

Why Effective Processing and Regulation are the Essential Foundation for Health

iLs
INTEGRATED
LISTENING SYSTEMS

part of
unyte
Guiding You



“It’s ^{NOT} all in the mind.”

Among this century’s medical and social breakthroughs is the recognition that this statement is a complete fallacy.

Perhaps it’s our new awareness of the effects of ongoing stress, or perhaps it’s the mixed results of behaviorally based therapies that has led us to see there are aspects of our health which are outside of our conscious control.

Taking a fresh look at the way we develop and the way our brains connect with our bodies can give us insights into how we can become our best self.



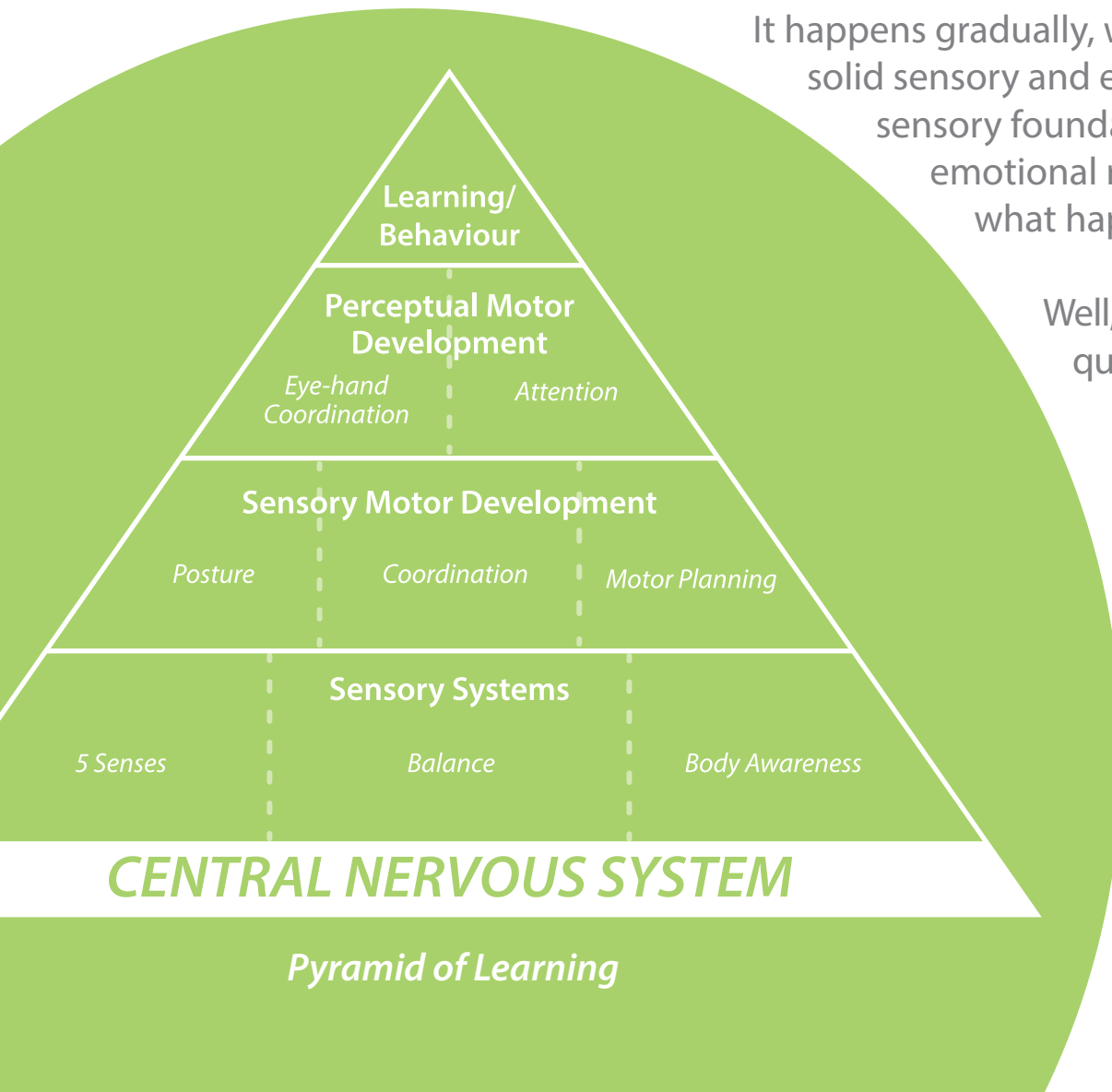
How does the body-mind develop?

It happens gradually, with higher brain skills developing after a solid sensory and emotional foundation is set. Sometimes the sensory foundation isn't fully developed, sometimes our emotional regulation gets shaken by life's changes – what happens then?

Well, the bottom line is that we don't function quite as well.

Higher brain functions such as learning, communication, and focus are dependent upon how well we are able to process incoming information at the sensory and emotional levels.

As a neuroscientist once delicately said, **'garbage in, garbage out.'**



Desperately seeking homeostasis

A lot is made of our need for more emotional balance these days, and for good reason. Those of us who are otherwise healthy are finding that stress has crept into our life and is disrupting our sleep, our work, and our relationships.

Those of us challenged by learning and developmental difficulties, or mental health issues, are realizing that improvement is dependant on our emotional state.

If we are worried and feeling unsafe our defenses go up, and whatever activity or therapy we are engaged in, becomes ineffective.

Finding emotional balance means developing a nervous system which, like a healthy body, has the flexibility to respond appropriately with action (**'fight or flight'**) or with relaxation (**'rest and restore'**).



Today's holy grail: Connecting with the vagus nerve

The Autonomic Nervous System (ANS) is at the center of our self-regulating process, influencing important systems in our body, including our heart, respiration rate, and digestion.

It is constantly sending our body signals, getting us ready to react to various situations at all times.

Our ANS is, in large part, governed by a nerve which is hugely important to our overall well-being: the **vagus nerve**.

The **vagus nerve** is the longest cranial nerve in the body - stretching from the brainstem all the way down to the stomach.

Vagus Nerve

Two pathways of the vagus nerve

The vagus nerve is divided into 2 parts - the dorsal and ventral vagus.

The dorsal vagal pathway responds to cues of extreme danger. An example of the dorsal vagus taking control is stage fright.

We feel immobilized, shut down, and unable to connect. This is an evolutionary adaption for survival, it's built into our nervous system.

The ventral vagal pathway responds to positive cues and supports feelings of being safe and relaxed.

When we are firmly grounded in the ventral vagus, our heart rate is slower, our blood pressure drops and our defenses are down. In this state, we are calm and regulated.

In the therapeutic context, we are 'available' - both physiologically and psychologically - for change.



Vagal connection to social engagement

The vagus nerve can influence our emotional and physiological state.

This connection is explained by **Dr. Stephen Porges**, whose Polyvagal Theory (PVT) is widely accepted as a neurobehavioral scientific breakthrough.

Polyvagal Theory explains the connection between stimulation of the ventral vagal system and feelings of safety.

Feelings of safety allow us to engage with others socially.

We can stimulate the ventral vagus in many ways – through exercise, singing, yoga, meditation, massage, and music.



Integrated with our nervous system are sensory pathways that help us interpret our environment. Like the regulation of emotions, our ability to process sensory input determines our ability to think, learn, and communicate with others.

An individual unable to process sensory information properly can feel isolated and have difficulty sitting, socializing, making friends, and feeling happy in the world.

Back to the pyramid metaphor: the foundation for higher brain functioning isn't as solid as it needs to be. This can happen to any of us, but is particularly prevalent in those with learning and developmental difficulties, including autism, and those with trauma experiences.



Neuroplasticity

The good news is that our brain and nervous system are plastic. With specific stimulation, we can actually rewire them to become more flexible emotionally and better at processing and responding to our environment.

We can't necessarily control external situations or obstacles that faces us in any given moment, but we can change our responses to them.

As we change our responses to external situations, everything gets better: we're sharper, more confident, better able to navigate social situations, and feel happier and more peaceful.



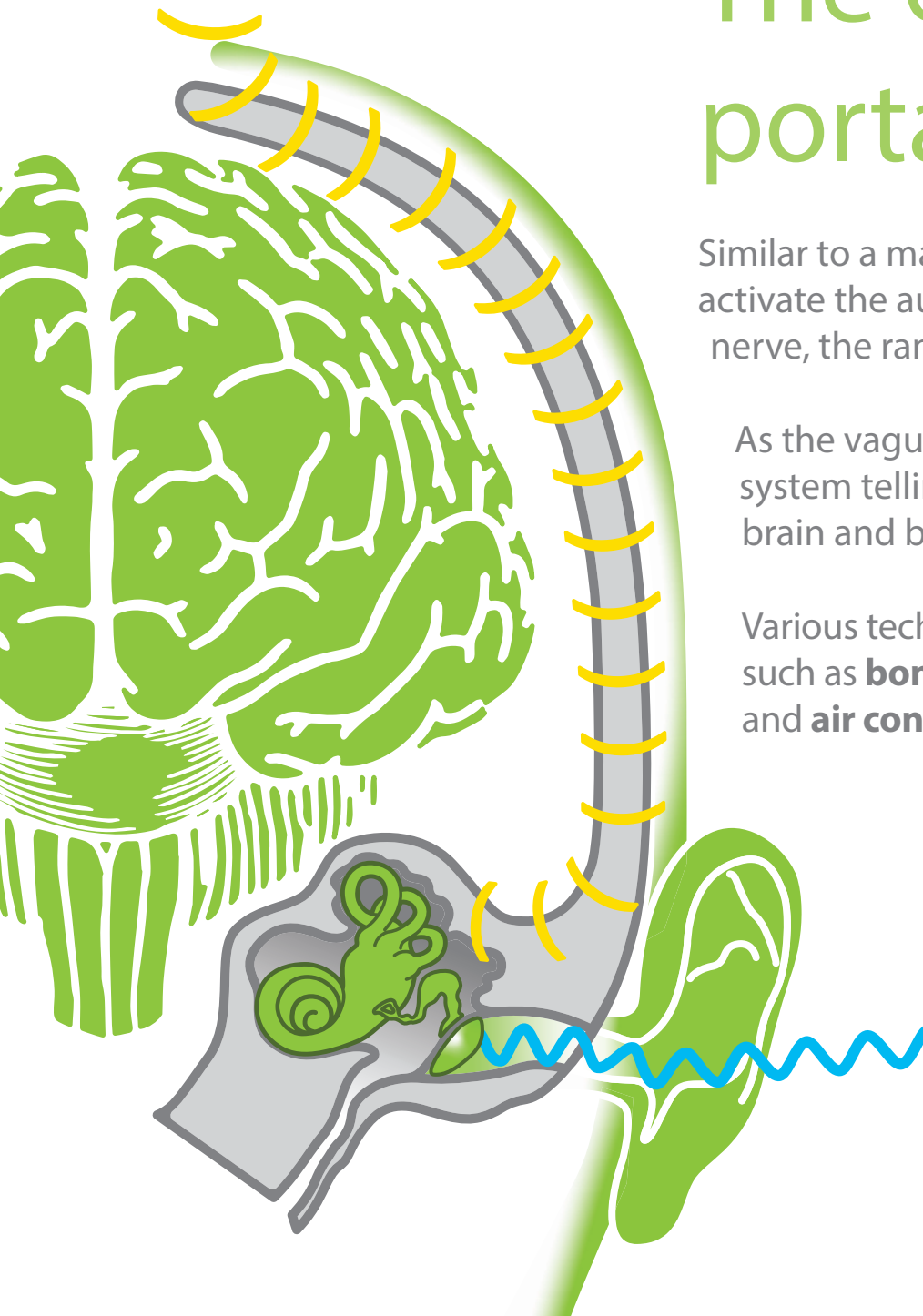


The ear is a portal to the brain

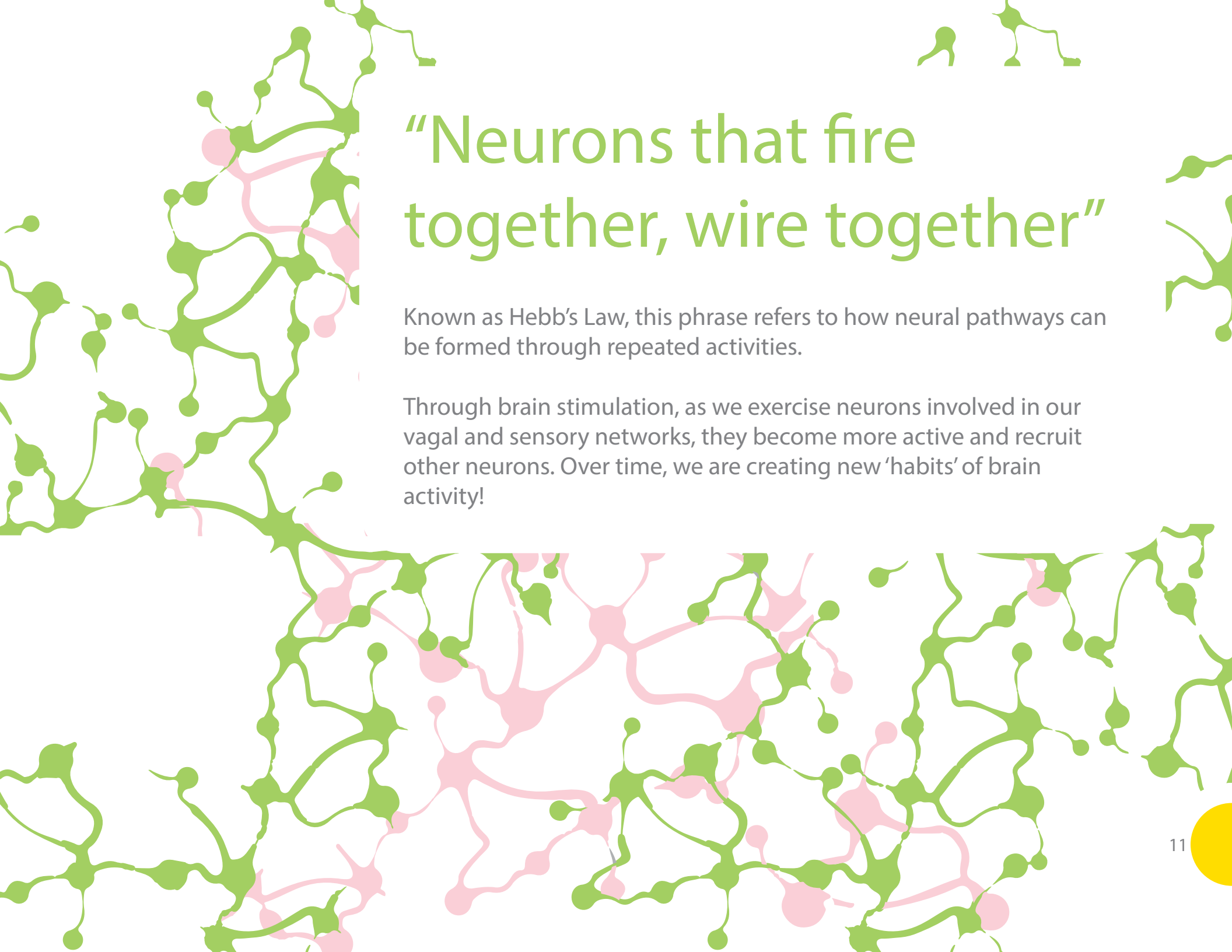
Similar to a massage acting on muscles of the body, sound vibrations activate the auditory neural network including a branch of the vagus nerve, the ramus auricularis.

As the vagus nerve is stimulated, signals are sent to our nervous system telling it to relax and let go of tension. With relaxation, all brain and body functions should improve.

Various techniques can be effective at stimulating brain activity, such as **bone conduction** (auditory stimulation through the bones) and **air conduction** (auditory stimulation through our ear drums).



Air Conduction

The background of the slide is a complex network of stylized neurons. The neurons are represented by green and pink branching structures with small circular nodes at the ends of the branches, resembling a neural network. The green neurons are more numerous and form a dense web, while pink neurons are interspersed throughout. The overall aesthetic is clean and modern, with a focus on the interconnected nature of the neural pathways.

“Neurons that fire together, wire together”

Known as Hebb’s Law, this phrase refers to how neural pathways can be formed through repeated activities.

Through brain stimulation, as we exercise neurons involved in our vagal and sensory networks, they become more active and recruit other neurons. Over time, we are creating new ‘habits’ of brain activity!



Cross training for your brain

Unyte and iLs offer multi-sensory training tools which activate parts of the brain responsible for emotional regulation, cognitive and sensory processing, and balance at the same time.

This cross training approach is validated by over a decade of research significantly driven by **Dr. Ron Minson** and **Dr. Stephen Porges**.

These studies have shown great success with learning and developmental difficulties, attention deficit, head injury and general performance enhancement.

Why use multisensory training?

- We learn to focus and process sensory information - we're mentally sharper.
- The body becomes regulated - we're calm.
- Our motor and emotional control improves - we're confident.
- Our mood is uplifted - we're socially engaged.
- People enjoy being around us - we're happy in the world.

Success stories: Tom

Tom is an 8-year old boy. He was having significant trouble in school with sustaining his attention in class as well as sensory sensitivities that made it hard for him to be in large groups.

He was brought to an Occupational Therapist who developed a program that addressed:

- Higher order attention and executive abilities
- Processing speed
- Phonetic decoding
- Reading skills
- Sensory seeking behaviors

Tom completed the Safe and Sound Protocol within 5 days and then the Focus Program, which was abbreviated to 20 hours over 6 weeks.



Results: Tom's academic achievement post-therapy increased an average of 1.6 grade levels. His score on the IVA (ADHD assessment) improved by 32%, bringing him into the normal range for his age group.

He was able to participate in school activities in the classroom and on the playground as if he had never been hyper-sensitive. He became more social and active with other children, and seemed happier overall.

Success stories: Maria

Maria is a 42-year old woman with a history of early childhood trauma. She has been in counseling and cognitive behavioral therapy for many years to address her hyper-vigilance and difficulty in social situations.

Her therapeutic goals with her SSP-trained therapist were to help her regulate herself more effectively, calm her feelings of fight/flight/freeze, and to achieve more genuine feelings of social engagement.

The protocol was completed in 5 consecutive days. As of the first night, she began sleeping better (which has continued to this writing). As of the 3rd session, she felt exhausted earlier than usual and needed more sleep than usual throughout the program. By the 5th session, she appeared happier and 'lighter' to her therapist and remarked that she wasn't sure why but she felt noticeably more relaxed.

Results: In the ensuing days and weeks she has come to feel significantly more positive about her life, more open to conversations with others (which she used to shy away from) and no longer has the mood swings she used to endure on a daily basis. Two months after her therapy, her friends comment that she "looks different." In her words, "my life has changed."



Success stories: Sarah

Sarah is an 11-year old girl diagnosed with ASC (Autism Spectrum Condition). Prior to going through the SSP program her areas of difficulty included auditory and tactile sensitivity, separation anxiety, poor eye contact, and a narrow field of interest within her physical and social environments.

She went through the 5-hour SSP program over the course of 8 days at her Occupational Therapist's clinic. Although her auditory sensitivity required her to take longer than usual to complete the program, she did so without disruption and enjoyed playing while listening to the SSP music.

Results: Sarah's response to the SSP program was apparent to everyone who knew her. Teachers and therapists remarked that she was much more engaged and aware of her surroundings, engaging with students as she hadn't before, and maintaining good eye contact for the first time.

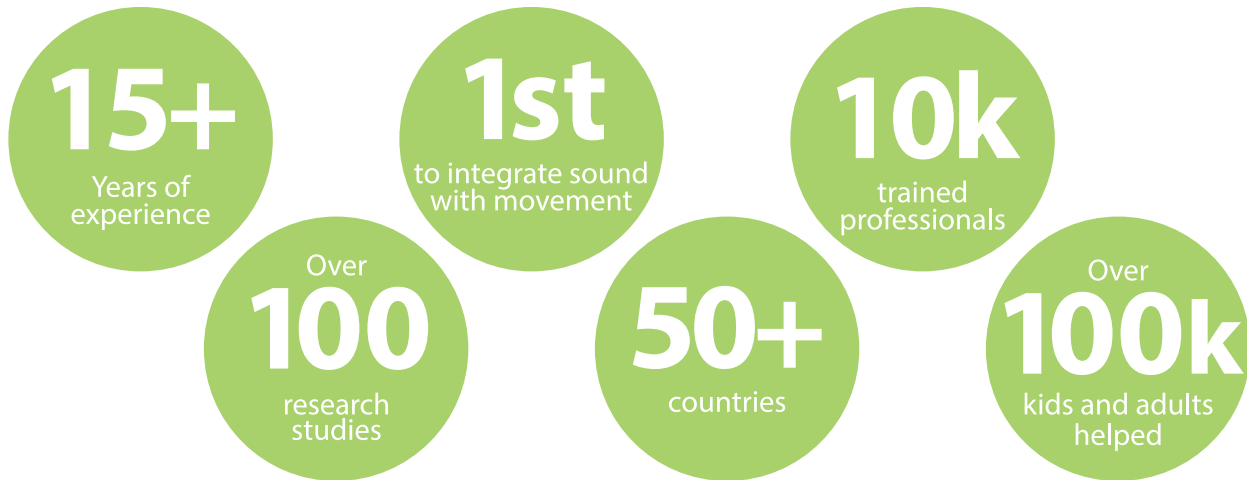
Her parents reported similar behavior changes at home.

They were able to take her out to public places. Sarah still has an occasional meltdown but she is now better able to verbalize her problem and regulate herself to come out of it.



Unyte family of tools

Our mission is to guide every person to train their nervous systems to be more aware, regulated and resilient, so they can feel safe, happy and healthy and more effectively respond to life's challenges.



Learn more about our different multi-sensory neuro programs.

Reach your full potential.