



Dampen the Reaction to Stress - Neuroplasticity

One of the core concepts solving chronic mental or physical pain is learning the tools to optimize your body's chemical profile. One category of accomplishing this changing the reactivity of your brain by first creating some "space" between the threatening stimulus and your body's response. In this "space" you can substitute a more functional response and change the physical structure of your brain. Instead of being stress with an automatic survival reaction, it becomes stress and a choice of responses.

As you repeatedly make the different choice, your brain physically changes (neuroplasticity) and the more appropriate and enjoyable response will become embedded in your brain. Historically, scientists thought that a person was born with a certain number of neurons and then slowly lost them over a lifetime. Although brain activity is at its highest intensity for the first few years of life, recent studies have clearly shown that the brain can change at any age—for better or worse (Apkarian).

Feel the pain

The most challenging aspect of stimulating brain to change is that you must feel what is before you can program in an alternative. Otherwise you are doing battle with this massive circuits. That is why learning the tools that immediately calm you down are critical. You would not initially be able to tolerate the high levels of inflammation (anxiety). This is also not about mind over matter. It is a huge mismatch and you will lose. The sequence of rewiring your brain involves three steps:

- Awareness
- Separation
- Rewiring

Eventually, as your brain changes, you will have less need to rely on the direct methods to lower your stress reaction because you'll have lower levels of inflammation.

So, do you have to learn to enjoy "feeling the pain." You don't. Pain, mental or physical is a warning sign of danger and is supposed to be so uncomfortable that it forces you to take action to keep yourself safe. It is a learned skill that improves with repetition. As you learn the tools to redirect and calm down your nervous system, you become more aware that you are under real or perceived threat and then quickly engage with strategies to re-direct your attention. You'll feel the pain for shorter periods of time and as these new circuits become embedded in your brain, the tools will kick in automatically. You'll have bypassed the reaction. There are different levels of stimulating these changes in your brain. You are creating real structural alterations in your brain (Dragananski).

Awareness, separation, reprogramming

The expressive writing combined with the active meditation is the most basic one to consider. The expressive writing creates the awareness of the disruptive thought or emotion and you are now separated from them by vision and feel. The reprogramming is accomplished by directing your attention to a different sensation. It can also be combined with other modalities that shift your attention such as breath work, calming music, giving back, play, regaining your perspective on life.

A more complex, but critical approach is combining forgiveness with play. You cannot really play while you are still holding onto anger. You also cannot forgive until you deeply feel the anger. The forgiveness achieves the awareness and separation and the reprogramming tools are almost unlimited – play, spiritual journey, stillness, giving back. What doesn't work is engaging in these practices to combat the pain. This ends up in obsessively pursuing these activities to distract yourself. This is a form of repressing the pain and you are reinforcing it.

There is much overlap between the approaches that directly calm you down and those that stimulate your brain to rewire. The reason it is important to conceptualize the difference is that there are short-term and long-term solutions to your pain. If you are only utilizing the short-term ones, you will eventually wear out and relentless anxiety will keep creeping into your life. Why not create a more stable and less reactive nervous system?

References:

1. Dragananski, et al. Temporal and spatial dynamics of brain structure changes during extensive learning. *The Journal of Neuroscience* 2006; 26: 6314-6317.
2. Apkarian AV, Sosa Y, Sonty S. Chronic Back Pain is associated with decreased prefrontal and thalamic gray matter density. *Journal of Neuroscience* 2004; 24: 10410 -10415.