
THE BRAIN BURNOUT SERIES

BURNING OUT OUR BRAINS

PART 4

WORDS BY DREW KNOWLES

This is part four of four, of the “Brain Burnout Series” and this month we are looking at what it looks like when you are managing your mind at a high level to ensure you avoid ever burning out your brain. Last month we focused on looking at using your mind and brain to your competitive advantage. The most important thing to take from it was to start practicing from the five main areas I created to focus on, that for me are most important when it comes to wanting to use your mind and brain for the best levels of performance and productivity, and to be able to get an edge over those you are interacting with and wanting to get results from in the marketplace.

Here is a summary of the five areas to focus on to gain a competitive advantage, in the way you manage your mind:

STRESS AND STRESSORS

- Understand stress and manage your stressors powerfully.
- Deal with your allostatic load moment to moment.
- Keep practicing being able to recognise what stressors cause you stress and how to mitigate, reduce or remove them.

WILLPOWER

- It is a limited resource.
- Glucose for the pre-frontal cortex is in short supply.
- Don't deplete it unnecessarily by multi-tasking and task switching when you don't have to.
- Know when others are depleted and deal with it accordingly.

PLANNING AND SCHEDULING

- Plan and schedule for your brain's resources.
- Ensure you are disengaging throughout the day so you can continue to be fully engaged when you need to be.
- Have down-time to switch off and defrag, especially at the end of the day, hours before you go to bed.
- Create movement time to recharge the brain.
- Limit your hours of being online to morning and night.

FOCUS

- Remove distractions when you are trying to focus your attention with yourself and others.
- Limit task switching in meetings with others.
- Schedule things with others to maximise focus and concentrate on the environment.
- Have clear aims and intentions when interacting with people.

- Be aware of and deal with people who are mentally depleted, unable to focus or being unproductive.

SCARF MODEL

- Study/memorise it to apply it in any situation where a SCARF threat is triggered so you can reappraise the situation and choose a different response.
- Use it to set people up for change and ethical manipulation of the brain.

In this fourth and final article in this brain burnout series I will create for you what it looks like if you are managing your mind at a high level to ensure you avoid ever burning out your brain. I will give you an insight into what I do as an expert in this area to create a proactive approach for the future that you can work on implementing. I will introduce you to what I call the “Matrix Effect”, which is managing your mind and brain at the highest level.

A BULLETPROOF MIND – UPGRADING YOUR BRAIN

In researching and looking at how you get the best performance out of your mind and brain, while dealing with the day-to-day stress we are all under, I came across David Asprey's website (bulletproofexec.com). He is a Silicon Valley investor, computer security expert, and entrepreneur who spent 15 years and \$250,000 to hack his own biology. He upgraded his brain by >20 IQ points, lowered his biological age, and lost 100lbs without using calories or exercise.

I look at the mind and brain the same way he does and how we can use it so much more powerfully than we do which is why he resonates with me so well. I think that what he is doing, and the research and resources he is providing for free on his website are brilliant. He publishes all of his findings and gives you what you need to upgrade your mind, brain and your whole system for peak performance. I was so thrilled to learn about him, and started applying things he has figured out that I had not yet heard of. In my view he is one of the best at teaching how to take your mind and brain performance to a whole new level once you have dealt with the other aspects of preventing and dealing with brain burnout that I have discussed in other articles. Because I rate him so highly, I am going to share some of his insights and recommendations from his website about how to take your mind and brain to new levels, and avoid burning out your brain as you strive for new levels of performance and productivity.

We all have room for improvement with our mental performance. Whether you are an experienced biohacker or don't even know what it is, there are things you can do for your mind and brain to become even better than you are right now.

David says, “When I started studying at Wharton business school,

my doctor did a brain scan and said, "Inside your brain is total chaos." For more than 10 years, I've focused on hacking my brain – and mind – to levels of performance I never thought possible. My brain transformed itself from total chaos into a highly flexible productivity machine capable of peak performance states."

Here, you will learn about your brain (hardware) and your mind (software). The combination determines your mental performance. The biggest difference between most hardware and software analogies is that most software does not redesign its own hardware on the fly. How you use your mind reshapes your brain – for better or worse.

The foods you feed your body influence your brain, which in turn impacts how your hardware functions with respect to clarity, concentration, speed of thought, working memory, and many other brain functions. Quite literally, the quality of your food controls the quality of your mental performance.

Your brain is the home base of your mind. Your brain does a lot for you without you having to think about it! Your brain operates many of your bodily functions (breathing, heart rate) that at first glance seem outside of conscious control and much more. Your mind is the expression of your brain. Your mind is formed through the complex interaction of varying structures in the brain and results in many cool things like conscious awareness, thinking, speaking, feeling, problem solving, planning, attitude and more. And how you train your mind can change the shape of your brain.

Our minds are capable of incredible things when they're trained. When your mind or environment reshapes your brain, it's called neuroplasticity. Neuroplasticity is proven to exist – meditators and taxi drivers have differently shaped brains – they literally changed structures in their brains through practice, and those changes in turn make them even better at their respective goals. The best news is that you don't have to be a neuroscientist to improve your mental performance, and studies show that simply knowing you have the power to improve your intelligence is the first step to doing it.

Below, I share some of his recommendations for the easiest and most effective ways to improve your mental performance through fuelling your brain and upgrading your mind. I am not going to comment too much personally on each one, as I am in the process of implementing much of this myself – so it is up to you to read more about it and see what works for you.

YOUR INTELLIGENCE IS INFINITE.

Intelligence is not fixed. Studies have shown repeatedly that with training, supplements, and time – intelligence can always be increased. Neuroplasticity – your ability to reshape your nervous system and brain – is proven to exist and we even know how to increase it.

However, your mindset often dictates your boundaries of intellectual capacity. How you think and perceive the world impacts your intelligence and ability to rise to a challenge. People who believe intelligence is fixed are the ones who never reach their full potential. The people who believe they can achieve anything will outperform and may very well achieve anything. In a fascinating EEG study of 480 trials at Michigan State University, researchers found that participants who thought they could raise their intelligence performed far better than those who thought they couldn't.

David has been brain hacking even longer than he has been bio-hacking his body. Here are his top five methods from his website for increasing brain function. Think of this as getting a software update.

1. CHALLENGE YOUR BRAIN

Before you get into the fancy techniques, focus on challenging your mind in new ways every day. Take a new route to work, learn a new language, read a challenging book, or start a new project. Most entrepreneurs don't have a problem with this, but many people go through their day without any kind of mental

stimulation. Studies have shown that people who continually challenge their brains with even the smallest tasks live longer and retain their brain function until the very end. Keep your curiosity engaged and ask yourself, "why?" in exactly the way a three-year-old would.

2. DUAL N-BACK TRAINING

This is very cool and was hard to believe when I first read it. I have just begun trying this so am still waiting for the improvements. It takes perseverance and daily practice, but it really challenges your brain.

Dual N-Back is a software programme that consists of 20 minute computer lessons designed to challenge every part of your brain necessary to boost your IQ. Dual N-Back Training was the focus of an article titled "How To Add 2.75 IQ Points Per Hour of Training." A person he coached increased his IQ 18 points, and he increased his by 12 points with this method alone. Considering all the other techniques I've used over the years prior to Dual N-Back training, that's a massive increase.

Dual N-Back Training improves memory, problem solving, imagination, and REM sleep. You can get a free version on their website. It takes about a month of daily exercise. Your brain won't like it at first – you will get bored and frustrated and probably have strange dreams. But when you're done, you won't know how you functioned with only half the working memory you just gained. It's that strong, like a RAM upgrade for your brain.

3. NUTRACEUTICALS

These are nutrients that have a specific medicinal or pharmacological effect. Nutraceuticals are usually compounds made by the body or plant based. They're more natural than other drugs and are good for beginners who are apprehensive at the thought of taking a "drug." These are all effective brain enhancers that can be purchased relatively cheap.

ACETYL-L-CARNITINE

Acetyl-L-carnitine (ALC) crosses the blood-brain barrier where it acts as a powerful antioxidant. It acts on both acetylcholine and dopamine function. ALC is neuroprotective and works as a powerful cognitive enhancer. While most studies have been done on rodents, there is plenty of anecdotal evidence to suggest its effectiveness in humans. Some other interesting benefits are better sperm motility and as a treatment for heart dysfunction. It supercharges your mitochondria which helps your entire system, not just your body.

KRILL OIL (EPA/DHA)

These two omega-3 fatty acids are essential for proper brain function and development. They can improve memory, executive thought processes, and are neuroprotective. However, the need for these fats is low, about 350mg a day if you have an optimal ratio of omega-6 to omega-3 fats from your diet. It's important to supplement especially if you eat omega-6 oils (nuts and seed oils).

MEDIUM CHAIN TRIGLYCERIDE OIL

MCT oil turns on your body's fat burning mode and helps your brain to run more efficiently. It is one of my favourite ways to have more energy, both in my brain and my body. A physician, Dr. Mary Newport, recently used MCT from coconut oil to reverse her husband's early onset Alzheimer's disease. When you start using MCT oil, start slowly to allow your body to get used to this much energy this quickly.

UPGRADED COFFEE

Coffee isn't just caffeine, but caffeine by itself can give you a massive boost in brain power. Caffeine can improve short term memory, alertness, and cognitive function.

A good dose is around 20mg per hour. If you're taking a big test, you can take one large hit. Studies have shown caffeine can be almost as effective as Modafinil, another supplement he uses. A

cup of coffee supplies 95-200 mg of caffeine. Studies have shown caffeine mainly improves your ability to perform less demanding work like simple math problems and organisation, may improve mood and has little effect on things like systems thinking and other complicated stuff.

However, if you brew them properly, Upgraded Coffee beans (which you can learn about on his website) contains two potent brain anti-inflammatory agents, cafestol and kahweol, which can boost cognitive performance differently than caffeine, especially if you have inflammation in your body. Most coffee has a chemical residue left over from the fermentation process, and this residue (called mycotoxin) has a negative impact on brain function.

Prepared with butter and MCT, Bulletproof Coffee is his favourite adaptogenic herb and top rated smart “nutraceutical.” He literally has this every day.

4. SMART DRUGS (NOOTROPICS)

ANIRACETAM

Nootropics from the “racetam” family are some of the most trusted and widely used. He relies on Aniracetam because it’s fat soluble, fastest acting, and has effects on memory IQ, creativity, and stress. The “racetam” family of nootropics is known for improving mitochondrial function and oxygen in the brain.

Most of the research has been done on people with neurological problems (with amazing results), but there is plenty of good evidence to support its use in healthy individuals. A double blind placebo controlled trial showed the oldest racetam, piracetam, improved verbal memory in healthy college students.

He has used piracetam and aniracetam for years, but likes the next smart drug even more.

MODAFINIL (PROVIGIL)

He has used this for years for everything from studying at Wharton to working on a start-up that sold for \$600 million dollars. He has recommended it to countless friends with massive results, and he was on ABC Nightline and CNN talking about using it for executive performance. Modafinil improves memory and mood, reduces impulsive decision making, increases your resistance to fatigue, and even improves brain function during sleep debt. David believes that more people suffer from Modafinil deficiency, rather than it being a supplement. It doesn’t work for everyone, but if it works for you, you’ll love it.

HUPERZINE A

Huperzine A is an alkaloid found in the plant moss *Huperzia serrata*. This plant has been used medicinally for headaches, swelling, fever, and blood disorders by the Chinese for centuries. It enhances memory, increases nerve growth, and protects against Alzheimer’s. It also increases REM sleep. But beware; it raises acetylcholine levels, which is helpful in two thirds of people, but harmful in those who are choline dominant (like me). Watch out for a clenching jaw or headaches – if you get those, stop taking it, and double up on Aniracetam until the symptoms go away (racetams lower choline, which is a good thing if you have too much).

UPGRADED AGING

Upgraded Aging Formula contains stabilised oxaloacetate, which is a part of the Krebs cycle that powers your cells’ energy production. It has hugely positive effects on blood sugar control and mimics caloric restriction, but the real win for your brain is that it protects brain cells from excess glutamate. High levels of glutamate are neurodestructive – and you get some every time you eat restaurant food, because restaurants hide MSG in lots of dishes (legally) because people who eat MSG almost always order more drinks and dessert to counteract the blood sugar plunge from the MSG. Sneaky but legal. Upgraded Aging has other metabolic effects around blood sugar too.

5. SLEEP

As I have talked about in many of my articles, improving your sleep is one of the best ways to boost your brain power. Without enough REM sleep, you increase neurodegeneration and decrease your ability to perform on a day to day basis. On David’s website is a whole host of great information about how to improve your sleep.

6. CREATINE

Just when you thought the only similarity between body builders and nerds was their secret obsession with *World of Warcraft* – it turns out they also take some of the same supplements. Creatine helps you lift more weight, both mentally and physically. Your brain uses creatine to affect synapses, and studies have shown that it improves your brain function, especially in vegetarians who are almost guaranteed to be creatine deficient. The study referenced above used five grams per day, which is a good starting place for improving brain function.

Increasing your brain power is not just something for executives and nerds – it’s for anyone with a brain. Imagine if you almost never forgot things. Imagine managing more tasks than you ever dreamed possible without feeling stressed or overwhelmed. No more forgetting where you put your keys or leaving behind papers for work.

7. UPGRADED FOCUS BRAIN TRAINER

This is a newly released technology with a headband to measure the flow of blood in your brain so you can use real time feedback to quickly increase blood flow to your pre-frontal cortex – an area of the brain I have focused a lot of my articles on helping you understand and improve the use of. This most evolved part of your brain handles executive functions such as focused attention, organisation/planning, decision making and working memory. The pre-frontal cortex also handles emotional regulation, control of mood, behaviour, inhibition and motivation.

With less than ten minutes of training every now and then, you can consciously increase blood flow by seven to twelve percent. These changes in blood flow can result in improvements and psychological testing designs to measure your ability to pay attention and focus. All the details are on his website.

That’s his main list of recommendations. Upgrading your brain makes life a lot simpler and I personally recommend looking at what David has to offer and try it out on yourself.

MANAGING YOUR STATE OF MIND AND MOOD

I want to say a little about neurotransmitters, which are the brain chemicals that communicate information throughout our brain and body. They are very important to have a basic understanding of, so you can make sure you are taking care of having the right amount to improve your ability to use your mind and brain. There are huge amounts of resources online to find out how to improve the maintenance of the right amount of these chemicals for your brain, to have the best state of mind and mood for performance and productivity.

Neurotransmitters relay signals between nerve cells, called “neurons.” The brain uses neurotransmitters to tell your heart to beat, your lungs to breathe, and your stomach to digest. They can also affect mood, sleep, concentration, weight, and can cause adverse symptoms when they are out of balance. Neurotransmitter levels can be depleted many ways. As a matter of fact, it is estimated that 86 percent of Americans have suboptimal neurotransmitter levels. Stress, poor diet, neurotoxins, genetic predisposition, drugs (prescription and recreational), alcohol and excessive caffeine usage can cause these levels to be out of optimal range.

There are two kinds of neurotransmitters – inhibitory and excitatory. Excitatory neurotransmitters are not necessarily exciting – they are what stimulate the brain. Those that calm the brain and help create

balance are called inhibitory. Inhibitory neurotransmitters balance mood and are easily depleted when the excitatory neurotransmitters are overactive.

INHIBITORY NEUROTRANSMITTERS

SEROTONIN is an inhibitory neurotransmitter – which means that it does not stimulate the brain. Adequate amounts of serotonin are necessary for a stable mood and to balance any excessive excitatory (stimulating) neurotransmitter firing in the brain. If you use stimulant medications or excessive caffeine in your daily regimen – it can cause a depletion of serotonin over time. Serotonin also regulates many other processes such as carbohydrate cravings, sleep cycle, pain control and appropriate digestion. Low serotonin levels are also associated with decreased immune system function.

GABA is an inhibitory neurotransmitter that is often referred to as “nature’s Valium-like substance”. When GABA is out of range (high or low excretion values), it is likely that an excitatory neurotransmitter is firing too often in the brain. GABA will be sent out to attempt to balance this stimulating over-firing.

DOPAMINE is a special neurotransmitter because it is considered to be both excitatory and inhibitory. Dopamine helps with depression as well as focus, which you will read about in the excitatory part below.

EXCITATORY NEUROTRANSMITTERS

DOPAMINE is our main focus neurotransmitter. When dopamine is either elevated or low – we can have focus issues such as not remembering where we put our keys, forgetting what a paragraph said when we just finished reading it or simply day dreaming and not being able to stay on task. Dopamine is also responsible for our drive or desire to get things done – or motivation. Stimulants such as medications for ADD/ADHD and caffeine cause dopamine to be pushed into the synapse so that focus is improved. Unfortunately, stimulating dopamine consistently can cause a depletion of dopamine over time.

NOREPINEPHRINE/NOR-ADRENALINE is an excitatory neurotransmitter that is responsible for stimulatory processes in the body. Norepinephrine helps to make epinephrine as well. This neurotransmitter can cause anxiety at elevated excretion levels as well as some “mood dampening” effects. Low levels of norepinephrine are associated with low energy, decreased focus ability and sleep cycle problems.

EPINEPHRINE/ADRENALINE is an excitatory neurotransmitter that is reflective of stress. This neurotransmitter will often be elevated when ADHD like symptoms are present. Long term stress or insomnia can cause epinephrine levels to be depleted (low). Epinephrine also regulates heart rate and blood pressure.

The above are the main ones that most people know about, however OXYTOCIN is the other molecule I want to mention as its newer than the ones above in when it was discovered, and so important for you to regulate your mood and your emotions and contribute to a happier state of mind.

Though often referred to as the “trust hormone” oxytocin is increasingly being seen as a brain chemical that does a lot more than just bring couples closer together. New research is suggesting that oxytocin plays a crucial part in enabling us not just to forge and strengthen our social relationships but in helping us to stave off a number of psychological and physiological problems as well. But more conceptually, oxytocin is proving to be a crucial ingredient to what makes us human.

When we hug or kiss a loved one, oxytocin levels drive up. It also acts as a neurotransmitter in the brain. In fact, the hormone plays a huge role in pair bonding. Prairie voles, one of nature’s most monogamous species, produce oxytocin in spades. This hormone is also greatly stimulated during sex, birth, breast feeding – the list goes on. Paul Zak who is the person that most made this molecule famous prescribes eight hugs a day for all people to raise their oxytocin levels, causing all sorts of mental and physical health benefits.

THE MATRIX EFFECT

To wrap up the series I want to create something that I call the “Matrix Effect”, which is a way I use to describe what it looks like to be managing your mind and brain at the highest level. Ultimately if you were to read everything I have written in the last four articles in this Brain Burnout Series, you could sum it all up with saying that the greatest access you have to managing your mind and brain for higher levels of performance, productivity and a happier state of mind, is awareness and mindfulness.

When I start working with my clients, the first thing I have them deal with is gaining a whole new awareness of the stressors that they have in their life, and the effect those stressors are having on their mind and body. Until they can actually start to tune in to what is really going on, it is very challenging to start to coach people to see what the source of their mental and emotional stressors are. Understanding and getting to the source of the mental and emotional stressors is what we then go to work on, and I have them see why they have the unconscious and automatic patterns of behaviour and thinking that they do. In being able to get to the source of these patterns, and become aware of how they are playing out in life, when they get triggered, and being able to see when they are at play, has people raise their level of awareness and consciousness, so they become more and more mindful of both their physiological/biological experience moment to moment and also their linguistic narratives and interpretations that are getting fired off in their brain. Once my clients have practiced these in their life, seeing these patterns to a certain level, what starts to happen is what I call the Matrix Effect, which in my view is a very high state of participating in life.

If you have ever seen the Matrix movie, at the very end when the agents fire the bullets at Neo, he realises that he is the Matrix (ultimate awareness) and therefore can control it (choose how to act/react to it). So he puts his hand up and the bullets stop in front of him and stay suspended. He then picks a bullet out of the air and kind of inspects it, then drops it on the ground. What I like to teach my clients is to get to a level where, while their day to day stressors are producing the same physiological/neurological responses, they always notice the trigger, hear the narrative/dialogue in their head, and just observe it all happening before choosing different responses and actions moment to moment.

It is one thing to have mindfulness when you are meditating or up on a mountain relaxing and away from it all, but as one of my colleagues said so aptly about what I teach, it’s active mindfulness. Active mindfulness is when you can be in the thick of life, in the information crush that we all have going on around us, and be aware and conscious of what is going on, what you are reacting to, and use the power of your pre-frontal cortex to inhibit or veto the automatic and unconscious responses that would normally affect your performance, productivity and state of mind. This is what I recommend you strive for, as it gives you the ability to be at peace and calm in the moments in life when it seems you can’t. You don’t have to wait to be on the top of the mountain to experience being mindful; you can have moments all the time throughout your normal day to day life.

You cannot do it alone, and it takes working with someone who can help you learn and practice this, however it is worth getting clear about all of those habits, behaviours and patterns of thinking that affect you negatively, so you can live a happier and healthier life! 📖

*Drew Knowles is a Mind Coach who trains and coaches people to manage their mind and deal with stress to improve their performance, productivity and overall state of mind.
www.drewknowles.com*