

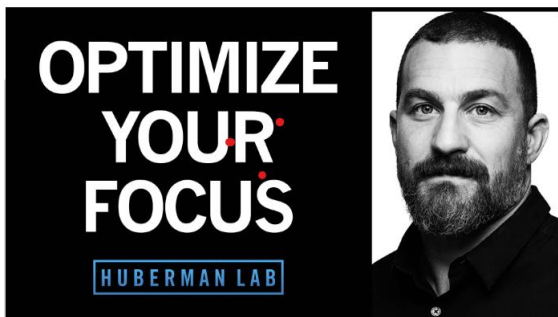


How can you reliably increase your ability to concentrate? The good news is that you don't have to expend as much energy as previously thought. So says science.

Reading time 10 minutes

In this time of information overload and multi-optionality, it is often difficult to focus one's attention as much as possible on what is really important. Over the years I have tried all kinds of things. And given up again. Now I have listened to the latest [podcast](#) by Andrew Huberman: "Optimise your Focus". It was so exciting that I invested the two hours and took lots of notes. Then I thought of the BrainCandy readers and prepared it in a readable way.

Huberman is a neuroscientist and professor at Stanford. He has a very successful podcast and blog.



I reproduce the central findings here in as focused a way as possible. However, I strongly recommend listening to this episode yourself. I have included many links as a service. Just have a look.

Huberman divides into the following tools:

- behavioural
- nutrition-based
- Supplements
- brain-machine interface
- Prescription substances

It is based on current peer-reviewed studies. Three different substances are supposed to be activated in the brain by the tools:

1. epinephrine (adrenaline) #E: improves the ability to concentrate
2. Acetylcholine #A: Adjusts the focus even sharper
3. dopamine #D: Is quasi the motor - keeps the motivation to concentrate upright.

The most important tool of all? Sleep. No kidding. (See also BrainCandy 52: You don't play with sleep). Huberman knows, of course, that you can't always prioritise sleep. But 80% perfect sleep should be. His free toolkit for good sleep is available [here](#).

Tool 1 Binaural Beats 40 Hz: Sound with slightly different frequencies is played to both ears. It has been proven that these sounds increase focus and concentration. About increasing #A and #D. There are many apps. [Google](#) or [Apple](#). An ideal tool for the necessary, purposeful transition into concentration. Huberman usually uses this for five minutes to initiate the concentration phase. If distractions are high, he sometimes keeps it running in the background. Only works with headphones.



Also helpful before special exertion in the gym.

Tool 2 White/Pink/Brown Noise: Also helps with the switch to concentrated mode. Huberman himself uses it less, but knows many nerds who find it extremely good. Explanation [here](#).

Focusing and concentrating is a skill that we need to learn and cultivate. Keyword neuroplasticity. Our abilities will always fluctuate somewhat. But with good training at a much higher level. How long should one be able to concentrate? The brain works in ultradian cycles. That's about 90 minutes. That should be understood as the maximum. No matter whether it's a project, a lecture, language learning, coaching or gym. I have found with book writing that 45 to 60 minutes is ideal for me. Then at least 10 minutes for defocusing. Those who are very good at focusing will not manage more than two to three such intensive sessions a day. Beginners should not aim for more than one session a day. But do it at the weekend - e.g. read a book with high concentration.

Tool 3 Fasted or fed state? Our brain functions on glucose. Neither Huberman nor I want to fuel an argument about dietary styles. We both know the effect that, for example with intermittent fasting, you can build up a very good concentration even when hungry. If you've eaten well but not too much, neural performance is particularly high. Huberman's first highly concentrated session of the day is usually in an empty stomach. The hardest session, however, is in the afternoon. Glucose for the brain is not a licence for highly processed foods or sugar bombs. Just sayin'.

Tool 4 Foods for Focus: Foods high in [tyrosine](#), the precursor to **#D**. Cheese, certain meats, nuts, some fruits and vegetables. But: If you eat too much of the good stuff, you will have trouble concentrating! Caffeine is also a proven booster of **#D** and **#E**. Recommended dose 100-200 mg before the session. So one cup. Attention caffeine tolerance is very individual. Mate tea is the alternative for coffee refusers. No caffeine after 2 pm. Good sleep is more important.

Tool 5 Stress improves concentration. Sounds counterintuitive, but it has been [tested](#). Moderate increases in stress levels lead to increases in **#E** and cortisol and a doubling of concentration.



Tool 6 Cold: No, not an energy-saving hack, it's about the trendy **cold water exposure**. It triggers a moderate stress reaction and leads to increased concentration. So taking a cold shower or jumping into a plunge pool massively increases **#E** and **#D**. One to five minutes is all it takes. It has to be uncomfortably cold, but not life-threateningly cold. However, the effect only lasts an hour. So it's something for the home office. The only tool that is not for me at all. Always after a sauna for five minutes. Never not without a pre-sweat.



Tool 7 Refocus Meditation. This is about real neuroplasticity. A [Study](#) ran only 13 minutes a day with inexperienced participants. One focuses on the breath and on a spot a few centimetres behind the forehead. Attention naturally wanders away from breathing. This is not a failure, but brings the training effect when we bring the attention back to the breath and forehead. We thus practise and internalise the art of refocusing. Huberman calls this a "refocus focus meditation". The opportunity to refocus again and again improves our concentration skills. Improved sleep, memory and mood are nice side effects. Caution: The mental effort involved in refocusing can affect the sleep that follows. Therefore, do not practise a few hours before bedtime.

Tool 7 Yoga Nidra / NSDR (Non Sleep Deep Rest) for sleep deprivation. You listen to a text with instructions for deep relaxation with deep breathing. Duration 10-30 minutes. NSDR renews **#D** and compensates for sleep deficits. Huberman uses [NSDR](#) daily, even when he is not sleep-deprived. A powerful tool for defocusing.

Tool 8 Self-hypnosis: Combines the focus of meditation with the relaxation of NSDR. The state is difficult to achieve - of course an app is the solution: [Reveri](#). The app enables to significantly increase the state of focus and concentration in relatively short exercises. The app is expensive, but can be tested for a week. Huberman uses the app every third to fourth day. NSDR and Reveri can also be used to get back to sleep.

Tool 9 Open visual focus: One stares consciously at a place in the room, holds the gaze for 30 seconds to three minutes, and may blink. Like refocus meditation, it trains the neuronal circuits to focus for longer and longer periods of time. It is best to start with 30 seconds and try five seconds longer every day. Aim for three minutes. If you lose concentration in a session this is a quick tool to get your focus back. Try it in the gym, before the next heavy set or while jogging.

Here are a few supplements. I'll list them, so please find out for yourself if they are right for you.

Tool 10 Omega 3: One to three grams of **EPA** per day improves mood and cognitive performance.

Tool 11 Creatine monohydrate. Every dumbbell enthusiast knows this for muscle building. I had been aware of the clinical evidence for a positive cognitive effect for some time. 5 grams a day. Is an inexpensive, safe supplement.

Tool 12 Alpha GPC. Is a precursor for **#A**. The increase of **#A** is relatively fast. 10-20 minutes before the session with 300 - 600 mg. You can boost the whole thing with a cup of coffee.

Tool 12 L-Tyrosine: here as a supplement. 500mg a day, take together with Alpha-GPC.

Do you have to combine all the tools? Not at all, that would be inefficient. Huberman usually uses two or three tools, depending on how he feels at the moment and what tasks need to be done. If he is highly motivated at the moment, he doesn't do anything, because that is the desired state that is supposed to be learned with the tools.

I am not going into prescription drugs for ADHD like Ritalin, Modafinil etc. here. They raise **#E** and **#D** a lot. Covered from minute 97 in the podcast. Up to 80% of American students are said to use these substances illegally on occasion.

He doesn't talk about the hyped Lion's Mane and the Racetams, as they have similar effects as the supplements above. We both recommend the site [examine.com](#), where you can read in detail about most supplement ingredients and their performance, science based. I have been using this source for many years.



But Huberman's information doesn't help at all if you don't change your behaviour. In BrainCandy 49, I described the best way to acquire new behaviours. Very recently, there was also a nice short tip from [BrainPost](#), which has similar tips.

So, what do we try first? Behavioural change or the quick supplements?

Book recommendation

By Ralph Ohnemus, Uwe H. Lebok, Florian Klaus:

Context marketing

The key to consumer behaviour To [order](#)



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