

NEUROPLASTICITY

I love neuroplasticity - here's some interesting stuff about it...

What is it? Well, fundamentally it's about the synapses in our brain which are the connections between one neuron and another.

When the synapse is stimulated more than once it strengthens that connection which is consequently the act of learning; thinking of a small road becoming bigger and busier eventually turning into a motorway. The more we repeat a thought or an action, the more stimulated the synapse is which then cements that behaviour in place. However, the whole point of this is that neural pathways can be broken - bad habits etc, and then new pathways can be made - reducing stress and anxiety. And there is a wonderful way of helping this process along which is the use of hypnosis. This is when the two minds (conscious and subconscious) come together and we are able to access the subconscious mind and help change or develop our patterns of behaviour. In this way we can reduce stress, become more flexible in our minds and then are able to achieve and accomplish so much in our lives.

Scientists have for many years believed that our formative years are a critical time of our brain development, and are predictive as to the sort of brains we will have as adults. This emphasis can be misleading that the brain's trajectory is set at a young age, and actually it is at all stages of life that the brain can change particularly in response to our experiences. So all is not lost. We can change our patterns of behaviour, we can rewire our brains, and change behaviours and thought processes etc. For example, we can stop smoking, even after many years of doing so if we wish. We can also reduce stress, anxiety, depression, fears, improve sleep (that's another blog), and then go on to do the amazing things we want to do but maybe felt we weren't good enough or able to do so....

Five cool facts about neuroplasticity... (courtesy of the Queensland Brain Institute)

1. **Your brain has about 100 billion neurons – about as many stars as in the Milky Way galaxy - wow.**

Think what you could do with all those neurons. Each and everyone of these neurons is connected to one another by synapses. These are not fixed in place, they can change with experience and allow us to learn.

2. **Because of neuroplasticity, the brain is constantly changing in response to experience.**

Neuroplasticity is one of the brain's most crucial resources. It helps us to continue to learn and adapt to our environment. This was key in our evolution. This plasticity can happen in many ways.... the use of synapses can change in strength (a bit like changing the volume of a conversation), while new synapses can appear or disappear. In some parts of the brain, brand new neurons can be born - rewiring our brains.

3. **Signals in your neurons can travel at the same speed as Formula 1 cars (~100 m/s or 360 km/h).**

These signals, known as action potentials, are really important as they are how neurons communicate with one another which is what makes them essential to learning, encouraging and developing new positive and constructive patterns of behaviour.

4. **Left-brain and right-brain dominance is a myth.**

I love this one - while some areas of the brain are used more than others for certain tasks, and this can be either the left or right side (for example, language processing occurs mostly on the left side), no one side of the brain is used more than the other.

5. **Your brain is hyper-efficient, running on just 20 watts of power.**

A computer needs 65–250 watts of power to run efficiently. But.... it would need 12 gigawatts - around 600 million times more power - to simulate the 100 trillion connections of the human brain in real-time!!

So..... the long and the short of it is that neuroplasticity or rewiring - is such a surprisingly easy thing to achieve. Using trance helps us to empty our stress buckets and to therefore make space for change to occur. And it's nice and relaxing too....