



# HOW TO BIOHACK YOUR BRAIN

*Leave the stresses of 2020 behind, and rewire and revitalise your mind for your best year yet...*

Words by DEVINDER BAINS

**T**he pandemic and all that came with it: fear, grief, health concerns, economic hardships, parenting challenges, postponement of events and the lack of freedom and social interaction, have elevated stress levels and led to changes in brain function and brain volume. Imagine, though, not only being able to reverse all that damage, but also improving your brain activity through some simple lifestyle changes. That's what Dr. Kristen Willeumier's new book, *Biohack Your Brain: How to Boost Cognitive Health, Performance & Power* is all about.

Although this book couldn't be more timely after the year we've just had, it is based on groundbreaking clinical trials she worked on in 2009, which assessed the long-term brain damage incurred by professional American Football players, including higher risk of dementia and Alzheimer's. More importantly, the trial demonstrated that some of the damage could be reversed.

"The only effective preventative strategies are lifestyle modifications, which need to be practiced as early as possible, before the onset of clinical symptoms," reveals Kristen. "The findings from our research in professional athletes were instrumental in guiding patient care, not just for those with traumatic brain injuries and neurological issues, but also for those who came to see us who were perfectly healthy but wanted to optimise brain function."

Kristen believes everyone should be adopting brain-health strategies and can see results in just a few months. "A healthier brain will have a positive impact on your emotional health

and well-being, enabling you to lead a more joyful, vibrant, productive life," she explains. "The brain is a dynamic organ that is constantly changing based on our thoughts, feelings, and actions, so in essence, you can change it rather quickly. It can be a life-changing experience."

Kristen has put her learnings in this book as a manageable guide to live a brain-healthy lifestyle. *Bazaar* spoke to her to get her tips on how we can all press reset on our brains...



Brainy: Dr Kristen Willeumier

**Tell us briefly about your 'Better Brain Diet'**  
Changing your diet has the potential to slow and reverse cognitive ageing. This diet is the Mediterranean one, with adaptations based on daily calorie intake, food sensitivities and preferences. It gives guidelines on the number of green leafy vegetables, coloured vegetables, seasonal fruits, legumes, whole grains, nuts and seeds, healthy essential oils and plant, seafood and lean protein we should consume daily to achieve optimal brain health.

**So, what 'brain foods' should we be eating more of?**

High-quality, nutrient-dense foods loaded with vitamins, minerals, enzymes and antioxidants, which are found in abundance in plant-based foods. These include blueberries, broccoli, kale, spinach, salmon, walnuts, avocados, lentils, quinoa, dark chocolate and green tea. Avoid all processed, high-sugar, high-trans fat foods and minimise dairy, meat, refined carbohydrates, soda and packaged foods like bread, cereal, crackers and frozen meals.

**Why does the brain need carbs?**

The brain requires a continuous supply of glucose to function optimally. The best source of glucose comes directly from carbohydrates, this means eating foods high in fibre and low in fat, including brown rice, wild rice, whole oats, quinoa, farro, buckwheat, barley and millet.

**How can intermittent fasting help?**

It works through switching from using blood sugar to fat for fuel and can enhance learning, memory, focus and executive function. It also helps decrease oxidative stress and cognitive inflammation while stimulating the brain's ability to form new connections.

**What should we be drinking?**

The brain is made up of 75 per cent water but has no means of storing it, so it must be replenished throughout the day to function optimally. Even losing 1 per cent body weight to water loss can impact cognitive performance, interfering with memory, mood, mental energy and focus. When adequately hydrated, we perform better on cognitive tests and have improved memory, motor skills, mental energy, alertness and concentration. If you're not a fan of plain water, add a squeeze of fresh lemon: for brain-healthy vitamin C and phytonutrients.

## BRAIN MYTHS QUASHED

**The adult brain cannot grow new brain cells**

Wrong - we can grow new brain cells from adolescence into adulthood in an area of the brain known as the hippocampus, which is responsible for learning and memory. Specific dietary and lifestyle modifications can help support the growth of cells into our seventh, eighth, and ninth decade of life.

**Multitasking can make the brain more organised and efficient**

The human brain is incapable of focusing on two things at once. Multitasking is essentially switching our attention between two tasks, and decreases our brain's ability to maintain focus and sustain attention, reducing our cognitive proficiency and reaction time.

**We only use 10% of our brain**

We use all of our brain, it is continually active when we are awake and asleep. It works just as hard when we are asleep, performing essential housekeeping functions like clearing abnormalities that can lead to Alzheimer's, consolidating our short-term memories into long-term ones, and also helping us to regulate our emotions.

**Tell us about 'The Better Brain Workout'**

It highlights which exercises calm the brain, which maximise blood flow to it, and which support the growth of new brain cells, so you can tailor your workouts to your specific needs. For some people, exercise may be done to achieve weight loss, while for others, the focus may be on stress reduction or improved mood.

**How is exercise good for the brain?**

The human brain contains 400 miles of blood vessels. To get blood deep inside the brain's vascular network, the heart has to be strong, and your arteries and veins need to be open for blood to flow. The best way to do this is through exercise, which also helps to keep you cognitively sharp by maintaining network connectivity and brain volume in areas of the brain essential to learning and memory.

**Which exercises should we be doing?**

Simply put, all types of exercise benefit the brain. Aerobic exercise, such as walking or running, four times per week for six months was demonstrated to preserve brain volume versus those who just did stretching. One study demonstrated that older women who walked 30-50 minutes several times weekly, improved blood flow to the brain by as much as 15 per cent in 3 months.

**What are your tips for reducing stress?**

Stress kills nerve cells, shrinks grey matter, impairs your ability to think clearly, and increases your risk of age-related decline. Address stress by engaging in daily exercise, spending time in nature, listening to relaxing sounds, taking an Epsom salt bath, getting a massage, inhaling the calming scent of lavender or drinking green tea. Stress depletes the calming mineral magnesium, so consuming magnesium-rich foods including dark chocolate, spinach, avocados, almonds, quinoa, or a banana, can help.

**How can brain games help us be smarter?**

Continuous learning is one of the key steps to maintaining brain volume and sharpening your cognitive health. It doesn't have to be the traditional brain-training games that you do on a computer, for example, cultivating a daily practice of 30 minutes of reading can increase your knowledge, build your vocabulary, engage the creative mind, improve focus, strengthen memory, develop greater empathy, and reduces stress.

**Can positive thinking help?**

Every thought influences our cognitive function. Think positive thoughts, and you will release hormones, neurotransmitters and activate brain regions that lead to higher cognitive function, improved decision-making, and a happier disposition. Research shows that optimists live an average of 11-15 per cent longer! ■ *Biohack Your Brain: How to Boost Cognitive Health, Performance & Power* by Kristen Willeumier is on sale now

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