



# The Best Brain Possible

Information and Inspiration For Anyone With a Brain.

I'm Debbie Hampton. After decades of depression, a serious suicide attempt and resulting brain injury, I not only survived, but went on to thrive by discovering the super power we all have to build a better brain and joyful life. If I can do it, you can too! No brain injury required

<http://www.thebestbrainpossible.com>

## How To Better Your Brain And Life

### Your Brain Creates Your Reality

At the most basic level, your world is constructed by your brain. Making sense of the world and its happenings is nothing more than our brains' individual interpretation of signals received as we go about our days interacting with our environments. Now, hold on, hold on! I know what you're probably thinking: "This is too out there for me." But this concept is proven and based in neuroscience.

Color is nothing more than cone cells in your retina being stimulated by light waves within a certain range of the spectrum. Because each of our brains is different, our perceptions of color are different. The sky is blue, right? No question. However, your blue is different from my blue. Maybe even very different. Neither is right or wrong. Both are blue. Your blue is just as blue to you as my blue is to me. Both are merely our individual brains' making sense of the same signals.

When giving meaning to incoming stimuli, your brain adds memories, beliefs, and attitudes about ourselves, others, and the world colored by family, religion, school, culture and life experiences past and present. These shadows, called implicit memories, are below conscious awareness and influence how we respond to the world, interact in relationships, and think of and talk to ourselves.

So, Mom and Dad, your seventh grade teacher, your best friend, and your news source help paint your picture of reality.

Even your memory is subjective and colored by these shadows. Science has confirmed that our brains do not store everything verbatim like a computer and retrieve exact replicas. Our memories are re-creations. Your brain rebuilds a memory from a few key features and fills in the missing details based on associations and implicit and explicit knowledge. A person has no way of knowing what is recalled verbatim and what is constructed.

Hence, we all live in our own, little world which is the product of our brain's unique interpretation of the input received. Reality depends on what actually happens (objective) and how our brains make sense of what happens (subjective). Although there are many commonalities across all of our realities, it cannot be assumed that everything is the same for all of us or even remotely close to it.

Every experience you have is always the product of your brain's subjective interpretation of stimuli which is influenced by physical brain function, past memories and experiences, and present conditions, beliefs, and thoughts.

Kinda freaky, right? But, wait! Herein lies the superpower we are all born with. By purposefully effecting the variables determining your brain's interpretation of the world around you, you can change your life and brain for the better.

## The Play-Doh In Your Head

Before I explain how you can change your world, let me tell you why it's important to influence this process and how it physically shapes your brain.

Your brain is neuroplastic, like Play-Doh minus the funky smell, meaning it's changeable, malleable, and adaptable from cradle to grave. Neuroplasticity, a scientific truth of the last decade, is the ability of your brain to alter its physical structure and function through repeated thought, emotion, and activity. While it used to be believed that the adult brain was pretty much hard wired, we now know that this is not true. Not at all.

In every moment of your life, every single detail of which you are aware – sounds, sights, thoughts, feelings – and even that of which you aren't aware – unconscious mental and physical processes – can be directly mapped to neural activity in your brain which is constantly adapting in response. What you pay attention to, think, feel, want, hope, and how you react and behave constantly, physically molds your brain through experience-dependent neuroplasticity. The neurological explanation of how this happens gets complicated, but the basic concept is simple: every minute of every day you are shaping your brain.

In his book, *Just One Thing*, Dr. Rick Hanson, neuropsychologist and Senior Fellow of the Greater Good Science Center at UC Berkeley, explains how neuroplasticity is accomplished:

- *Busy brain regions get more blood flow, since they need more oxygen and glucose.*
- *The genes inside neurons get more or less active with the use of the neuron. For example, people who routinely relax have improved expression of genes that calm down stress reactions, making them more resilient.*
- *Neural connections that are relatively inactive wither away; it's a kind of neural Darwinism, the survival of the busiest: use it or lose it.*
- *"Neurons that fire together, wire together." This saying, from the work of Donald Hebb, means that synapses – the connections between neurons – get more sensitive, plus new neurons grow, producing thicker neural layers when fired repeatedly together.*

Neuroplasticity is a real example of thought changing matter which, although remarkable, is no big deal for your brain. You can just think about your hand raising and it does which is both extraordinary and very ordinary at the same time.

Neuroplasticity has allowed people who have had strokes and brain trauma to recover amazing functionality. Because of neuroplasticity, congenitally blind people's brains have figured out new ways to see, paralyzed limbs have become usable again, children with cerebral palsy have learned to move more smoothly, and children with autism have made cognitive strides once believed impossible. Experience-based neuroplasticity has also been harnessed to ease chronic pain, obsessive compulsiveness, worry, addictions, cravings, and depression. The examples go on and on.

There's a catch to neuroplasticity though. It only occurs when a person is paying attention and focusing on the input whether it be intentional or not. This works both for and against you. The same neuroplasticity that allows us to alter our brains and realities by implementing healthy, good-for-you habits conversely allows not-so-good habits to be unconsciously carved into our brains too. With directed attention, a person has the ability to transform their brain and life for the better, but unfortunately, neuroplasticity is most often accomplished unconsciously etching bad habits into our brains.

Want to quit smoking? Interrupt the pattern habitually, and your brain will become your ally in the effort. Your brain can help you drop 10 pounds, end a drug addiction, stop biting your fingernails, or quit worrying so much. You can put your thoughts to work for you in just about any area of your life. Because nothing in the brain is hard wired, a person can alter their behavior regularly and their brain will make physical changes to reinforce the new pattern. Change your brain, change your life.

Ok. So, we've established that your reality is constructed by your brain's subjective interpretation of incoming stimuli which is dependent upon your physical brain functioning and subconscious beliefs, attitudes, and memories. By consciously affecting these, you can change your brain and life for the better. Let's take a look at each.

## Better Brain, Better You

Your brain literally effects everything you do. Think about it. Everything. A better brain means a better you and a better life. To help your brain be at its best you want to adopt a brain healthy lifestyle encouraging and supporting your brain.

There's a lot of different information out there about what constitutes a brain healthy lifestyle, but most everyone can agree that it involves the following factors:

- **Diet**

When it comes to your brain, you literally are what you eat. Research has discovered that you have a brain in your gut, the enteric nervous system, consisting of more than 100 million neurons, that communicates directly with and influences the one in your head.

The brain in your head is the biggest energy hog in your body. While comprising only about 2% of the body's weight, your brain uses about 20% of your energy. Studies have shown that a person can be as much as 200% more productive and improve cognition just by changing what they put on their plate.

An intelligent diet would be based on plants, fish, some meat, and lots of good fats, like those found in nuts, seeds, avocados, and olive oil. Your brain is more than 60% fat and needs fat

- **Water**

Your brain loves water. The brain is 75% water, and water makes up 83% of blood which delivers nutrients to and takes toxins away from the brain. Studies have shown that most people are consistently partially dehydrated forcing their brains to work below potential. A good general rule of thumb for daily hydration is to drink as many ounces as your 67% of body weight (body weight x .67).

- **Exercise**

Research is confirming that regular physical exercise is a miracle potion for getting and keeping your brain healthy at any age. Moving your body increases blood flow to the brain, elevating oxygen levels and promotes neurogenesis and neuroplasticity, the production of new neurons and the connections between neurons.

Studies have shown that even moderate exercise, such as walking at a comfortable pace for 40 minutes three times a week, can enhance the connectivity of brain circuits, combat age-related decline and increase performance on cognitive tasks. Strength training has lasting cognitive benefits as well.

- **Sleep**

When your body is asleep, your brain is busy. In sleep, the brain processes and preserves memories, problem solves, and removes toxins. Research has shown that sleep enhances the immune system, motor skills, language processing, memory, and greatly increases your ability to learn.

Adequate sleep needs vary among individuals depending on many factors, including age. Only you know what's the right amount for you. If you feel drowsy during the day, you're probably not getting enough sleep. Ongoing sleep-deprivation has been linked to obesity, diabetes, heart disease and other ills, and not sleeping for long enough can actually lead to dementia and even death. Taking naps has definite brain benefits.

- **Stress Management**

Chronic stress and anxiety can damage the wiring and function of your brain. People experiencing continued high levels of stress are at greater risk for dementia and more rapid age-related decline. When stressed, your brain releases the stress hormone cortisol which prevents the birth of new neurons. Over time, cortisol causes the hippocampus, associated with learning and memory, and amygdala, most closely associated with emotions, to shrink while changing the volume of gray matter versus white matter effecting higher level function and communication within the brain.

Exercising, practicing yoga, meditating, doing something spiritual, sleeping, laughing, hanging out with friends, and listening to music have all been shown to reduce cortisol levels.

- **Mental Stimulation**

Adults who regularly challenge their minds and stay mentally active throughout life have healthier brains and are less likely to develop dementia. Your brain thrives on learning new things and, although routine may be comfortable for you, it's bad for your brain.

Challenge your brain regularly in complex ways, such as learning to speak a new language, taking a class to acquire a new hobby or skill, or mastering a musical instrument. Activities which require you to think and move are ideal, like learning to salsa dance or play tennis. Mentally engaging practices, such as mindfulness, meditation, computer brain training, and

memory exercises, have proven to be beneficial. Use technology as a tool not a brain substitute.

- **Socialization**

Interacting with friends helps maintain mental health and wards off cognitive impairment and dementia. Countless studies have shown that having rich, meaningful relationships and social interaction improves a mind's functioning because it "exercises" many cognitive processes and can even reduce depression.

- **Having Purpose**

Purpose, passion, whatever you want to call it – research has shown that people who have meaning in their lives have lower risk of Alzheimer's disease, less mild cognitive impairment, and slower rates of decline in old age as well as less depression, higher happiness levels, and longer lives. Plus, it just makes every day more fun!

- **Limiting Neurotoxins**

Studies indicate that neurotoxins can shorten the life span of nerve cells. Toxins have been linked to brain disorders and neurodegenerative diseases and can cause reactions ranging from migraines, depression, anxiety, chronic fatigue, and even ALS. In our everyday lives, we are immersed in neurotoxins as our food has become more processed, we rely more on synthetic products, and live in chemically treated environments.

Your brain will benefit from you educating yourself, reading ingredient labels, filtering your water, and limiting your use of and exposure to neurotoxins when possible.

## **A Better Mind Means A Better Brain And Life**

The second step to bettering your brain and life is to become conscious of and take control of your thoughts and mind. Remember that your brain factors in subconscious beliefs and attitudes about ourselves, others, and the world when giving meaning to incoming stimuli and in this way, creates your reality. By becoming aware of these influences and consciously choosing which ones you allow to have impact and intentionally inserting new influences, you can change your past and future.

Well, not literally, of course. But by modifying your perspective and feelings about past events, you lessen their significance in your present life and by altering your thoughts and behaviors, you change your future. Because of neuroplasticity, your repeated thoughts, feelings and behaviors actually shape your physical brain and its functioning. Hence, by changing your mindset, you can change your brain and life.

Dr. Rick Hanson writes in *Just One Thing*:

*There's a traditional saying that the mind takes the shape it rests upon; the modern update is that the brain takes the shape the mind rests upon. For instance, you regularly rest your mind upon worries, self criticism, and anger, then your brain will gradually take that shape – will develop neural structures and dynamics of anxiety, low sense of worth, and prickly reactivity to others. On the other hand, if you regularly rest your mind upon, for example noticing you're all right right now, seeing the good in yourself and letting go...then your brain will gradually take the shape of calm strength, self confidence, and inner peace.*

I know. I know. Sounds too woo woo, right? But I'm telling you these principles are based in neuroscience and worked for me.

Learning that I was not my thoughts and to become aware of, choose, reframe and work with my mind was a life-changer for me. Taking control of my mind pulled me out of my depressive, negative, black hole, while forging calmer, happier neural pathways in my brain as I repeatedly rested my mind on more positive practices.

Your thinking affirms your core beliefs and attitudes. The constant mental chatter in our heads reflects our core and is mostly subconscious and critical or negative being rooted in implicit memories made up of emotional wounds, fears, and doubts accumulated over our lives. Becoming aware of, interrupting, and redirecting this mental chatter to put it to work for you, instead of against you, can positively impact every aspect of your life.

Our subconscious core beliefs cause us to view the world through colored glasses without even realizing that we're wearing them. We believe the world is just that hue because it's what we've learned to believe. Because we interpret and interact with the world through these core beliefs when our brains assign meaning to incoming stimuli, they tint every experience we have. By becoming aware of this filter and conscious of your thoughts and inner dialogue, you can choose to take off the glasses and see the world differently.

In order to minimize the influence of implicit material on your present reality, you have to first become aware of your thought patterns and core beliefs, especially those pesky ones that repeatedly pop into your head guiding your decisions and behavior. Notice which ones support you and which ones hold you back. Once you're aware of limiting beliefs, make your mind your ally in life by consciously choosing to reframe the thoughts and beliefs so that they encourage and support you.

Mary Englebreit said, "If you don't like something, change it; if you can't change it, change the way you think about it." An anonymous saying goes, "Life is like a kaleidoscope. Turn your

head to a different angle to see it a whole new way.” Both of these quotes refer to our ability to choose our perspective in any situation.

Every thought you have is subject to subconscious influence colored by your past conditioning. You are not your thoughts. At any time, you have the power to say, “Hey, wait a minute! That belief doesn’t work for me anymore. I choose to look at it this way.”

So, how do you become aware of and reposition thoughts to change your brain and reality? By practicing mindfulness and meditation, affirmations and visualization, and thought reframing. You can change your mindset, which will, with time and repetition, rewire your brain.

- **Mindfulness and Meditation**

Mindfulness is about being fully present in the moment and conscious of your thoughts, feelings, actions, and the world around you. Being mindful isn’t only being aware, it’s being aware of awareness. The practice of mindfulness brings greater calmness, clarity and insight in facing and accepting all experiences and emotions, even the not-so-fun ones, using them as tools for learning, growing, and deepening your strength and wisdom.

Research has shown mindfulness to significantly improve a wide range of conditions including borderline personality, obsessive compulsive, eating, post traumatic stress, and anxiety disorders. It has also proven to be helpful in the prevention of relapse with chronic depression and substance abuse.

Mindfulness and meditation often get lumped together. Mindfulness meditation is one type of meditation, but there are many other kinds of meditation with varying techniques and goals.

To me, meditation is training to consciously control the mind—not what originates in my mind, but my reaction to it—to consciously choose my thoughts about my thoughts. Although no one can expect to control the arbitrary thoughts that come into their head, they can choose which ones to believe, and put energy into. Herein lies the ability we all have to find happiness and peace.

While meditation can be a spiritual practice, mental health tool, or both, on a physical level, a person is altering their brain functioning by learning to change their response to their thoughts.

Brain scans of people who practice meditation have shown increased activity in the frontal lobe, the rational brain, and reduced activity in the amygdala, the fear center of the brain. Neuroscientists have discovered that meditation can stimulate significant increases in activity in parts of the left prefrontal cortex, associated with positive emotions, while decreasing activity in the parts of the brain related to negative emotions. A mindfulness practice can



expand the hippocampus, an area of the brain responsible for learning and memory, and has been connected to lower rates of depression. Regions of the brain affiliated with empathy and compassion also seem to grow with the practice.

- **Visualization and Affirmations**

Visualization, beneficial make-believe, leverages the mind-body connection, and the link between the visual brain and the involuntary nervous system. On brain scans, imaginative thoughts and real-life physical and emotional states activate many of the same areas of the brain. From a neuroscientific perspective, imagining something and doing it aren't that different. The thoughts, words, and images running through your mind cause constant changes in your body whether it's conscious and to your benefit or not.

Your brain sends pretty much the same messages to the central nervous system whether something is being imagined or actually experienced. Visualization harnesses and directs this process.

Visualization has proven to be effective in improving everything from stress-related disorders, autoimmune conditions, skin problems, emotional and physical healing, to happiness and moods, self-confidence, and pain management. The practice has been used to heal phantom limb pain, reduce recovery time after surgery, as well as decrease complications and the need for pain medication.

Affirmations are strong, positive self-talk statements which can be used on their own or as part of visualizations. They can be done silently, spoken aloud or written. An affirmation is phrased as if the thought is already true because your body is reacting to and your mind is forming your reality based your thoughts, remember? For example, the thought, "What's the use? I'm never going to be able to do this," is going to create a very different bodily response and feelings than, "I can do this."

- **Thought Reframing**

Mark Twain said, "My life has been filled with terrible misfortunes, most of which have never happened." Funny and sad, but true!

Fueled by those implicit memories and core beliefs, our minds are bombarded with negative thoughts, visions of catastrophic things that may happen, and terrifying reasons not to do the things we want. Factoring these into our realities, our brains make decisions accordingly and we live smaller, more limited lives with less happiness as a result.

Thought reframing involves becoming aware of subjective, unhelpful thoughts and their underlying beliefs and assumptions, challenging them, and replacing the thoughts with more positive, adaptive ones. Your thinking determines whether anything is "good" or "bad" and

determines your experience of it. Yes, there are definitely tragic, bad things out there, but even those usually have some useful meaning or something good. By identifying automatic negative thinking patterns, such as over-generalization, catastrophizing, and fortune-telling, you can train your mind to question underlying beliefs and look for the good.

Along with other techniques, thought reframing is used successfully in cognitive behavioral therapy to take advantage of neuroplasticity to change the brain. Similarly, it has been helpful in relieving symptoms of obsessive compulsive disorder, depression, and anxiety.

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Neuroplasticity is the super power you were born with. By adopting a brain healthy lifestyle and implementing practices to take control of your mind and thoughts, you can put neuroplasticity to work for you. Neuroplasticity does take time, persistence, and effort, but it does work. It was key to my recovering from depression and a serious brain injury.

Although the science of neuroplasticity is new with unknown limits, having a malleable brain opens up a world of possibilities. Neuroplasticity has major implications for every aspect of human nature and culture including medicine, psychiatry, psychology, relationships, education, and more.

The bottom line is that we have grossly underestimated what our brains can do and the huge role they play in shaping our realities, lives and happiness. Put neuroplasticity to work for you today, and you can change your brain and life for the better. Promise

*Note: This information is not considered to be medical advice and is not intended to replace consultation with a qualified medical professional. If you have a persistent issue or are concerned about your brain health, mental well being or general health, please consult your health care provider.*