



The neuroscience of high-performing teams



I am going to be honest ... I have a little bit of an obsession with neuroscience research and how that can be utilized to create high-performing teams. I have been exposed to this by a fantastic project manager and a brilliant industrial psychologist. Neuroscience can show us how we build relationships, react to our environment, respond to learning, and learn to work collaboratively. How do multiple, unique, and different individuals, each with their own perspective, ideas, thoughts, skills, and abilities, contribute to the success of a working, whole unit? I believe, for the most part, that a large sum of that success is how the team enables each member to feel included, valued, heard, and safe. Neuroscience can show us how to do this.

Knowing a little bit more about how neuroscience influences your own performance can help you contribute to the wellbeing of the whole team. Through scrutinizing neuroscientific research, Neurozone has identified all the drivers (outer sphere) and conditions (inner sphere) for optimal performance (Figure 1).

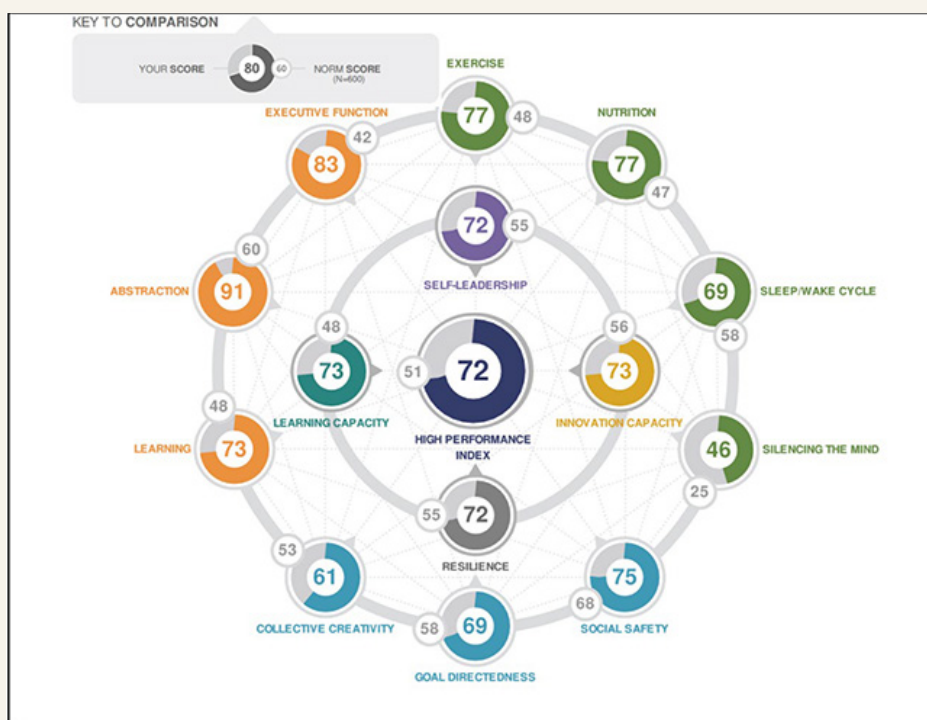


Figure 1—An example of a Neurozone Model, taken from a Neurozone report, April 2019. Since 2019 the Neurozone model has been updated. It now refers to high performance rhythms, not foundational drivers. When operating from a regulated state of being (the four high performing rhythms), social interaction will be easier to engage in

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This 'model' shows granular responses of the internal system; small, nuanced behaviours that make up our complex response to our environments. This refers to the following: types of exercise and mobility, the components of sleep and mindfulness training, our emotional-energy-releasing responses (such as optimism, gratitude, enthusiasm, and humour), ways in which we learn and solve problems, as well as the ways that we ensure collective creativity through belonging, bonding, and mining diversity. This complexity and adaptability in response allow us to have many ways to solve a problem.

External changes require internal adaptations. If you know the 'reprioritizing code', then you can assign the most energy to the right behaviour, leading you to act in the best interest of not only yourself, but the group.

This is a very good description of building resilience. Resilience, of course, refers to adaptability and capacity to respond appropriately in changing situations. Resilience is not about personality; rather, it's about behaviour. That's why it is so important to continually assess and monitor behaviour so that you can ensure you get the highest yield for the energy ascribed to the tasks of living, surviving, and thriving.

Neuroscience, and more specifically the Neurozone model, supports the development of our capacity to maximize personal optimization so that we maximize other higher-order entities that we form, such as teams and organizations, by shining a light on the complex connections between the brain, nervous system, and immune system (This is taken from CEO and Co-Founder of Neurozone, Dr Etienne van der Walt, neurologist and a subject matter expert in clinical neurology, 5 July 2023).

I believe we desperately need to remember, and understand, that we are wired for connection and empathy. There is power and healing in relationships and community. Dr Bruce Perry, a renowned brain development and trauma expert, child psychiatrist, neuroscientist, and principal of the neurosequential model of brain-based therapy, has proven this in his book *What Happened to You?* (Perry, B.D. and Winfrey, O. 2021. Flatiron Books).

He says: 'Marginalized people — excluded, minimized, shamed — are traumatized people, because as we've discussed, humans are fundamentally relational creatures. To be excluded from an organization, community, or society you are exposed to prolonged uncontrollable stress that is sensitizing.'

The key difference between team members NOT affected by trauma and those affected by trauma is that members 'sensitized' by trauma can escalate more quickly into states of dysregulation. In Figure 2 you can see how a sensitized person can easily end up in a state of fear or terror daily. As we move

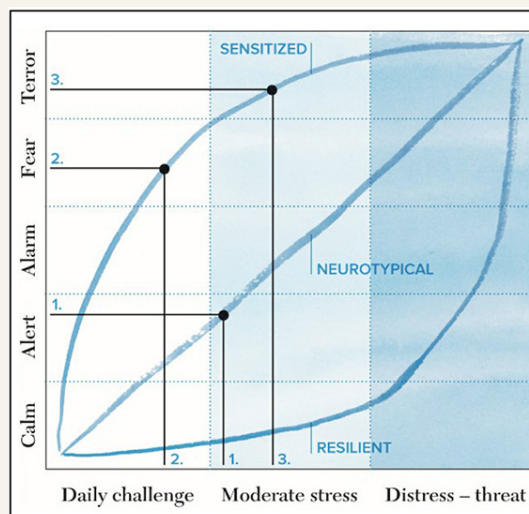


Figure 2—Stress-reactive curve, taken from *What Happened to You?*, Perry, B.D. and Winfrey, O. 2021, Flatiron Books

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between different emotional states, from 'Calm' to 'Terror', the amount and type of access we have to our cognitive abilities changes. This is also confirmed in the book by Malcolm Gladwell, 'Talking to Strangers'. We lose our ability to do creative problem-solving, with our prefrontal cortex, when we perceive ourselves to be under threat and we consequently move back into amygdala regulation, where we resort to freeze, flight, or fight, which not only leads to destructive conflict, but also complete disengagement (Figure 3).

"STATE"	CALM	ALERT	ALARM	FEAR	TERROR
DOMINANT BRAIN AREAS	Cortex (DMN)	Cortex (Limbic)	Limbic (Diencephalon)	Diencephalon (Brainstem)	Brainstem
ADAPTIVE "Option" Arousal	Reflect (create)	Flock (hypervigilance)	Freeze (resistance)	Flight (defiance)	Fight
ADAPTIVE "Option" Dissociation	Reflect (daydream)	Avoid	Comply	Dissociate (paralysis/catatonia)	Faint (collapse)
COGNITION	Abstract (creative)	Concrete (routine)	Emotional	Reactive	Reflexive
FUNCTIONAL IQ	120-100	110-90	100-80	90-70	80-60

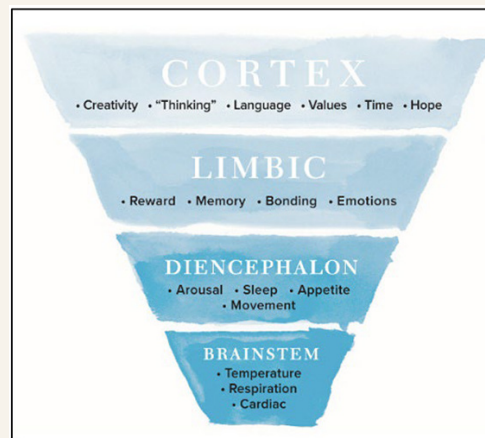


Figure 3—Accessing the Cortex, taken from *What Happened to You?*, Perry, B.D. and Winfrey, O. 2021. Flatiron Books

How do we combat exclusion in a team? How do we ensure that one of our team members are not exposed to chronic stress?

Psychologist Kelly McGonigal (health psychologist and lecturer at Stanford University), with her TED talk ranking under the 25 most popular TED Talks of all time (updated January 2023), shows that while stress has been made into a public health enemy, new research suggests that stress may only be bad for you if you believe that to be the case. She urges us to see stress as a positive and introduces us to an unsung mechanism for stress reduction: reaching out to others. Again, connection plays a crucial role in resilience. When any individual perceives the stress response to be chronic, their whole brain-body system will continually be in fight mode, which will lead to burnout, ill health, and ultimately, death. From a neurobiological perspective, the best protection against this is resilience. This capacity of the brain-body system to prevent implosion under severe stress is underpinned by the ability to belong and contribute to the group. To solve a problem or

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fashion novel products that are adapted for the group, promoting group survival and thriving. We need forces that will foster a cohesive whole so that we can surpass the sum of its parts. According to Neurozone, there are four themes that could combat exclusion in a team and ensure that one of our team members are not exposed to chronic stress.

Are you practising this in your teams?

Table 1

Four themes to ensure connection, inclusion, and resilience for high-performing teams. This is my own representation of work done by Dr Etienne van der Walt and his team at Neurozone

Theme: Sense of Purpose	<p>Science shows that a purpose helps reduce inflammatory conditions, cardiovascular disease and dementias.</p> <p>Cultivating a sense of collective purpose in a team is beneficial for wellbeing and longevity. An awareness of being part of a living system drives resilience and high performance capacity.</p> <hr/> <p>DO: Ask — and help your team members answer: Why are we here and what are we trying to achieve?</p>
Theme: Our energy is finite	<p>Energy boosters (optimism, gratitude, enthusiasm, curiosity) maximize energy.</p> <p>The brain's powerful reward system helps us stay motivated and achieve our goals.</p> <p>For coaches working with leaders and teams, it's crucial to foster healthy reward systems, which will help promote resilience that will lead to greater success and fulfillment.</p> <hr/> <p>DO: The secrets to achieving optimal performance lie in the attitudes we underestimate — optimism, gratitude, enthusiasm, humour and curiosity. These boosters increase the amount of dopamine.</p>
Theme: We stick together	<p>Our brains help keep us alive through bonding. Oxytocin allows us to bond to each other in different iterations: between soldiers in a war zone, players in a sports team or in the workplace.</p> <p>Belonging uses dopamine and fosters a feeling of shared values among members of a larger group. Because we do things in a similar way, we belong. Because we still have an ancient fear of being rejected, feeling like you don't belong can lead to chronic stress.</p> <hr/> <p>DO: We need a diversity of perspectives and the safety to voice them. Being heard creates safety. Affective empathy (feeling in another's shoes) encourages bonding. Cognitive empathy (thinking in another's shoes) fosters safety and belonging. Together, they act as the glue for resilient, collective innovation.</p>
Theme: Power of mindset and mindfulness	<p>Our mindset determines how we perceive the world and our place in it.</p> <p>Mindfulness determines how much of that world we see. It ensures that we focus on the important cues and ignore the rest (latent inhibition). When we lack mindfulness, our brains rely on more primitive regulation, leading to impulsive and reactive behavior.</p> <hr/> <p>DO: Cultivate a flexible mindset and mindfulness within each individual.</p> <p>DO: Visionary leaders must help teams adjust their mindsets and adapt to new challenges, by assigning different values to incoming stimuli.</p> <p>DO: Practicing mindfulness activates the prefrontal cortex and this regulatory control is essential for enhancing resilience.</p>

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