

HUMAN POTENTIAL AND HAPPINESS SERIES

# BEING HUMAN: THE NEUROSCIENCE OF BEING HUMAN AND WHY MINDFULNESS IS A SUPERPOWER.

BY BRIGID HARDY

“All our dreams can come true, if we have the courage to pursue them.” Walt Disney

So, is this true? Maybe?

The reality of achieving all our dreams in our one lifetime is deeply challenging. There are many reasons for this, including circumstances beyond our control, genetics, unplanned events, (Covid anyone?), and even basic luck. What also adds significantly to the challenge is our human selves.

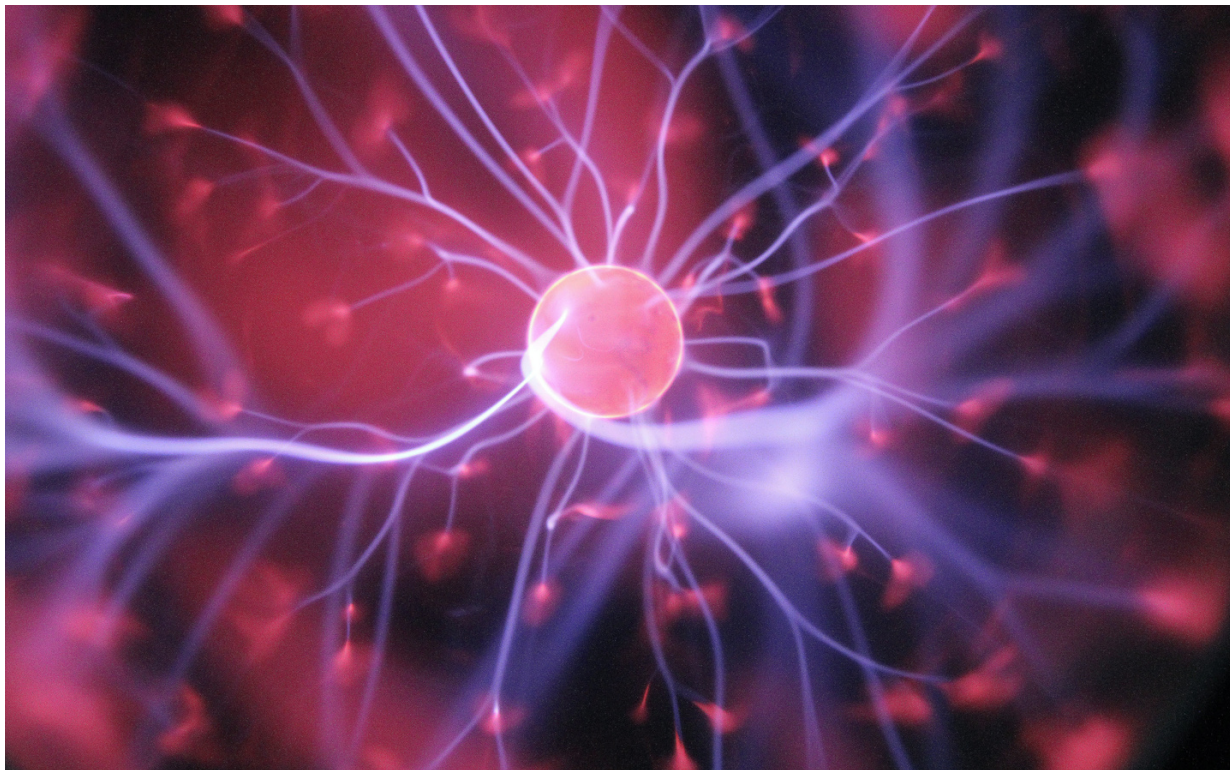
I believe that humanity is capable of achieving glorious things. Consider the wonderful innovations in the areas of technology and health that allow us to live our comfortable lives. Most recently the Covid vaccinations that have helped manage a deadly virus. Despite all of this, we are, however, unfortunately wired with a prehistoric brain that can make things complicated.

Neuroscience is an exciting and emerging field. It is helping us to make sense of our drivers, our triggers, and how and why we function and behave in certain ways. Including understanding our behaviours that don't necessarily set us up to be a dream chaser!

One important area of our brain that impacts how we operate is our primal or reptilian brain. It has been guiding our decisions for millions of years and is responsible for our instinct, and survival, and is emotionally driven. It monitors the environment for safety and when alerted, it engages the sympathetic nervous system that is responsible for our fight or flight response [1].

The fight or flight response moves us from a relaxed homeostatic state to one fueled by adrenaline and cortisol to react and respond to danger. This is an incredibly important response to danger in our environment such as jumping out of the way of a bus heading in our direction, running from a predator, or freezing to allow a venomous snake to pass us by. This is intended to be a short-term response and when this occurs, our modern brain or neo-cortex is less engaged and active. This means we are less rational and logical, less able to problem-solve, and our finer judgement is impaired.

This is highly appropriate for what is intended to be a short-term response. However, our modern-day challenge is that our primal brain reads our day-to-day stresses, such as deadlines, public speaking, meetings with the boss, or running late for an important meeting as significant threats. This in turn, leads to elevated levels of adrenaline and cortisol over longer periods, contributing to degenerative anxiety, stress, and poor health.



“Courage is like a muscle that can wither or be strengthened (through neuroplasticity), depending on how often we use it.”

So how do we find this courage that Walt Disney spoke of if we are neurologically wired to avoid what we perceive to be a threat or what scares us? Courage can be defined as the ability to do something that frightens in the face of anxiety, pain, or grief.

The great news is that neuroscience tells us that courage is like a muscle that can wither or be strengthened (through neuroplasticity), depending on how often we use it. We can strengthen this muscle by adopting a growth mindset, recognising our negative bias, being honest and open about our fears, and gaining support from others in pursuit of our courageous goals. Another way to strengthen it is self-management of your body and the fear response [2], by engaging in activities that reduce the overactivation of the fight or flight response and move us back towards a state of homeostasis. One way to do this is through developing a practice of mindfulness.

Advancements in magnetic resonance imaging (MRI) have allowed us to peer inside the human brain to learn more about how and why it responds in particular ways. MRI studies have shown that mindfulness does in fact bring about changes to the physiology and structure of our brains.

Even after a relatively short 8-week mindfulness program, changes to the brain's amygdala grey matter can be observed along with a perceived sense of reduced stress and enhanced wellbeing [3][4]. The amygdala is part of our brain's Limbic System and is responsible for mediating emotion, learning, and behaviour. Mindfulness reduces the size of the amygdala resulting in a reduction in flight and fight responses and an improvement in how people react to stress.

An increase in the size of the brain's hippocampus and temporoparietal junction has also been found to be linked to mindfulness [5]. The hippocampus is responsible for learning, memory, and emotional regulation. The temporoparietal junction is responsible for compassion and empathy.

So, regular mindfulness can result in anatomical and physiological changes to our brains that make us smarter, calmer, less reactive, and more empathetic and compassionate. A big call, I know! But really, what do you have to lose except a little bit of time? Because you might just gain a superpower and the ability to make all of your dreams come true.

For more information about mindfulness and wellbeing, the team at Interaction have extensive expertise. Contact us on 02 6282 9111 or email [icg@interactionconsulting.com.au](mailto:icg@interactionconsulting.com.au) or visit [www.interactionconsulting.com.au](http://www.interactionconsulting.com.au)



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Other articles by Brigid: [Mindful Beings](#) | [Being Mindful](#).

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[4] Powell (2018), When science meets mindfulness, The Harvard Gazette.

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