

NEUROPLASTICITY

The Ability of the Brain to Reorganize Itself,
Both in Structure and How It Functions

HOW THE BRAIN CHANGES



NEUROGENESIS

Contributes generation of new neurons in certain brain regions



NEW SYNAPSES

New skills and experiences create new neural connections



STRENGTHENED SYNAPSES

Repetition and practice strengthens neural connections



WEAKENED SYNAPSES

Connections in the brain that aren't used become weak

NEUROPLASTICITY CAN TAKE PLACE WHEN CHANGES OCCUR IN:



Characteristics of Dendritic Spines



Properties of Membrane and Ion Channels



Hormonal Activity



Microglia Activity



DNA Regulation and Transcription



Neurotransmitters

NEUROPLASTICITY CAN RESULT FROM:



Traumatic Events



Stress



Social Interaction



Meditation



Emotions



Learning



Paying Attention



Diet



Exercise



New Experiences

THE BRIGHT AND DARK SIDES OF NEUROPLASTICITY



Neuroplasticity makes your brain resilient.

Neuroplasticity enables you to recover from stroke, injury, and birth abnormalities.

You can learn new ways of being and responding to conflict.

In many cases, you can also overcome depression, addiction, obsessive compulsive patterns, ADHD, and other issues.



Neuroplasticity means the brain is always learning.

But the brain is neutral - it doesn't know the difference between good and bad.

It learns whatever is repeated - both helpful and unhelpful thoughts, actions, and habits.

Therefore neuroplasticity may entrench depressive, anxious, obsessive, and over-reactive patterns.