

How neuroscience informs change and growth

The past few decades have seen significant advancements in scientific knowledge about how the brain and central nervous system operate, which both support and enhance psychological theories of human development and change.



Key Findings

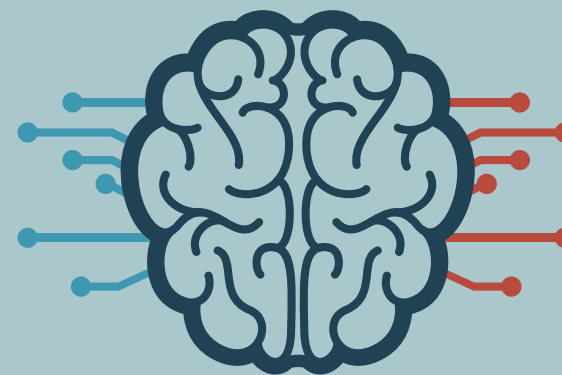
Our brains are 'shaped' by our different life experiences and the 'shape' of our brains determines how we react:

This is based on the fact that at birth the basic structure of our brain is fully formed (allowing the regulation of breathing, heart rate, temperature etc) but the remainder of our brain structures develop as we mature via neural patterning in response to our life experiences and relationships.

Over time and with repetition neural connections strengthen into established neural pathways that determine how we habitually and automatically respond to different situations and relationships.

The brain has an ability to change in response to experience:

It is possible to develop new connections and forge new neural pathways (a process known as neuroplasticity), enabling us to change unhelpful patterns of reacting and behaviours.



The 4 key principles for enhancing neuroplasticity:

- psychologically healthy relationships;
- a low to moderate level of stress;
- a balance of emotional and cognitive processing; and
- the creation of a clear understanding of self, relationships with others, and the world.

The higher cognitive section of our brain depends on and is affected by the lower emotional structures of our brain:

This means that if these lower structures (brainstem and limbic brain) are activated by stress, fear, or other difficult emotions, then the impact of that activation flows upwards undermining good cognitive functioning (in the higher, cortical, brain centres).

By contrast, when the emotional brain centre is stable and calm, thinking is clearer and expansive, creativity comes on-line, relationships are easier and adversity is more manageable.

