

# **Emotional Regulation: The Need for Intervention during the Perinatal Period**

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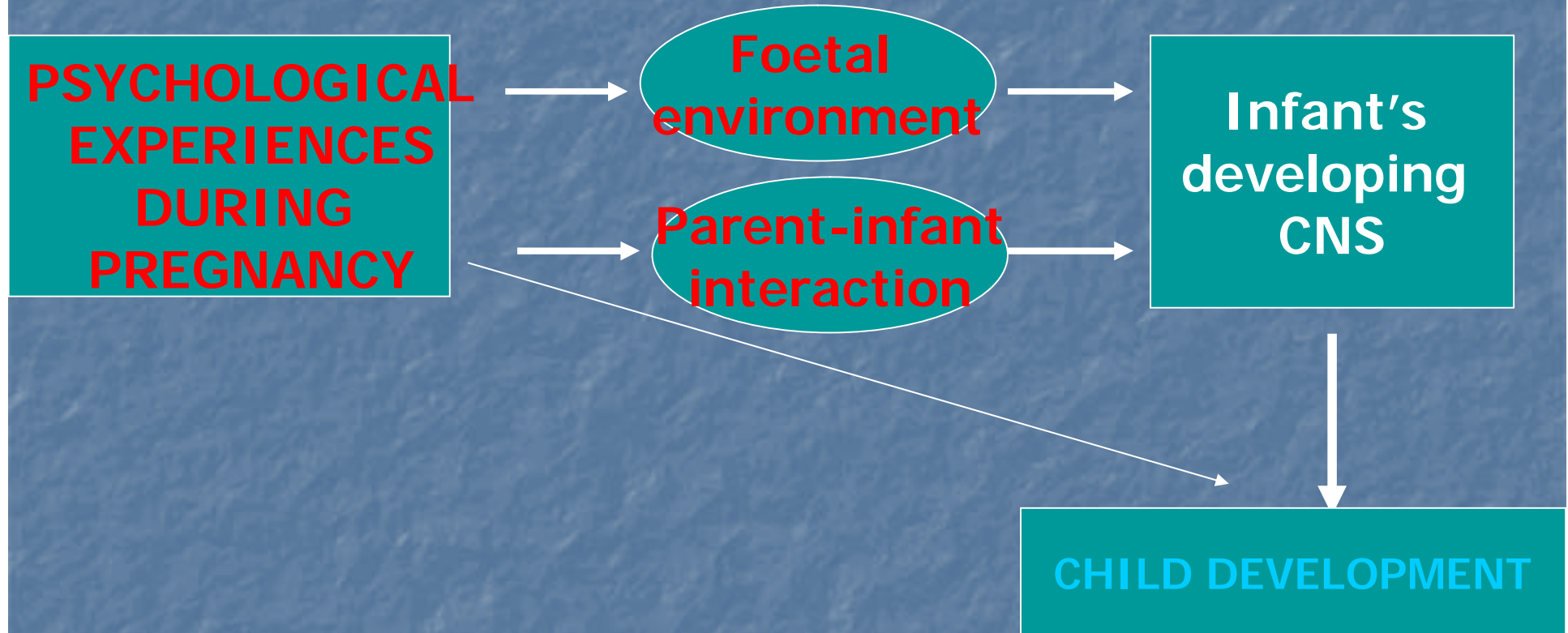
# Structure of Paper

- Regulation of emotion is a key developmental task that influences all aspects of later child development
- Infant's developing CNS influences their emotional regulation
- Development of the infant's central nervous system (CNS) is influenced during pregnancy by the emotional health of the mother and during the immediate postnatal period by mother-infant interaction

# Child Development

	<i><b>Social/emotional competence</b></i>	<i><b>Cognitive Development</b></i>	<i><b>Behavioural Competence</b></i>
<i><b>Infancy</b></i>	Trust/attachment	Alertness/curiosity	Impulse control
<b>EMOTIONAL REGULATION</b>			
<i><b>Toddlerhood</b></i>	Empathy	Communication/ mastery motivation	Coping
<i><b>Childhood</b></i>	Social Relationships	Reasoning/problem solving	Goal-directed behaviour
<i><b>Adolescence</b></i>	Supportive social network	Learning ability/achievement	Social responsibility

# The Pathways...





# Maternal Representations (1)

- Research found that during pregnancy a woman's representation of her self; her fetus and her mother evolve in ways reflective of her relational history and associated conflicts and fantasies
- When intrapsychic, relationally related conflicts predominate, mood disturbance can result (ibid., p. 409)

# Maternal Representations

- Inability to elaborate an organised representation of parental function during pregnancy indicates risk of postnatal mother-infant dysfunction
- Fetus may take on a negative identity or may represent an attempt to establish a relationship that will compensate for unsatisfactory internalised one with her own mother
- MR may be laden with excessive fears or even with idealized expectations about their imagined baby, and these can interfere with the process of establishing a relationship with the 'real' baby' (Rapheal-Leff, 2001)

# Maternal emotional state

- Depression scores were higher at 32 weeks of pregnancy than 8 weeks postpartum, with 13.5% of women scoring above the threshold for probable depression between 18 and 32 weeks gestation (Evans et al., 2001)
- The majority of cases of postnatal depression were preceded by antenatal depression; similarly, postnatal anxiety was preceded by antenatal anxiety
- Antenatal anxiety predicts postnatal depression at 8 weeks and 8 months, even after controlling for antenatal depression (OR=3.22,  $p<0.001$ ) (Heron et al)



# Maternal depression during pregnancy

## Behavioural Outcomes:

- Babies born to mothers depressed have: lower motor tone; less active; more irritable; fewer facial expressions in response to happy faces' disrupted sleep patterns
- Depression during pregnancy predicts newborn fussiness and nonsoothability
- Depression and anxiety associated with negative reactivity in 2 and 4-month olds (Berner, Monk and Werner, 2008)



# Maternal anxiety during pregnancy

## Behavioural Outcomes:

- Newborns of anxious mothers:
  - spend more time in deep sleep and less time in quiet and active alert states (Field et al., 2003)
  - more state changes and less optimal NBAS (ibid)
- Doubles risk for hyperactivity in boys at 4
- contributes to emotional and behavioral problems at 47 months
- predicts impulsivity on performance tasks at 14-15 years

# The Postnatal Period



# The Social Baby

- In first 15 hours baby's distinguish the voice, smell and face of their mother
- By 2-3 weeks they remember specific details of a mobile for up to 24 hours
- They connect what they do with what happens immediately after
- Babies have a sophisticated understanding of facial expressions – distinguish between surprise, fear, sadness, anger and delight
- By 10-months baby's brain has developed according to the type of emotions to which they have been exposed

(Beebe and Lachman, 2004)



# The Infant Brain

- Babies born with immature brains
- Wiring takes place during **prenatal period to school-entry** – important first two years in response to the environment
- Most important aspect of the environment is primary caregiver
- Rapid proliferation and overproduction of synapses followed by loss (pruning)
- 'Use it or lose it' – lost if not functionally confirmed

# Early Brain Development



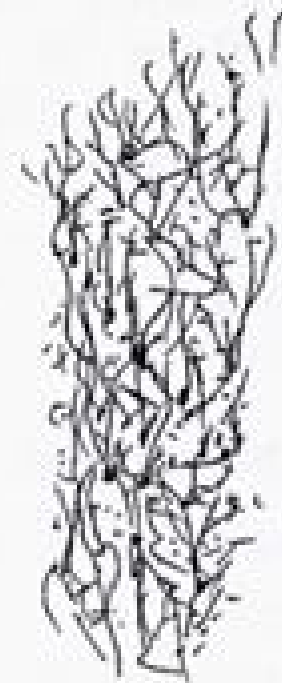
1 month



3 months



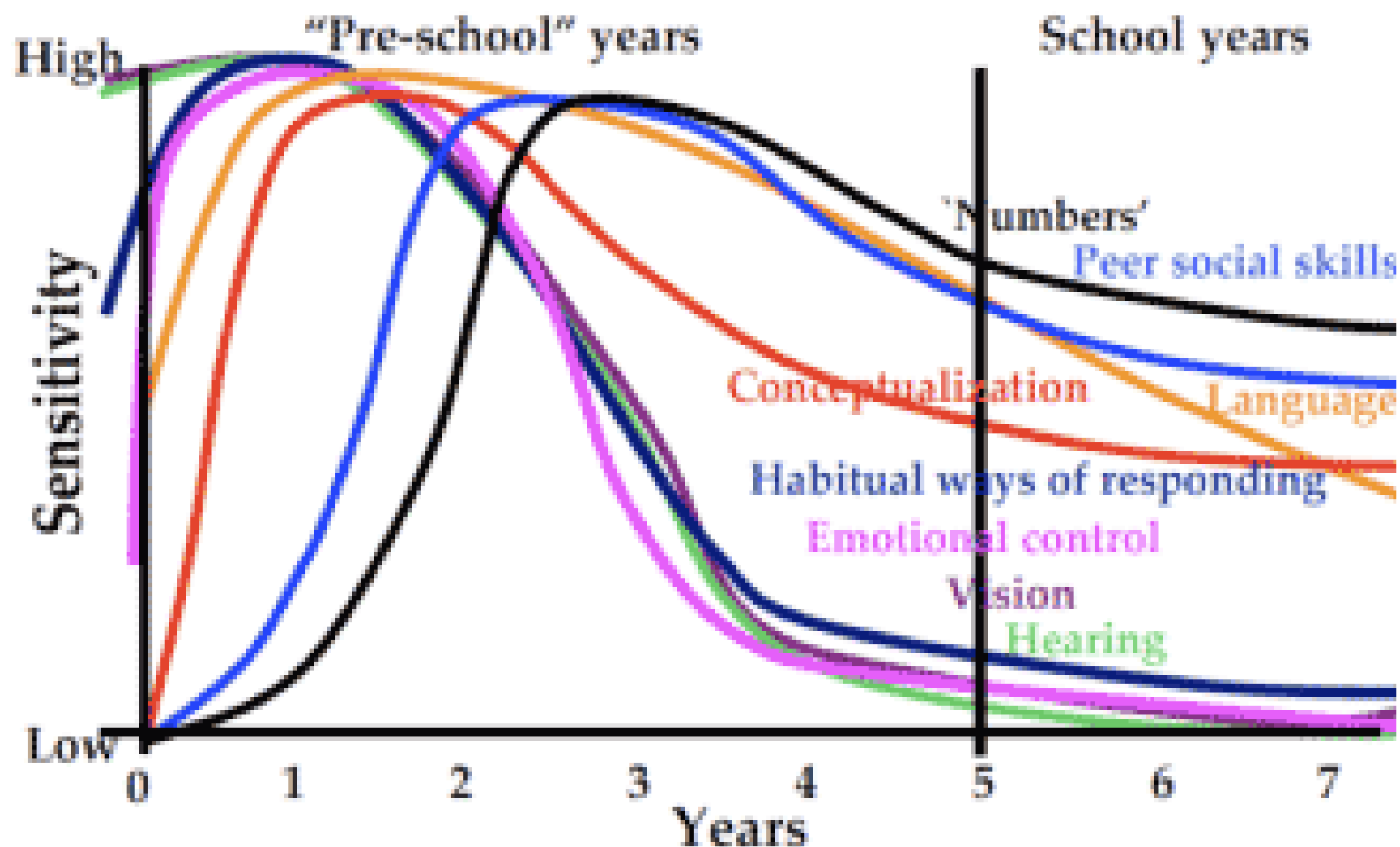
6 months



15 months

Figure 4.5 The connections between neurons develop rapidly after birth. This is a picture drawn from photomicrographs of infant brain tissue. Even so, it is only schematic, and not from one infant.

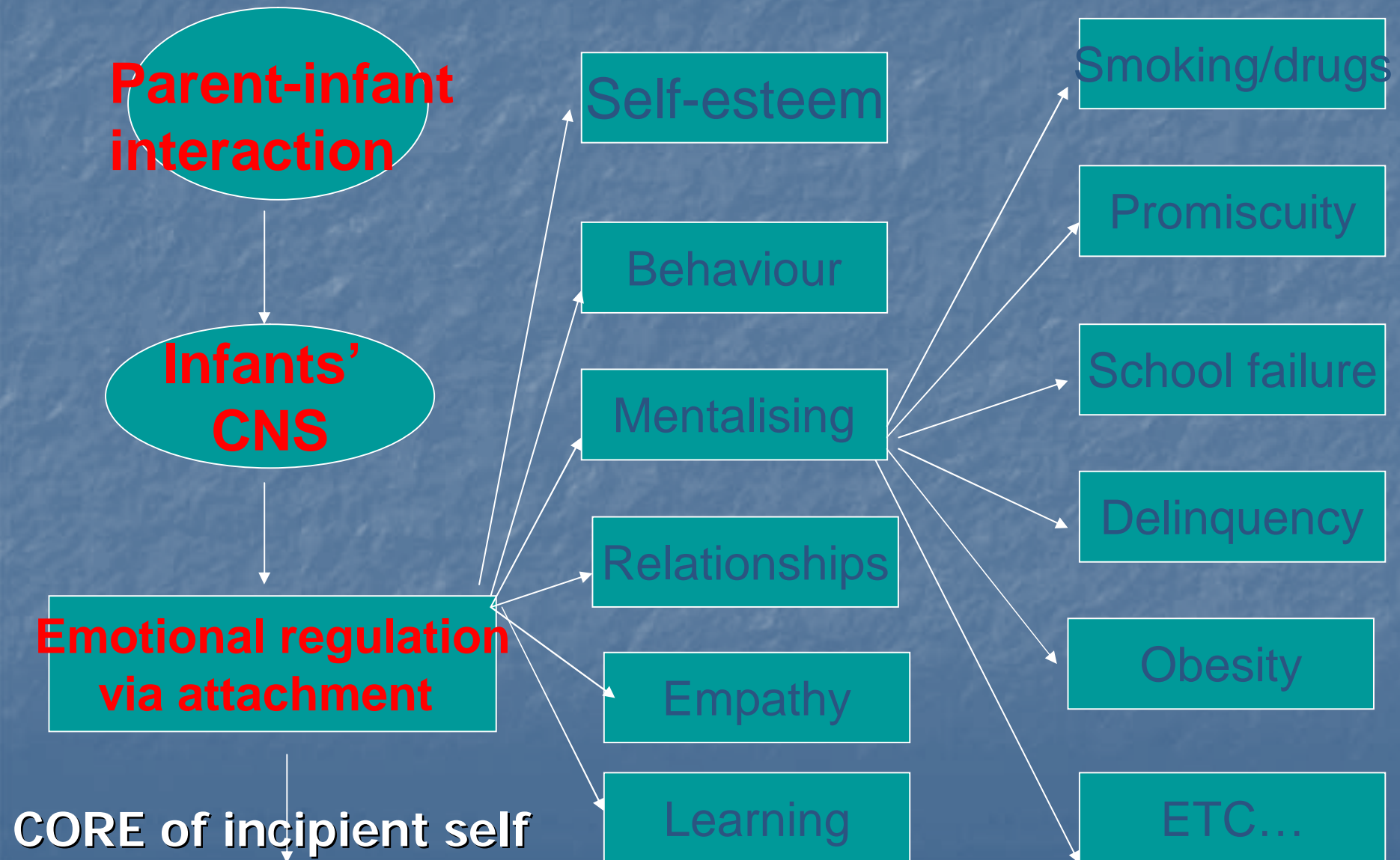
## 'Sensitive periods' in early brain development



Graph developed by Council for Early Child Development (ref: Nash, 1997; Early Years Study, 1999; Shonkoff, 2000.)



# Early Development and Later Wellbeing



# Affect Synchrony and Emotional Regulation

Quality of parent-infant relationship important:

- Attunement
- Mind-mindedness
- Marked Mirroring
- Containment



# Videoclip One



# Videoclip two

# The Impact on the Developing Neurosystem

# For example...

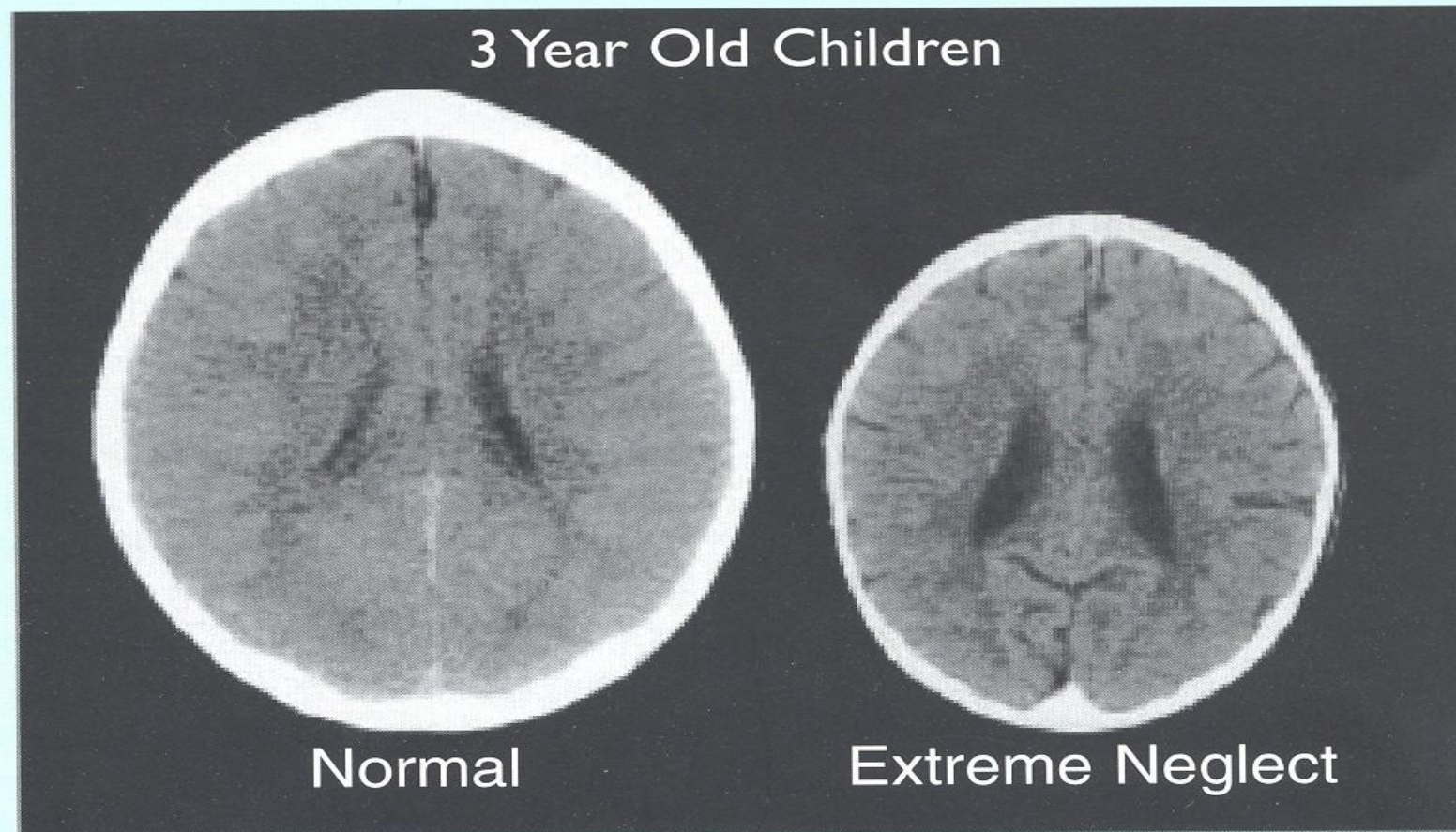
- **Looks and smiles** help the **brain to grow**
- Baby looks at mother; sees dilated pupils (evidence that sympathetic nervous system aroused and happy); own nervous system is aroused - heart rate increases
- Lead to a biochemical response - pleasure neuropeptides (betaendorphin and dopamine) released into brain and helps neurons grow
- Families doting looks help brain to grow
- **Negative looks** trigger a different biochemical response (**cortisol**) stops these hormones and related growth

(Gerhardt 2004)



- Babies of **depressed** mothers:
  - nearly half show reduced brain activity
  - much lower levels of left frontal brain activity (joy; interest; anger) (Dawson et al 2006)
- Early experiences of persistent **neglect and trauma**:
  - overdevelopment of neurophysiology of brainstem and midbrain (anxiety; impulsivity; poor affect regulation, hyperactivity)
  - deficits in cortical functions (problem-solving) and limbic function (empathy)

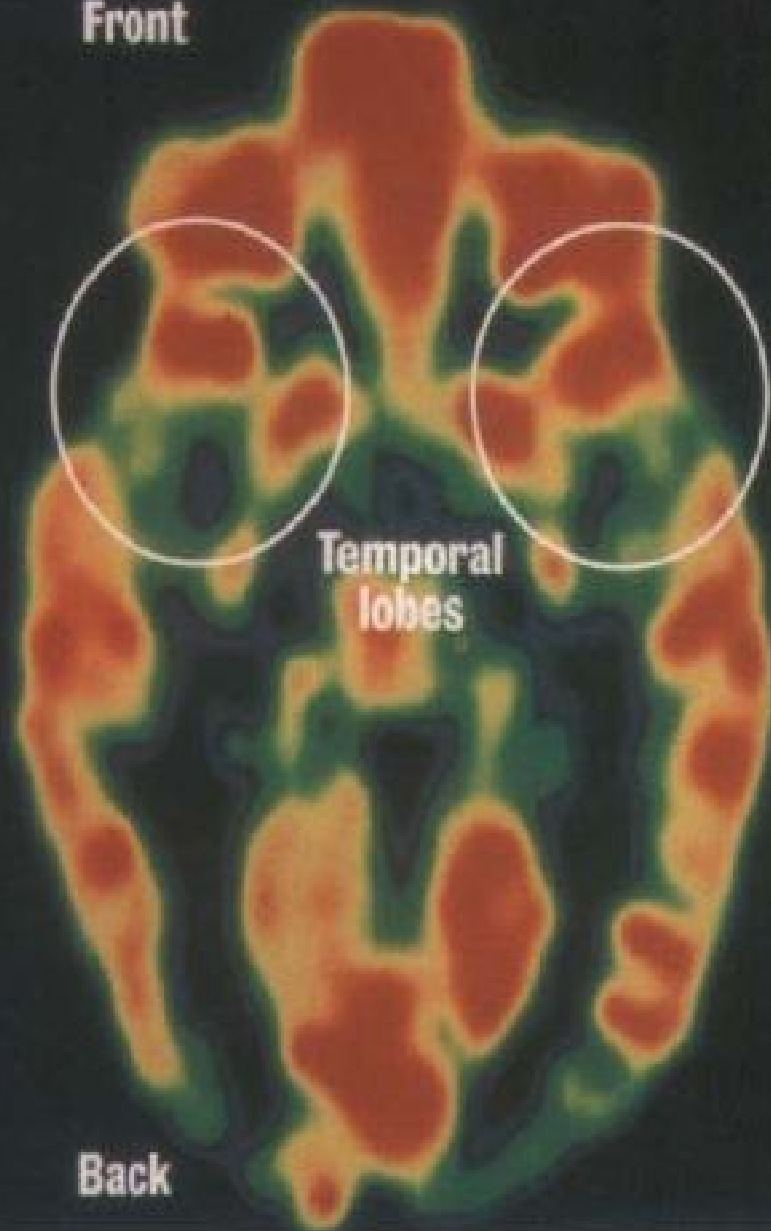
Figure 4.2: Differences in brain development following sensory neglect



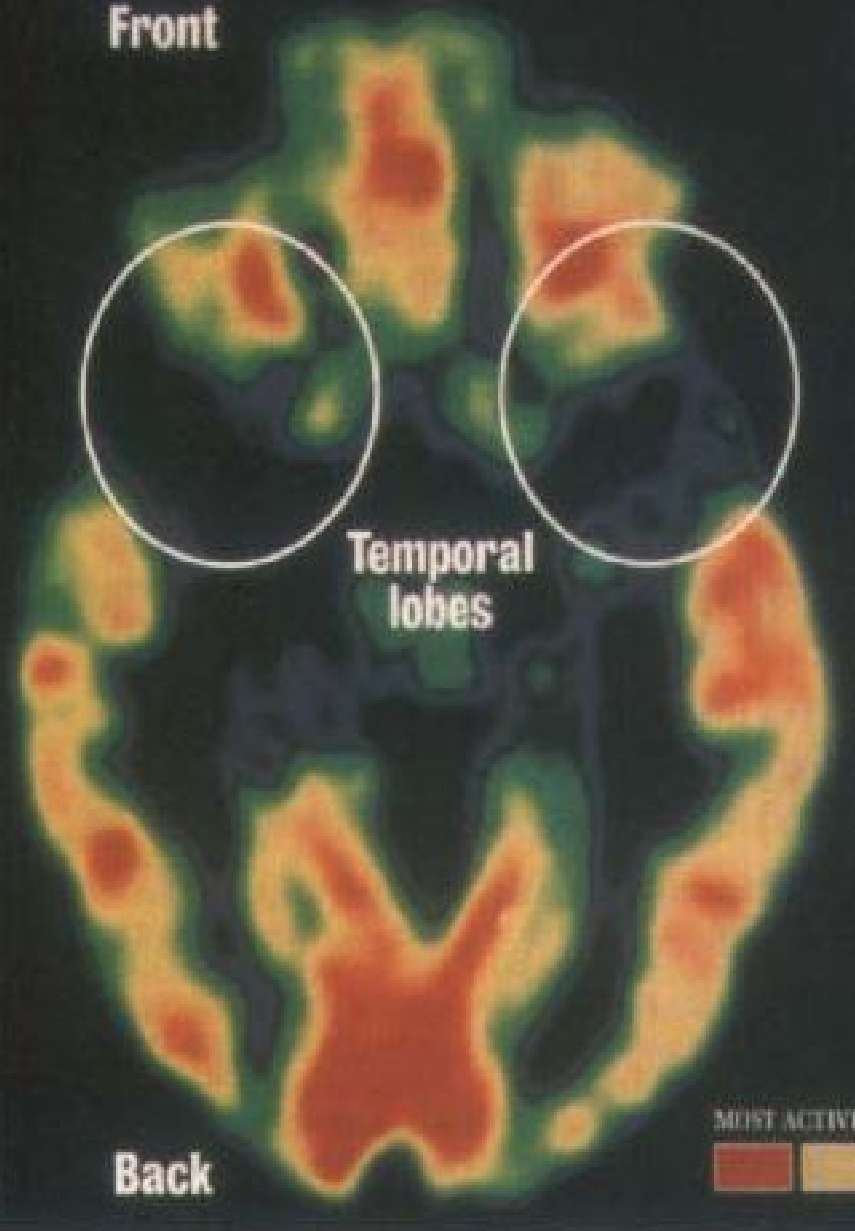
*This figure compares the brain of a normal 3-year-old child (the image on the left) with the brain of a 3-year-old who has suffered severe environmental sensory-deprivation neglect (the image on the right). The child who has suffered neglect has a significantly smaller brain and has enlarged ventricles and cortical atrophy.<sup>47</sup>*



Front



Front



# Prevention in Practice: Supporting Parenting



WARWICK



Research Report DCSF-RW070

## Health-led Parenting Interventions in Pregnancy and Early Years

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Dr Deborah Gheke and Professor Marjorie Smith  
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# Systematic Review

<http://www.education.gov.uk/research/data/uploadfiles/DCSF-RW070.pdf>

## The Child Health Promotion Programme

*Pregnancy and the first five years of life*



- Supporting parents to provide sensitive parenting, in particular during the first months and years of life
- Supporting strong couple relationships and stable positive relationships within families
- Ensuring that contact with the family routinely involves and supports fathers
- Supporting the transition to parenthood, especially for first-time mothers and fathers

# Pregnancy 1

## Emotional Preparation for Parenthood

- Parenting programmes e.g. PIPPIN  
(primary/secondary)

## Identification of problems:

- One visit using promotional interviewing  
(primary/secondary) e.g. EEPP
- Intensive home visiting using parent counselling techniques, with families identified as being in need (secondary/tertiary) e.g. NFP Programme



# Promotional Interviews

## Universal component

- 2 Promotional visits to ALL pregnant couples to promote well-being and relationship with infant
- Screening to identify families in need of

## Progressive component

- Moderate Need - The health visitor/community nurse provides 6 – 8 visits to support parents and/or parenting
- High need – referral on via care pathways



# Pregnancy 2

## **Promotion of bonding with the baby:**

- Promotional interview to identify her perceptions and anticipation of her unborn child
  - how is your baby; how do you imagine your baby now; what do you think your baby is going to be like etc
- Encourage women to massage their tummy and have conversation with baby

# Birth and Early Infancy

## Promoting bonding and empathic caregiving

- Infant carriers (primary)
- Skin to skin care (primary)
- Brazelton NBAS (primary)
- Infant massage/Baby dance (primary)
- Parenting programmes (primary; secondary; tertiary)
- Intensive home visiting (secondary/tertiary)

## Identification of problems (PND; intrusive parenting etc)

- Promotional interviewing (primary/secondary)
- Listening visits (secondary/tertiary)

# Key Messages

- Child's development is significantly influenced by capacity for emotional regulation
- Key factors influencing capacity for emotional regulation during pregnancy and immediate postnatal period
- Healthy Child Programme – evidence-based early intervention