

# Healthy early childhood development: Key concepts

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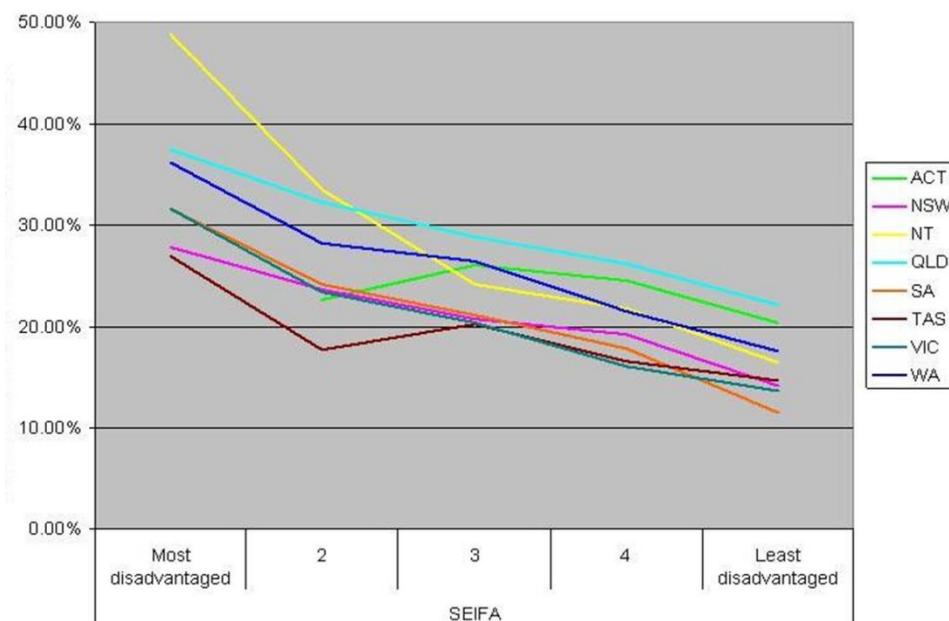
# 1. Healthy early child development is important ....

## **Because it builds a strong foundation for life**

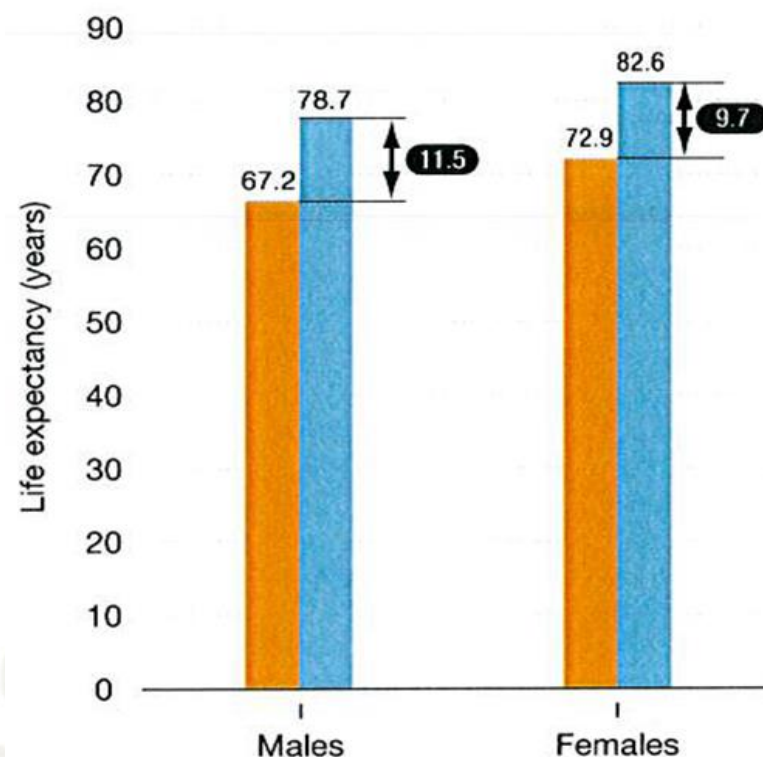
- Healthy and competent adulthood
- Responsible and involved community members
- Economic opportunity and productivity
- Strong communities and a sustainable society

## 2. Healthy early child development is important .....

Because investing in healthy ECD is the most effective long-term strategy known to governments for reducing social, health and economic inequalities



Percentage of children developmentally vulnerable by jurisdiction:  
AEDI: Australia, 2009

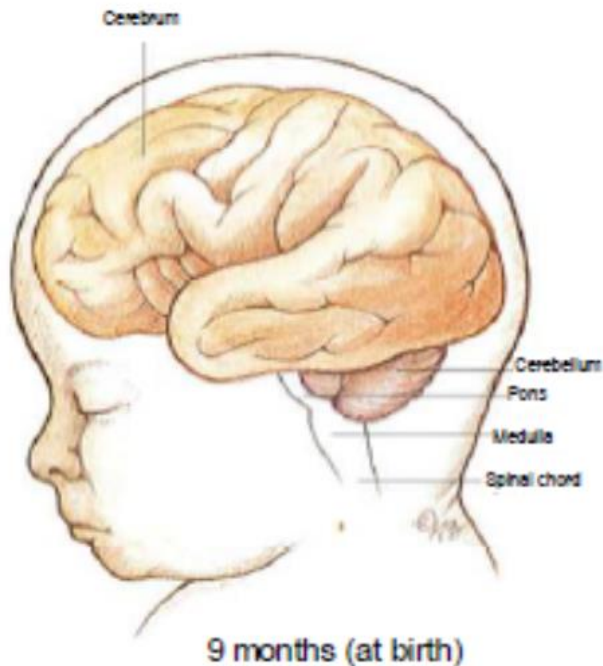


Life expectancy of Indigenous and non-Indigenous Australians: ABS, 2008

### 3. Healthy early child development is important .....

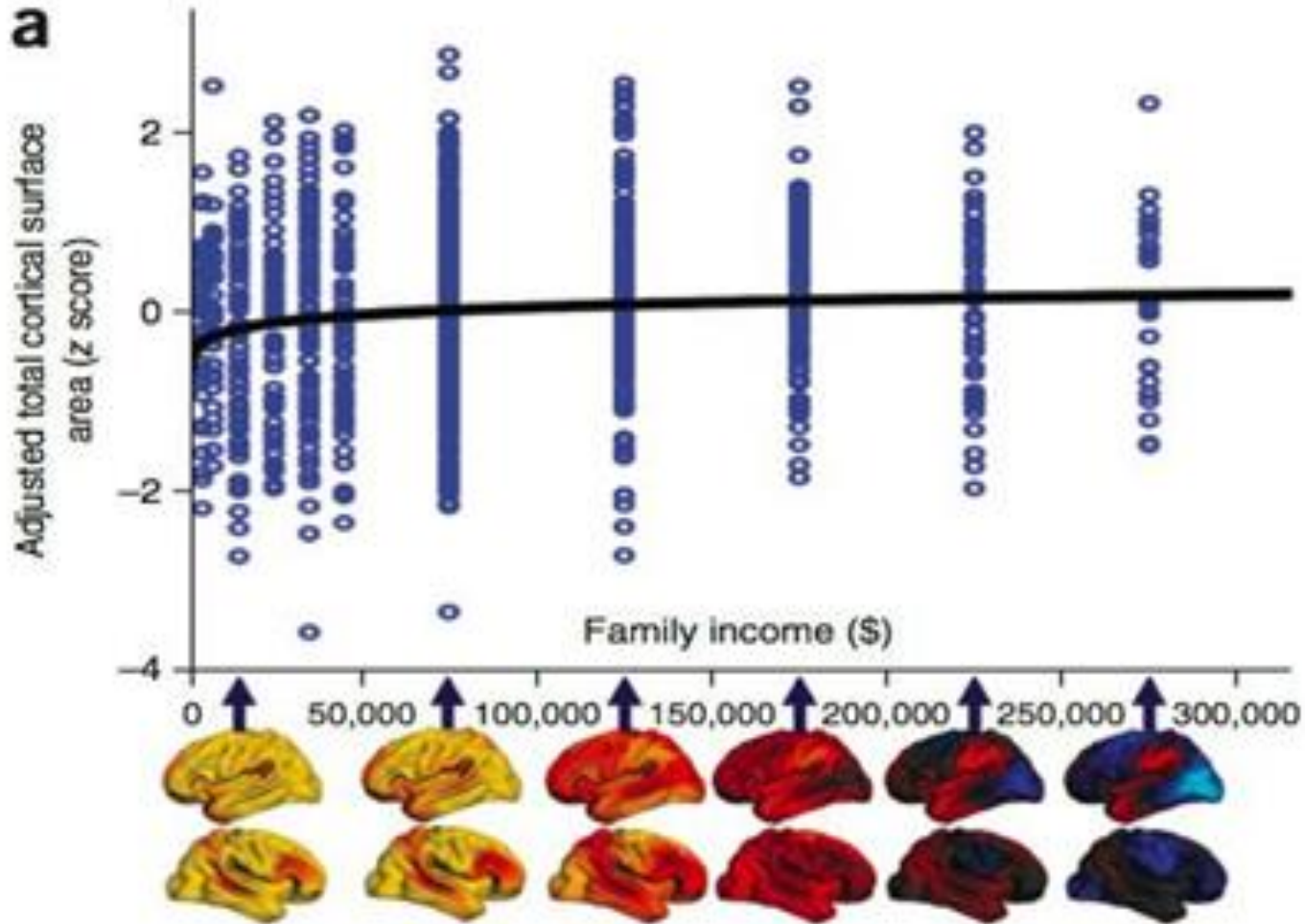
**Because recent advances in brain science and epigenetics are providing new understandings of how early life experiences shape our life-long health, capability and wellbeing**



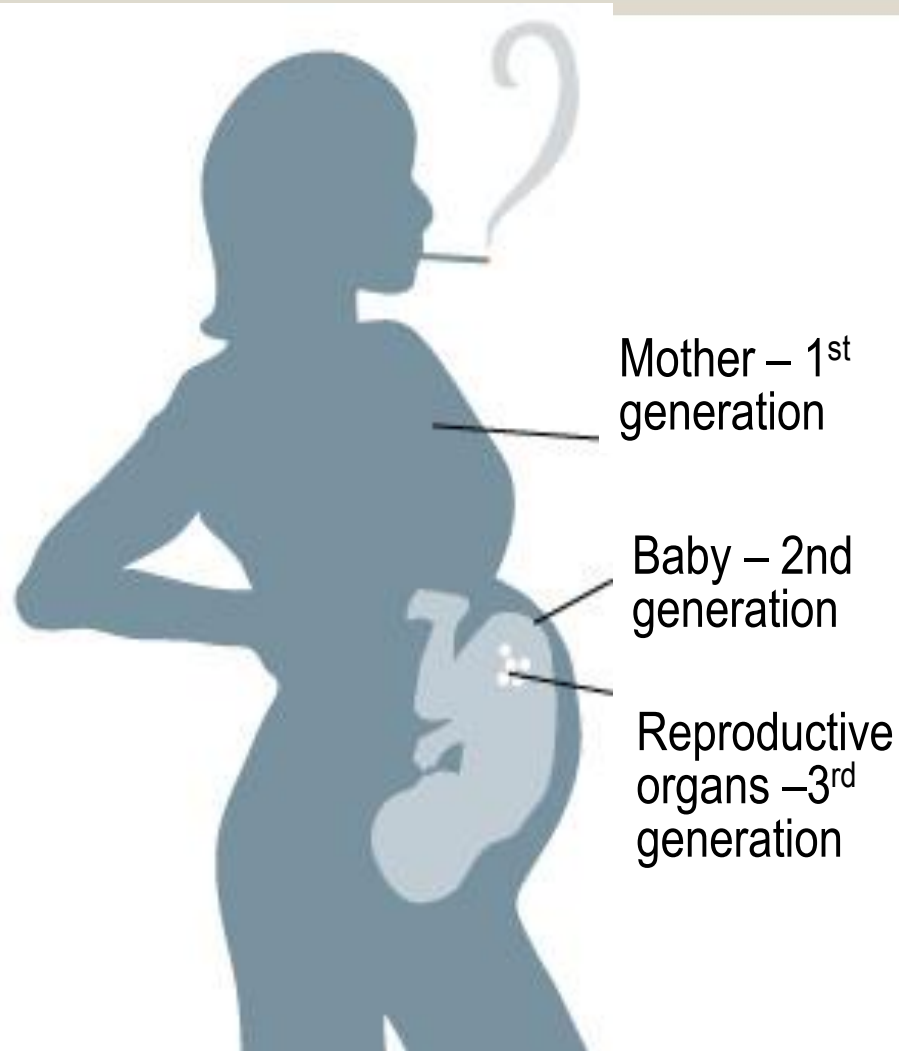


- By the time a baby is born its brain is a quarter of the mass of the adult human brain
- By the time a child begins school their brain has grown to be two-thirds of the mass of the adult brain.
- Healthy early brain development creates a strong foundation for health, learning and behaviour throughout life

# Social inequality and early brain development



(Noble et al, 2015: Nature Neuroscience)

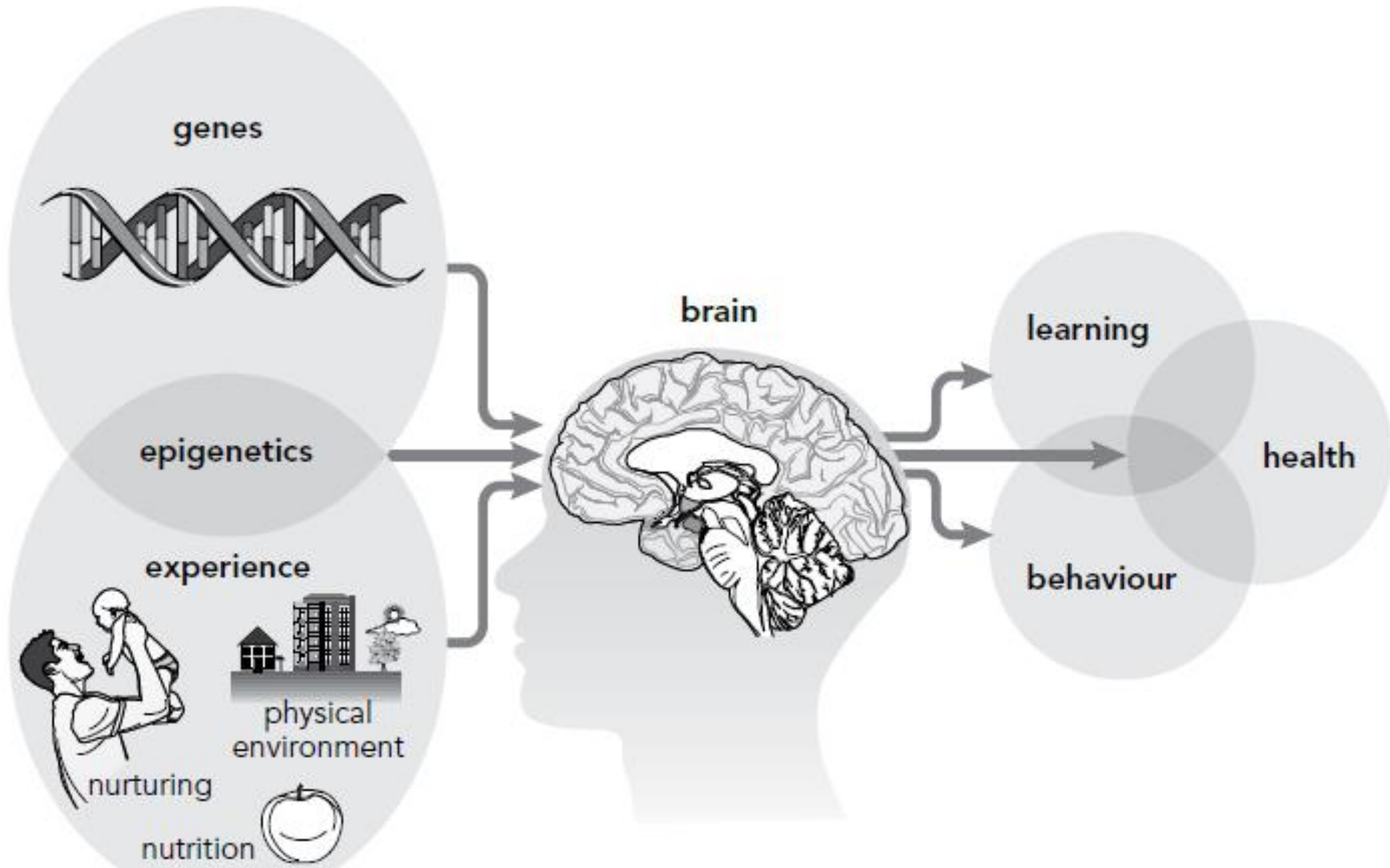


- **Smoking** – Infant survival, SIDS, infant & child respiratory health, infant & longer term sleeping patterns, cognitive development and behaviour
- **Alcohol** – FAS & FASD (no safe threshold)
- **Maternal stress** – higher risk of child behavioural and emotional problems, especially ADHD (poor attention & impulsivity), emotional over-reactivity, and language delay
- **Under-nutrition** – Low birth weight & later increased risk for insulin resistance & obesity

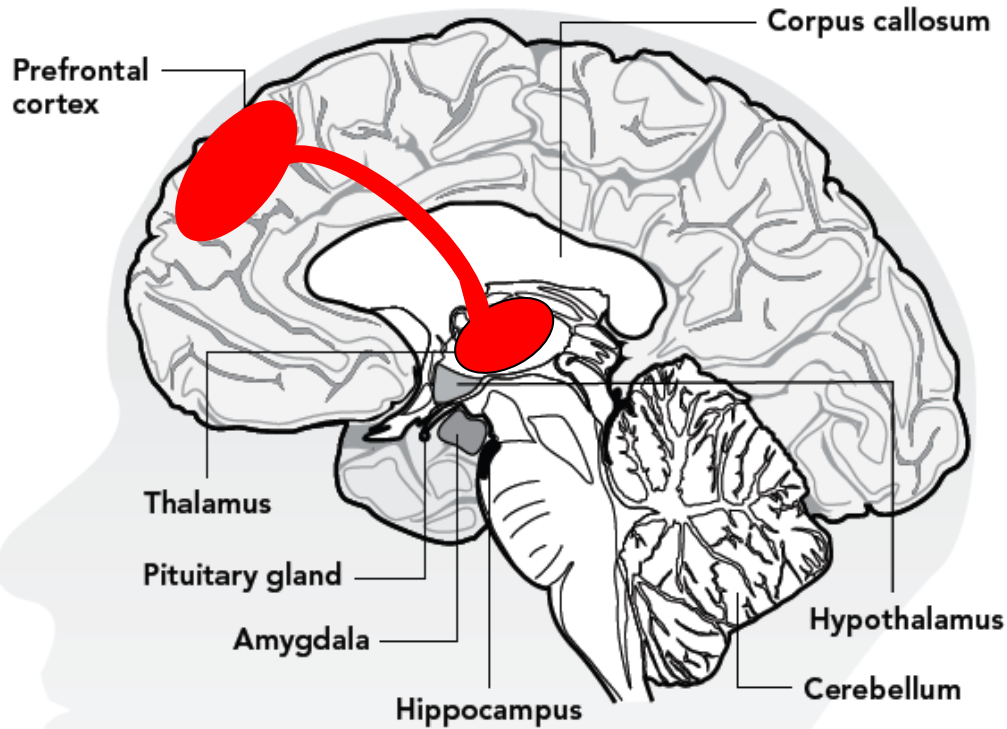
- **Post-natal depression** - attachment difficulties, increased risk for child neglect, failure to thrive and abuse.
- **Under-nutrition** – The NT has high rates of children who are underweight, stunted, wasting and **anaemic** (7 x acceptable rates) in 1<sup>st</sup> – 3<sup>rd</sup> year of life – affecting neuro-cognitive development.
- **Family and child stress** – effects on parenting quality and the child's cognitive and emotional development



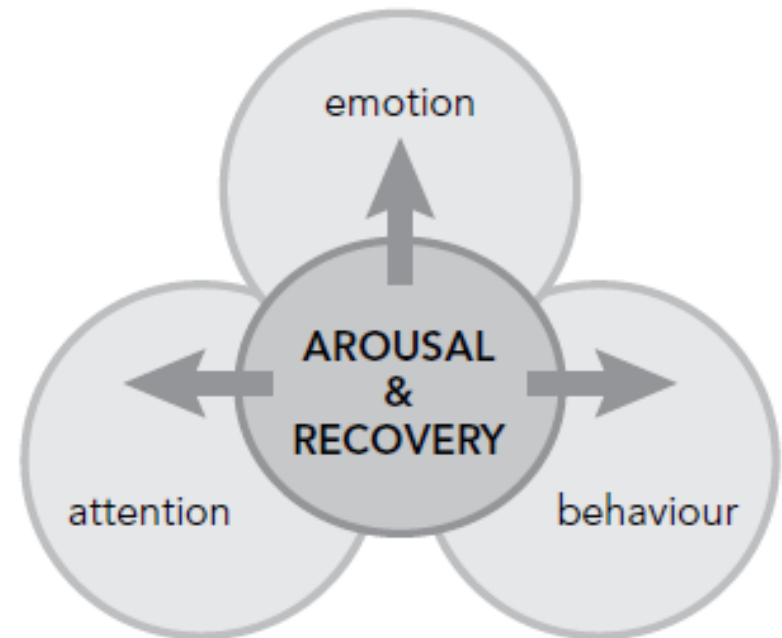
# Experience-based brain development



# Emotions and managing behaviour



The limbic system manages how we respond to challenges



## **Positive stress:**

Brief increase in heart rate, mild elevation of stress hormone levels

## **Tolerable stress:**

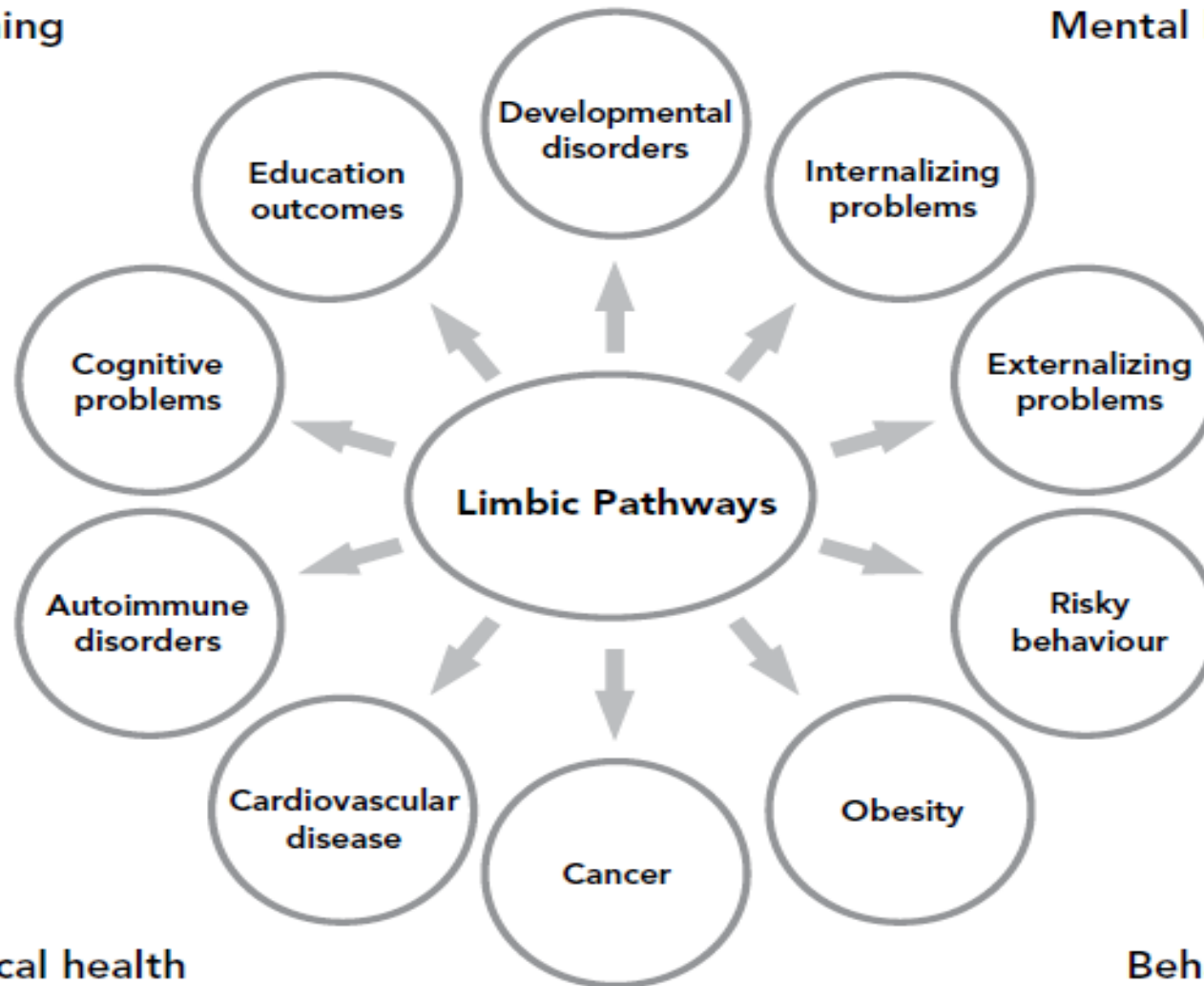
Serious temporary stress responses, buffered by supportive relationships

## **Toxic stress:**

Prolonged activation of the stress response systems in the absence of protective relationships

Learning

Mental health



Physical health

Behaviour

- Stable, responsive and nurturing caregiving
- Safe and healthy physical environments
- Appropriate nutrition
- Quality early education

*“A stable and engaged family environment in which parents show interest and encourage their child’s development and learning is the most important of these foundations. Such supportive human relationships promote and protect a child’s physical and mental health, behaviour and learning across his or her lifetime.”*

Margaret Chan

Director General of the World Health Organisation, January 2014

- The foundations for lifelong health & wellbeing are laid down very early in a child's life
- Pregnancy, birth and early childhood are times of increased vulnerability but also times of great opportunity
- New understandings of brain development are revolutionising our understanding of the early-life origins of health and disease (DoHAD) and human capability
- Core services for children need to be tailored to their level of need and be designed to enable every child to have every opportunity to reach their developmental potential

# THANK YOU



When we invest wisely in children and families, the next generation will pay that back through a lifetime of productivity and responsible citizenship.

When we fail to provide children with what they need to build a strong foundation for healthy and productive lives, we put our future prosperity and security at risk.'

(US National Scientific Council on the Developing Child, 2008)