

Neuroscience & Psychophysiology Research

Ten key findings from the neuroscience and psychophysiology literature, each one underpinning a specific part of the course.

MODULE 2 THE NERVOUS SYSTEM MAP

Polyvagal Theory

The sympathetic / dorsal vagal / ventral vagal framework behind the whole map comes directly from this body of work.

Porges, S.W. (2007). The polyvagal perspective. *Biological Psychology*, 74(2), 116–143.

MODULES 6–7 CO-REGULATION IN ADULTS

The Hand-Holding Study

Simply holding the hand of a safe person measurably reduced the brain's threat response on a scan — direct proof that proximity itself regulates.

Coan, J.A., Schaefer, H.S., & Davidson, R.J. (2006). Lending a hand. *Psychological Science*, 17(12), 1032–1039.

MODULE 6 NAME IT TO TAME IT

Affect Labelling

The single strongest match in the whole course: putting a feeling into words measurably lowers amygdala activity, exactly as the lesson describes.

Lieberman, M.D. et al. (2007). Putting feelings into words. *Psychological Science*, 18(5), 421–428.

MODULE 5 LONG EXHALE & PHYSIOLOGICAL SIGH

Breath-Based Down-Regulation

A longer exhale, and the double-inhale/long-exhale “physiological sigh” specifically, are shown to lower physiological arousal within minutes.

Balban, M.Y. et al. (2023). Brief structured respiration practices enhance mood. *Cell Reports Medicine*, 4(1), 100895.

MODULE 3 NEUROCEPTION

Below-Conscious Threat Detection

Porges coined “neuroception” for the nervous system's constant, non-conscious scanning for safety and danger — the exact term the course uses.

Porges, S.W. (2003). Social engagement and attachment. *Annals of the New York Academy of Sciences*, 1008, 31–47.

MODULE 10 PENDULATION & SAFE EMBODIMENT

Somatic Experiencing, Clinically Tested

The first randomised controlled trial of body-based trauma work found significant reductions in PTSD and depression symptoms.

Brom, D. et al. (2017). Somatic Experiencing for PTSD: RCT. *Journal of Traumatic Stress*, 30(3), 304–312.

MODULES 6–7 CO-REGULATION

Right-Brain Attachment & Regulation

Early co-regulation with a caregiver's nervous system shapes the developing brain's own stress-response and regulatory capacity for life.

Schore, A.N. (2001). Effects of a secure attachment relationship. *Infant Mental Health Journal*, 22(1–2), 7–66.

MODULE 5 WIDEN YOUR GAZE

Peripheral Vision & Alpha States

Softened, panoramic vision is associated with the relaxed alpha-wave states described here, rather than the narrowed vigilance of threat processing.

Klimesch, W. (1999). EEG alpha and theta oscillations. *Brain Research Reviews*, 29(2–3), 169–195.

MODULE 3 WINDOW OF TOLERANCE

Heart Rate Variability & Regulatory Capacity

HRV is one of the clearest physiological markers of the flexible, adaptive capacity the “window of tolerance” describes.

Thayer, J.F., & Lane, R.D. (2000). A model of neurovisceral integration. *Journal of Affective Disorders*, 61(3), 201–216.

COURSE-WIDE CHANGE IS POSSIBLE

Neuroplasticity

Repeated experience physically reshapes neural pathways throughout adult life — the biological basis for why regulation practice works at all.

Holtmaat, A., & Svoboda, K. (2009). Experience-dependent structural synaptic plasticity. *Nature Reviews Neuroscience*, 10(9), 647–658.

Other Information Sources

MODULE 6

The Ninety-Second Wave

Popularised by neuroanatomist Jill Bolte Taylor, from her own stroke recovery and research into the emotional brain.

Bolte Taylor, J. (2006). *My Stroke of Insight*. Viking Press.
· drjilltaylor.com

MODULE 10

Pendulation

Developed by Peter Levine as part of Somatic Experiencing, his approach to resolving trauma held in the body.

Levine, P. (1997). *Waking the Tiger*. North Atlantic Books.
· traumahealing.org

MODULE 3

Interoception & The Felt Sense

Rooted in Eugene Gendlin's decades of research into what actually makes therapy work.

Gendlin, E. (1978). *Focusing*. Bantam Books. · focusing.org

MODULE 10

Memory Reconsolidation

The neuroscience of how an old emotional memory can genuinely update, rather than just being suppressed or managed.

Nader, K., Schafe, G.E., & LeDoux, J.E. (2000). *Nature*, 406, 722–726.

MODULE 6

“The Body Keeps The Score”

Bessel van der Kolk's synthesis of trauma research and the body's role in holding it.

van der Kolk, B. (2014). *The Body Keeps the Score*. Viking.
· besselvanderkolk.net

MODULE 4

The Three Centres

No single originator, but real research bases exist for both the heart and the gut as genuine centres of intelligence.

heartmath.org · Mayer, E.A. (2011). Gut feelings. *Nature Reviews Neuroscience*, 12(8), 453–466.

The State of Mental & Emotional Health Today

Why this work matters, in numbers.

79%

of UK employees experience burnout

SPILL.CHAT

50

working days lost per employee each year to stress and burnout

VITALITY.CO.UK

£138bn

annual cost of poor employee health to UK business

VITALITY.CO.UK

52%

of all work-related ill health is depression, stress or anxiety

HSE.GOV.UK

91%

of UK adults experience high pressure or stress

MENTALHEALTHUK, 2026

22m

working days lost to stress, depression and anxiety each year

HSE.GOV.UK

72%

of HR leaders say poor mental health is driving up costs

WELLHUB, 2026

85%

say information overload affects mental health

WELLHUB, 2026

23%

cite stress & burnout as the single biggest harm to mental health

WELLHUB, 2026

46%

of employees report feeling burnt out at work

[MICROSOFT WORK TREND INDEX](http://MICROSOFTWORKTRENDINDEX)

68%

of employees struggle with the pace and volume of work

[MICROSOFT WORK TREND INDEX](http://MICROSOFTWORKTRENDINDEX)

275

interruptions during a typical workday — one every 2 minutes

[MICROSOFT WORK TREND INDEX](http://MICROSOFTWORKTRENDINDEX)