and talk, and do not have psychological needs of their own.

But in my view we need to switch to a preventative approach, not wait until problems appear. We need to make sure that all babies are not only well nourished and protected from physical harm, but to ensure that they are given the basic conditions to flourish in their lives. And, as I hope I have made clear, the first year or two are the most crucial years, which underpin later abilities – to self-regulate, to pay attention at school, and to have empathy for others.

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Perhaps it is time for the EU to set up a project to look at the most effective ways of promoting social and emotional health through early prevention – along the same lines as the Nutrition Project. 13.4 million euros are being spent on that project – how about the same amount again to establish the importance of babyhood in our policies?

- i Co-ordinated by Professor Koletzko of the Children's Hospital, University of Munich, Germany.
- ii "Social Mobility, Life Chances, and the Early Years", Jane Waldfogel.

Sue Gerhardt

is a practising psychoanalytic psychotherapist in the U.K. In 1997, she co-founded a charity, the Oxford Parent Infant Project (OXPIP) which continues to provide parent/infant psychotherapy for around 50 families a week.

Her work with parents and babies contributed to the success of her best-selling book, *Why Love Matters: how affection shapes a baby's brain* (Brunner Routledge, 2004), described by MP Oona King as "a founding text for the future health of modern society". Her most recent book is *The Selfish Society* (Simon and Schuster, 2010). Described in the Observer newspaper as "inspiring" and by author Oliver James as "a brilliant critique", it argues that early life is highly relevant to our political and economic culture.