Soraya Shaw

BrainShaw® – Applied Neuroscience Consultancy

NEUROLETTER EXTRA • BURNOUT & BRAIN CAPITAL • PART 1 OF 2

Burnout Is Not a Personal Failure

What prolonged overload and poor energy recovery can do to the brain

By Soraya Shaw MSc, Applied Organisational Neuroscientist and Founder of BrainShaw®

> **Burnout is not a failure of character. It is what can happen when prolonged demand repeatedly exceeds the brain and nervous system's capacity to mobilise, regulate and recover.**

If you are reading this while close to burnout, or while signed off from work, let me begin with the most important point: **you are not weak, lazy or failing.** Your system has been trying to meet sustained demand for too long without enough opportunity to restore the energy it has spent.

Burnout can be frightening precisely because it often happens to capable, responsible people who are accustomed to coping. Familiar tasks suddenly feel enormous. Concentration becomes unreliable. Decisions take longer. Sleep may be disrupted even when you are exhausted. You may feel tearful, irritable, numb, restless, ashamed - or several of these in the same day.

The World Health Organization describes burnout as an occupational phenomenon resulting from chronic workplace stress that has not been successfully managed. It is characterised by exhaustion, greater mental distance or cynicism towards work, and reduced professional efficacy. That description matters because it directs attention to the relationship between demands and resources - not simply to the individual's ability to cope.

What is happening in the brain and nervous system

1. The mobilisation system has been doing overtime

The stress response is not the enemy. The sympathetic nervous system and the hypothalamic-pituitary-adrenal (HPA) axis mobilise energy through signals that include adrenaline and cortisol. In the short term this can sharpen focus, raise heart rate and make fuel available for action. It is useful before a difficult meeting, deadline or emergency.

The problem is repetition without completion. When pressure, uncertainty, emotional labour and availability continue, the body keeps paying the biological cost of adaptation. Neuroscientists call the accumulated burden allostatic load: the wear and energetic cost created when systems repeatedly adjust to demand but are not given enough recovery.

2. Higher-order thinking becomes harder to access

The prefrontal cortex supports working memory, planning, inhibition, perspective and flexible decision-making. Under sustained, especially uncontrollable, stress, these functions can become less reliable while faster protective and habitual responses gain influence. That can look like forgetting words, rereading the same page, struggling to prioritise, making small mistakes or being unable to decide.

It may feel as if your intelligence has disappeared. It has not. Your access to it is being constrained by load, depleted energy and a system that is prioritising protection.

3. The brain keeps searching for the next demand

The salience network - including the anterior insula and anterior cingulate cortex - helps the brain decide what matters and where attention should go. Under prolonged overload, protective attention can keep being drawn towards what is unfinished, uncertain or consequential. Email, alerts, an open laptop and the thought 'I should just check' can keep work mentally present long after the working day has ended. The body may be at home while the brain is still forecasting, rehearsing and preparing. This is why time away is not always the same as recovery. The system needs credible signals that demand has paused.

4. Energy recovery has fallen behind energy expenditure

Burnout is more than tiredness and recovery is more than sleep, although sleep is vital. The sympathetic nervous system supports mobilisation; the parasympathetic nervous system supports restorative processes such as slowing the heart rate and digestion. The aim is not permanent calm but flexibility between effort and restoration. The brain restores capacity through repeated periods of psychological detachment, reduced vigilance, predictable routines, movement, nourishment, social safety, enjoyment and experiences of agency. If every pause is filled with work, worry, caring, scrolling or self-criticism, the energy account never properly replenishes.

> **Recovery is not a reward for finishing the work. It is part of the biological cost of doing it.**

Why guilt and failure can feel so convincing

Burnout often collides with identity. If you are the dependable one, the problem-solver or the person who normally carries a great deal, reduced capacity can feel like a moral failure rather than a biological warning. Guilt then creates additional load: the brain is not only trying to recover but also using energy to judge the fact that recovery is needed.

A more accurate sentence is: **'My system has reached its present limit. Listening to that limit is an act of protection, not defeat.'**

A personal note from Soraya

> *I write this not only as an Applied Organisational Neuroscientist, but as someone who has experienced burnout. It can happen to any of us. Burnout has not gender and it does not have one personality. One person may become tearful, another irritable, another withdrawn, and another may keep performing long after their internal resources are depleted. The expression differs; the need for recovery does not.*

Coming in Part Two

Naming what is happening to your brain is not the same as recovering from it. Part Two covers six practical steps to rebuild capacity, why recovery cannot be a solo project,

and what leaders should be watching for before someone reaches this point – landing in your inbox next week.

A brief health note

This Neuroletter is educational and is not a diagnosis or treatment plan. If you are already under medical care, follow that guidance. If you are struggling to cope or symptoms are not improving, speak to your GP or NHS 111. If you or someone else needs immediate help, call 999 or go to A&E.

Evidence notes and useful sources

Burnout research is still developing, and there is no single brain scan or biomarker that diagnoses it. The neuroscience above draws on established stress and allostasis research and studies of executive functioning and occupational burnout. Part Two closes with the recovery and workplace research behind the practical steps.

1. World Health Organization. Burn-out as an occupational phenomenon in ICD-11. WHO overview
2. McEwen, B. S., & Gianaros, P. J. (2010). Central role of the brain in stress and adaptation: links to socioeconomic status, health, and disease. PMC article
3. Arnsten, A. F. T. (2009). Stress signalling pathways that impair prefrontal cortex structure and function. Nature Reviews Neuroscience
4. Girotti, M., Bulin, S. E., & Carreno, F. R. (2024). Effects of chronic stress on cognitive function: from neurobiology to intervention. Neurobiology of Stress
5. Koutsimani, P. et al. (2021). Burnout and cognitive performance. PMC article

BrainShaw® | Preparing Human Intelligence for the Next Century