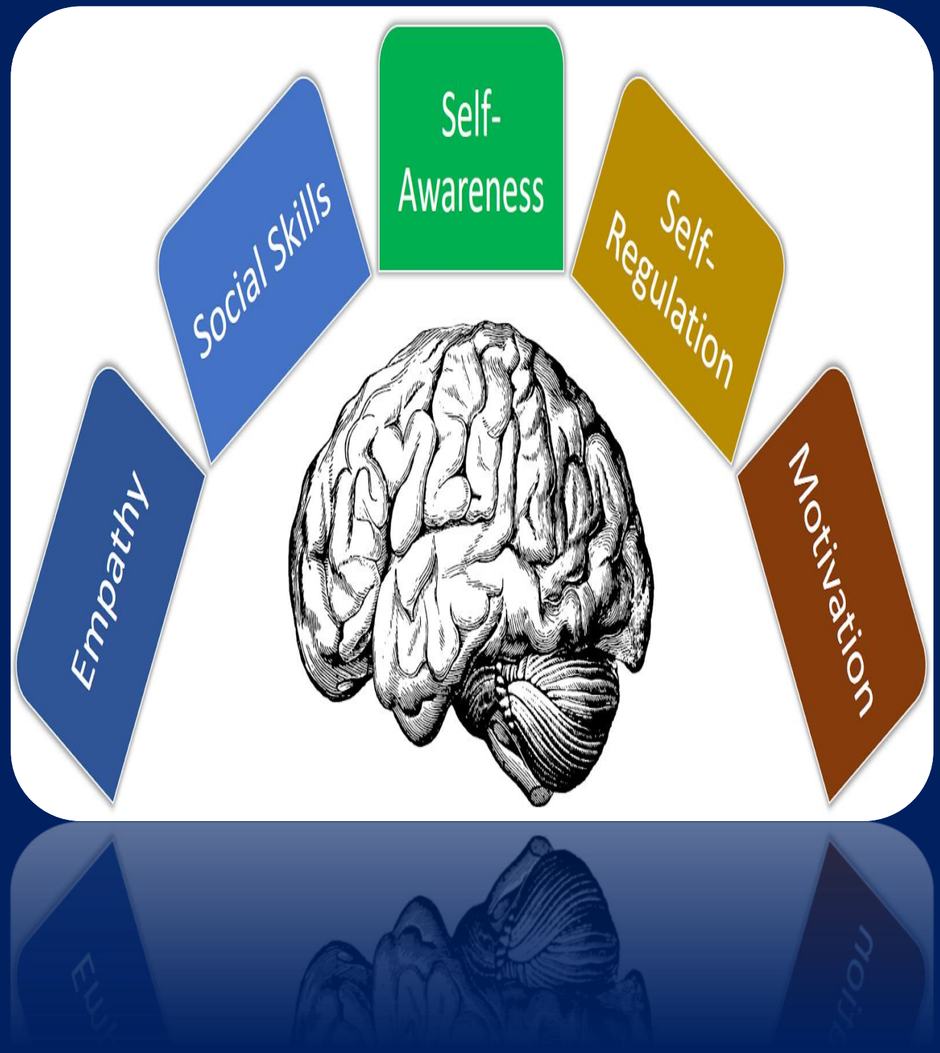
The Science behind Social Emotional Learning (SEL)

SEL can be broadly defined as the process of acquiring the competencies, skills and/or attitudesto recognise and manage emotions, develop caring and concern for others, establish Positive relationships, make responsible decisions and handle challenging situations (Payton et al., 2000; Greenberg et al., 2003; Weissberg et al., 2015).

The key components of an SEL framework should include critical inquiry,

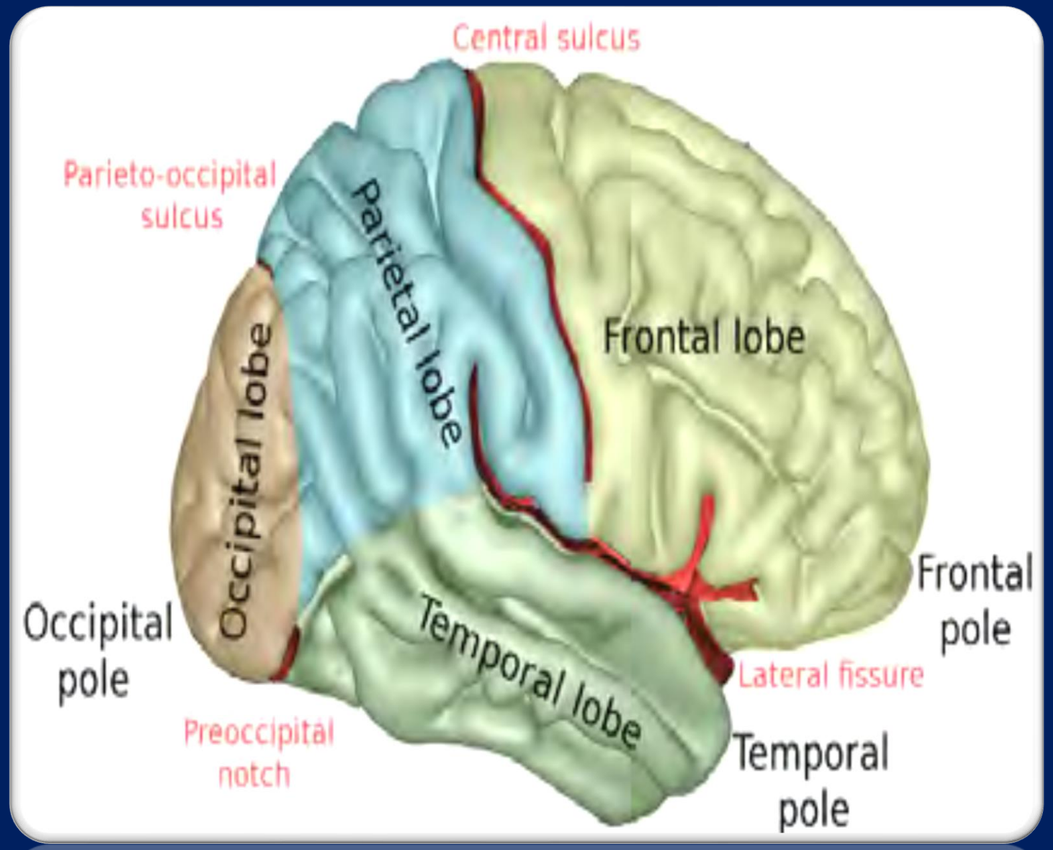
- **focus attention, regulate emotion and cultivate compassionate action**
- **to produce a balance of intrapersonal, interpersonal and cognitive**
- **competencies while always ensuring that these frameworks are grounded in empirical evidence.**

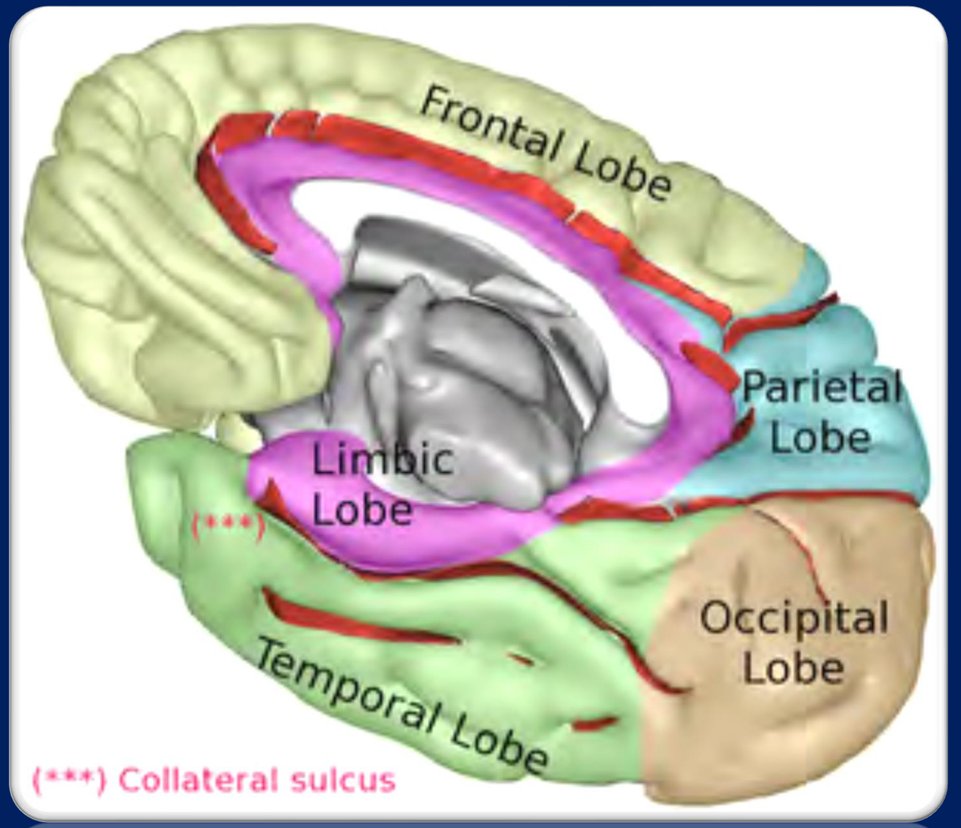


UNDERSTANDING THE BRAIN SOCIAL AND EMOTIONAL BRAIN

Early childhood and adolescence constitute periods of maximal sensitivity of the brain to experience and to the environment. However, brain development, cognitive and social and emotional development are dynamic and non-linear. Therefore, enriched social environments and social interactions have a positive effect on brain maturation as well as on cognitive and social and emotional development at all ages.

Lobes and principal folds in the brain (Note that the insular lobes are not represented).



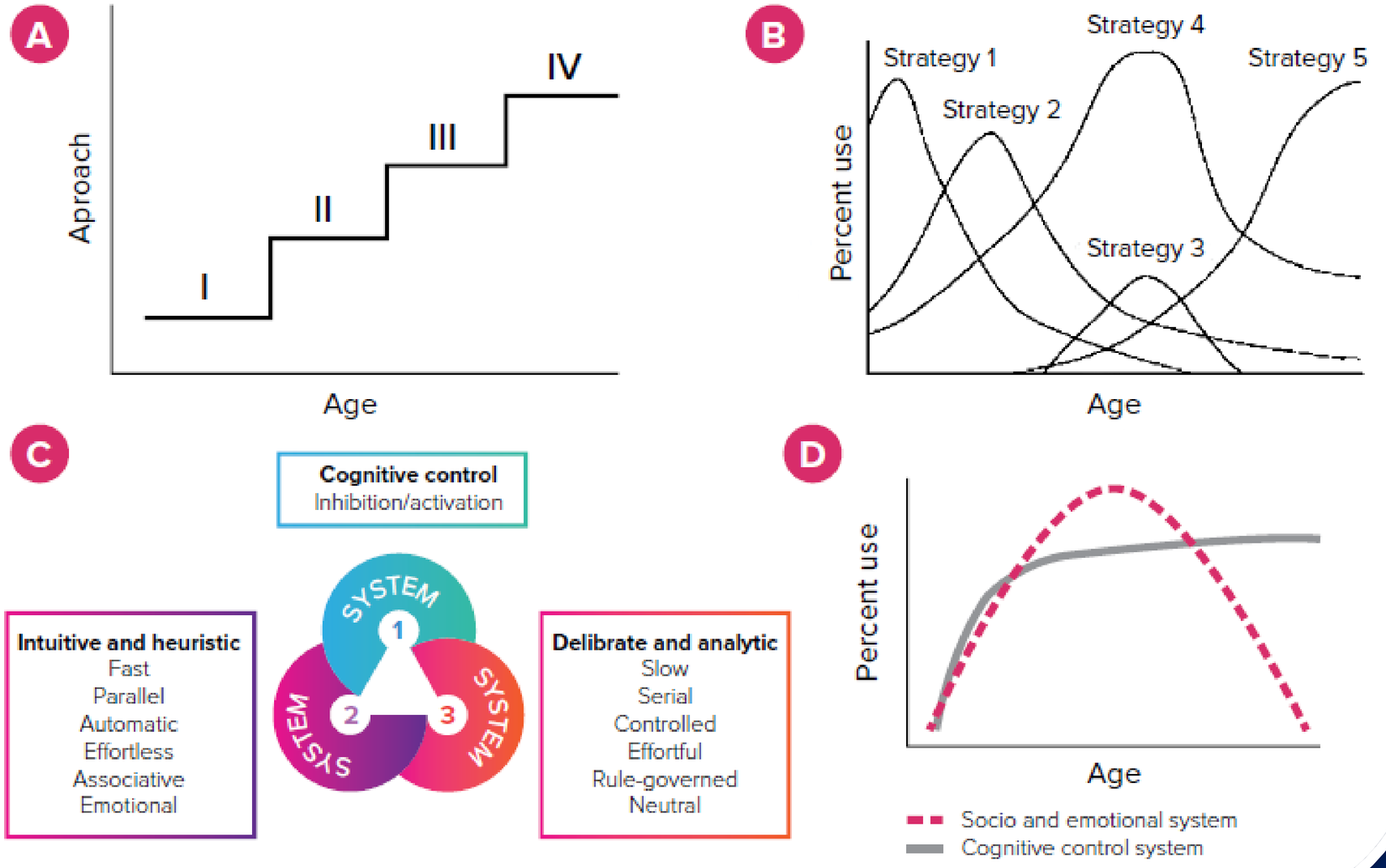


The Building Blocks of the Socio and emotional Brain

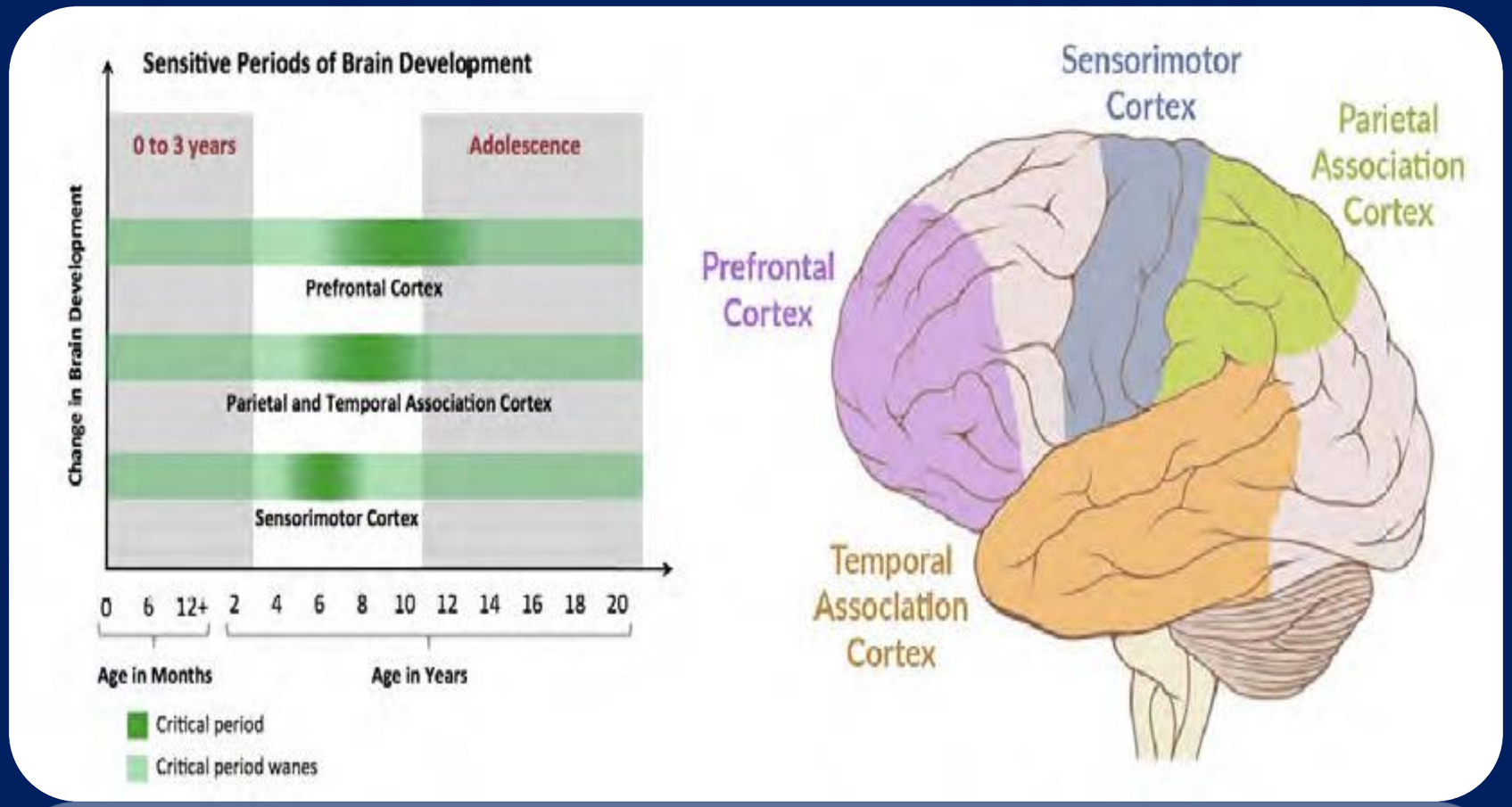
The brain is composed of 86-100 billion specific cells called neurons and of 1 million billion connections (synapses) between these neurons. Each neuron is composed of a body (soma), of an axon (nerve fiber up to 10 cm long) and of dendrites (a tree-like branching structure collecting and sending information to the soma of the neuron). All our conscious and unconscious mental activities emerge from the activity of large populations of neurons across the brain.

Brain Maturation and Ontogenesis

Brain maturation continues after birth (ex-utero) and lasts up to 25 years of age. The protracted maturation of the brain is specific to humans. While the gestation period in humans and chimps is 270 and 224 days, respectively, the volume of the skull increases 4.3 times after birth in humans and 1.6 times in chimps. Due to the extraordinary length of human brain development, brain maturation in humans is strongly influenced by the social context, moral norms and early learning, such as language. At five years of age, the human brain has almost reached its adult weight (1.3 kilos in five-year-old children vs. 1.4 kilos on average in adults) (Fuster, 1997). It is important to note here that brain maturation is determined by brain connectivity and not by brain weight or size.


A
Aproach
I
II
III
IV
Age
B
Strategy 1
Strategy 2
Strategy 3
Strategy 4
Strategy 5
Percent use
Age
C
Cognitive control
Inhibition/activation
Intuitive and heuristic
Fast
Parallel
Automatic
Effortless
Associative
Emotional
SYSTEM 1
SYSTEM 2
SYSTEM 3
Delibrate and analytic
Slow
Serial
Controlled
Effortful
Rule-governed
Neutral
D
Percent use
Age
Socio and emotional system
Cognitive control system

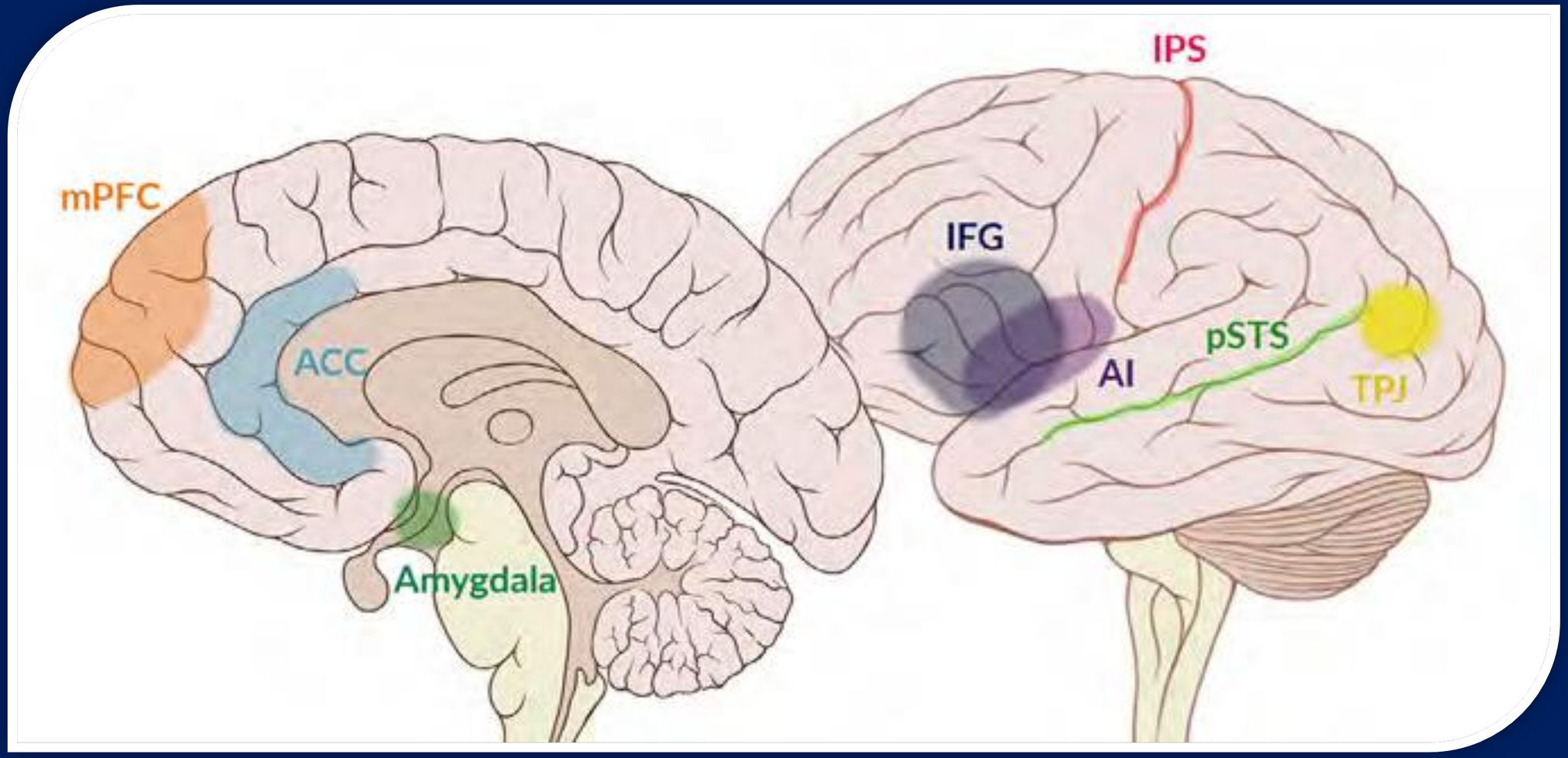
Sensitive periods of brain development after birth



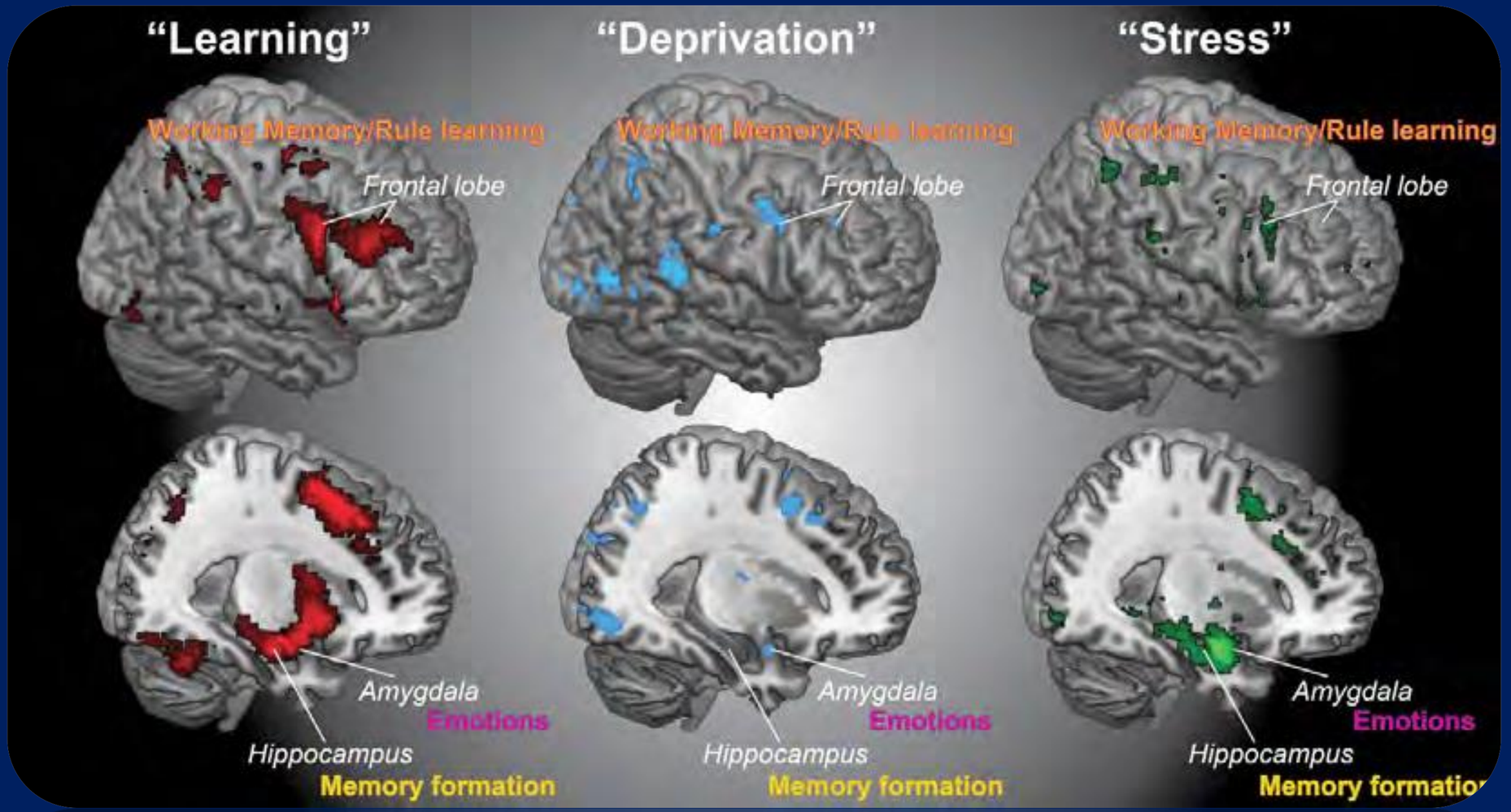
Non-linear Dynamical Social and Emotional Development

1. Neuroplasticity
2. Mindfulness – based stress reduction programmes
3. Brain maturation and cognitive and socio and emotional development run in parallel, and constantly influence each other.

Key Regions Of The Social Brain



Stress and Sleep



References

Rethinking Learning - https://mgiep.unesco.org/rethinking-learning
Fundamentals of SEL - https://casel.org/fundamentals-of-sel/

Any questions?