

CHILDREN AND BRAIN FORMATION

Baby's brains are built through interactions with their environment - in particular through interactions with their parents

There is plenty of evidence from the fields of attachment and neuroscience about the development of human brains, starting in utero.

There are big implications for parenting, education, therapy and interpersonal communication of all kinds.

Dan Siegel and Allan Schore have been very significant in linking attachment and brain development and there is much we can learn from their work.

They have coined the term Interpersonal Neurobiological Regulation. Through relationship, especially of parents with their children, the brain and nervous system can develop and become well regulated.

However, when there is less than optimal interaction, and especially if there is abuse or neglect, or where the parents have unresolved trauma, the effect on the child's developing brain is to decrease its full and healthy development.

It is therefore very important for all parents, or anyone involved with children, to be fully aware of the capacity they have to help or hinder the development of a child's brain and therefore the child's capacity to manage their life.

There are two important things to consider here.

First of all the *structure* of the brain is important. At various times in utero different parts of the child's brain are developing. For this to be optimal the mother needs to experience as little stress as possible.

This includes minimising as much as you can not only emotional, but physical, chemical and electromagnetic stresses while you are pregnant.

Secondly, the structure of the brain also has a big impact on the *function* of the the brain.

Once a child is in the world the brain has to keep developing. Only part of the development can occur in utero because if the full development occurred the head would be too big for birth, so the rest of the development occurs in the environment in which the child grows up.

This is where the kind of parenting and interactions a child has with his/her environment is crucial to her/his development.

It is now accepted, through reliable scientific research that human beings are essentially energy. This is informed by the knowledge in Quantum science.

Baby human beings are energy and when they are first born they only have the survival part of their brain functioning. This means that every interaction they have with their parents is being coded into their bodies and their nervous system and in turn creating (or not) healthy brain development.

The systems which are important for survival are fully engaged and will start to protect the baby when its needs are not adequately met.

Each baby is unconsciously responding to the messages it receives from the mother's voice, touch, energy and nervous system. It's the same with the father but it's often the case that the father has less physical contact in the very early months if the baby is breastfed and if the father is working and the mother is at home with the baby.

Every interaction is a mixture of sounds, sights, feelings, tastes and smells. The baby has become used to those of the mother, in utero. Whilst in utero, the baby develops familiarity with the sounds of the father and the general sounds in the environment. In addition to this, the hormones and other aspects of the mother's nervous system impact through the placenta on the baby and her or his development, in particular on the developing brain.

When a baby has impact from the environment which is discordant or unhelpful for its needs, it impacts on how the brain develops structurally which also impacts on how it can function.

It is now well known that the way a child's brain develops in optimal circumstances means that it is well integrated in nine domains¹. When these domains are well integrated it provides resilience and wellbeing for the individual.

There are ways that parents can interact with their children which promote this integration. Dan Siegel and Tina Payne Bryson wrote *The Whole Brain Child* which helps parents to understand this and to develop strategies for

¹ Dan Siegel speaks of the 9 domains of integration. See the link to a summary of Pesi.

managing behaviour in children up to 12 years old using the strategies, all of which assist brain integration.

The take home message is that, with all your human interactions three things can be going on: you might be talking to another person, at the same time your bodies are 'talking' to each other and your brains are 'talking' to each other and there is an energy exchange between you that is below the level of consciousness.

These other levels of exchange are really important. For parents, especially it's so helpful to recognise how much you are impacting on the development of your children's brains in every interaction you have.

In addition to this is the transfer, through *epigenetics* of patterns and predispositions from generation to generation. Whilst the genome of an individual is set, the epigenome is able to be turned on and off.

The good news here is that when there is a pattern or predisposition to something which you want to change, it's possible to do so.