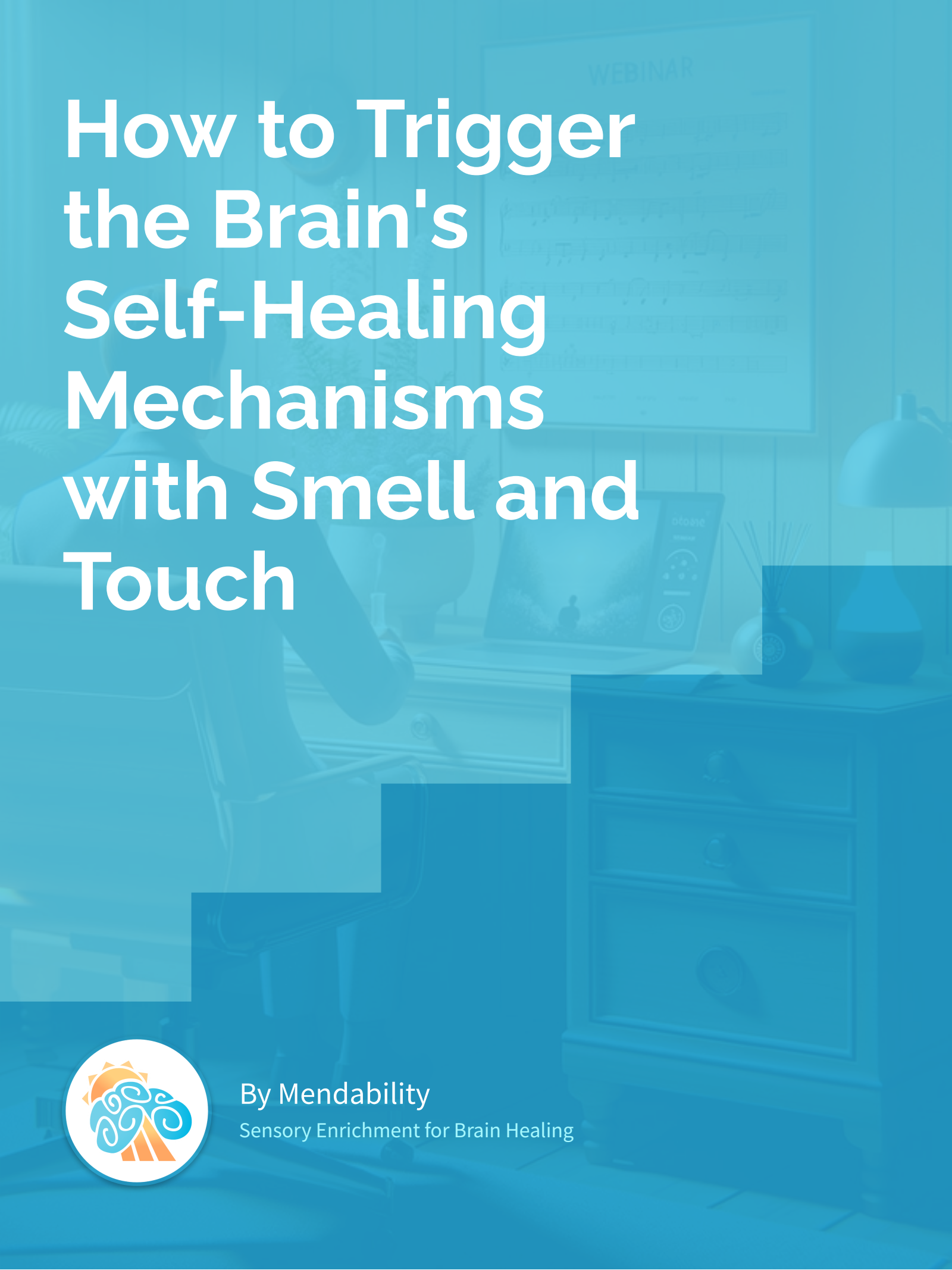
How to Trigger the Brain's Self-Healing Mechanisms with Smell and Touch



By Mendability

Sensory Enrichment for Brain Healing

Note by Claudie Gordon-Pomares, co-founder.

When I was 5, my best friend Simon stopped coming to school. He had Down syndrome and had been sent to an institution... Since then I knew I would go to school and become a neuroscientist to find ways to help everyone, especially when they feel vulnerable, to feel more confident, calmer and happier so that we all can journey through life together more comfortably.

The good news is that it's totally possible. The neuroscience field of Environmental Enrichment has been studying ways to **boost brain development, increase brain reserves, and improve function**. Scientists have successfully treated many neurological disorders that way, and the protocols can **easily** be adapted for home use.

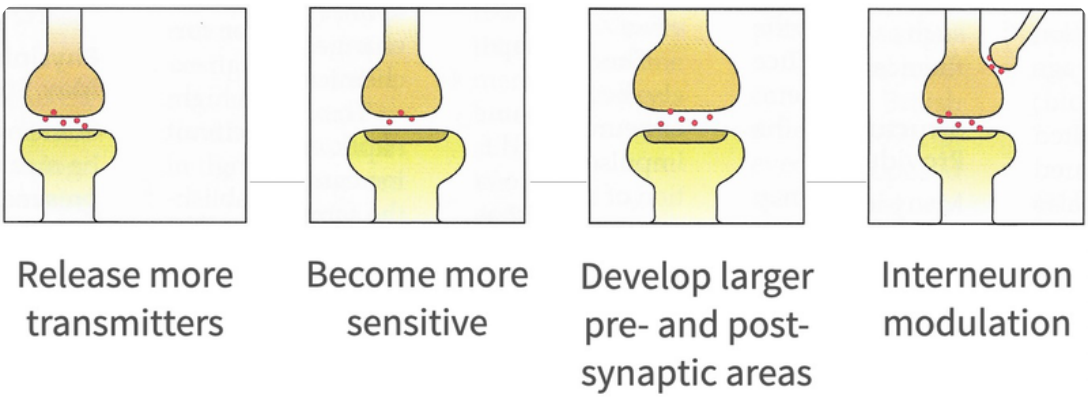
In this guide, I will share with you a few that you can do yourself right away.

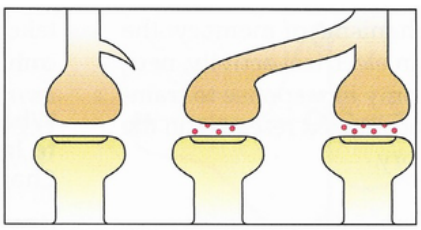
The Brain Is **Made** to Change

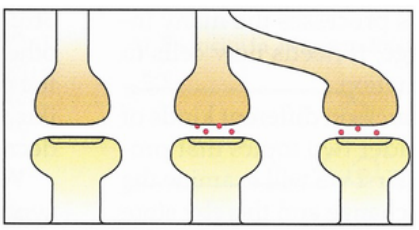
The brain contains more stem cell reserves *(blank cells used to repair and grow organs)* than every other part of the body combined.

If this is not a clue that the brain is designed to adapt and change then, how about this? Neurons *(communication cells)* don't touch. They come really close but they don't fuse like most other cells in the human body.

This separation is very important for 2 reasons: 1) It helps manage the quality of the signal *(otherwise a mistake would propagate to the entire brain almost instantly)* and 2) it helps cells re-locate quickly so that when the need arises, the brain can form new connections, strengthen existing ones or remove unused ones.




Shift synaptic input

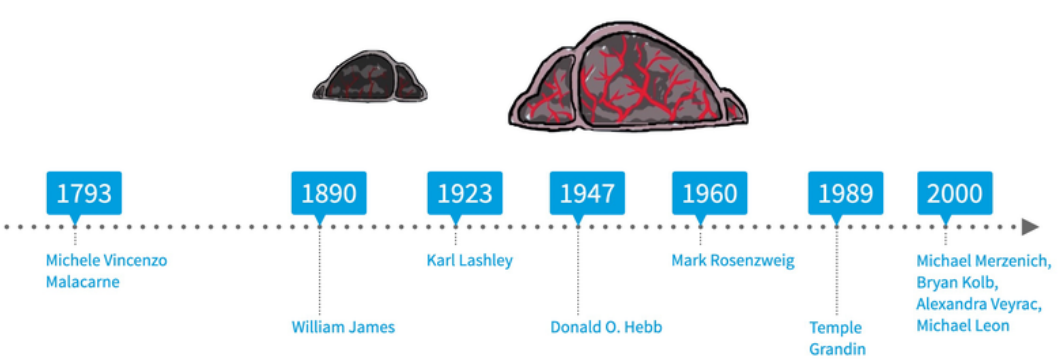

Form new synapses

The Brain Can Change, Heal and Protect Itself at **Any Time**

For over 200 years, scientists have known that brains grow when they are exposed to enriching experiences, but it was not until recently that they were able to measure where this growth and repair happens. It's not just the neurons that grow and increase in number. The brain also recruits more blood vessels and other protective systems.

Scientists also know now that age is not a factor *(you can trigger growth and healing even as an older adult)* and that the changes tend to persist with repeated exposure.

Perhaps the most interesting recent finding is that the brain will also protect itself against stress and deterioration by building reserves. For example, in dementia studies, scientists saw that because of these reserves, despite showing all the physical signs of dementia, study candidates performed without any symptoms. Scientists could do all sorts of nasty things to these poor study candidates, but they showed no sign of cognitive or behavior regression because their brains had increased their resilience by exposure to enriching experiences.

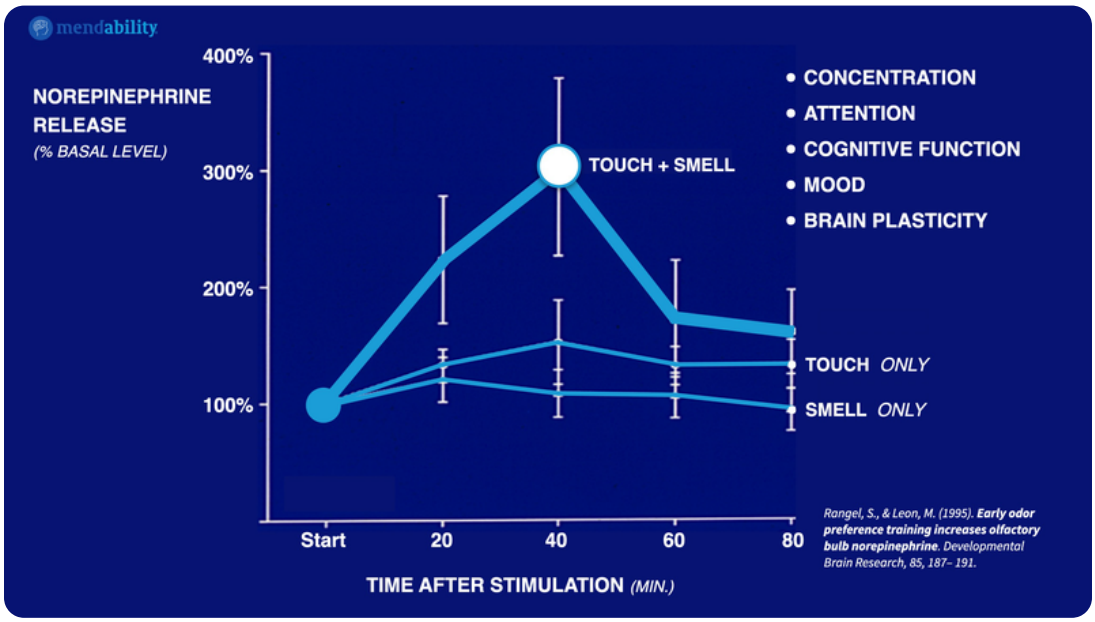


Combine Smell and Touch to Trigger Brain Healing

Of all the different types of experiences that you can find enriching *(Sensory, Social, Motor, Cognitive)*, researchers have identified sensory and motor stimulation as the most powerful influencers on brain development and brain function. So, at Mendability, we developed hundreds of different ways of experiencing fun sensory and movement-based games that are the best translations of protocols they have used in laboratories.

Of all the different types of sensory and motor experiences, smell and touch have been identified as the most important ones.

You can induce an elevated state of neuroplasticity, and trigger the brain's self-healing mechanisms by smelling your favourite scent and having someone give you your favourite back rub. Continue reading to see how it works...



Smell: Dopamine, Clarity and Motivation

Smell alone has its own benefits, related to dopamine. Dopamine is a chemical in the brain that influences how we feel pleasure, stay motivated, and maintain focus. If you have ADHD, you may find it interesting that dopamine is what the brain uses to tell your muscles to stop moving... In animal studies, scientists discovered that smelling a pleasant aroma can double your dopamine levels for up to 3 hours.

All you have to do is bring your favorite scent to your nose and enjoy.

The aroma can come in any form. The only thing that matters for this sensory stimulation protocol is that you enjoy the experience. It can be a candle, essential oil, scented hand lotion, chapstick, hot cocoa, incense stick, etc.

Touch: Serotonin and Stress Resilience

Touch also has its own benefits, related to another brain hormone: serotonin. Serotonin is connected to almost every brain function, but it's mostly known as a growth and calming factor.

There are 5 types of receptors in the skin and gentle touch is the most direct and powerful way to boost serotonin. Have you had the perfect back rub and felt chills? This "frisson" is the physiological effect of a serotonin boost.

For best results, look for ways to experience touch in a passive, receptive state. **Close your eyes and get a perfect back tickle.** Ask your partner to use their fingertips instead of their palm, for more sensory tracks. Alternatively, use a backscratcher yourself *(While movement and task planning dilute the stimulation, the fact that you can control exactly where and how to scratch compensates a little)* or spend a few seconds exploring a texture board.

Combination and Repetition

You can boost your clarity and motivation just with your sense of smell, you can boost your resilience to stress just with your sense of touch, but **true healing happens when you combine** these two senses.

Another key principle that we mentioned already and is worth repeating *(no pun intended)* is that **to make the changes you induced in your brain stick, you need to repeat the experience**. Over time, the brain will install the new connections permanently, along with all the support systems needed *(blood vessels, etc.)*.

For example, as you get into the habit of smelling and touching regularly the brain will gradually manage its own dopamine and serotonin levels better.

Emerging data on other ways to promote brain healing:

1. **Fun Learning**: Challenging your brain to acquire new skills in a fun, enjoyable and structured way will induce changes in your brain structure. *Make sure you find a way to have fun with it.*
2. **High-Intensity Exercise:** This form of physical exercise is not only beneficial for physical health but has also been shown to significantly increase levels of a protein in the brain (BDNF), that supports the survival of existing neurons and encourages the growth of new neurons and synapses.
3. **Fasting**: Dietary strategies such as intermittent fasting have also been linked to the production of BDNF. Periodic fasting is known to trigger synaptic adaptation and increase resistance to neuronal stress.
4. **Sleep**: Optimizing your lifestyle for sleep is crucial. Much of the repair from Sensory Enrichment Therapy occurs during this time.

By Mendability
Sensory Enrichment for Brain Healing

Want more? We design custom brain boost and repair programs

Scientists have already treated successfully many neurological conditions, from Autism to Alzheimer's. Environmental Enrichment can induce self-repair in the brain, reverse trauma and prompt it to build reserves against stress and trauma. Sensory Enrichment Therapy is our translation of this science and it has been **validated in randomized controlled trials** with populations of children with autism, ADHD, Rett syndrome and with seniors with dementia.

Let's talk!

- BOOK A CLARITY CALL