Anxiety, Burnout, and the (Artful) Work of Teaching

What students are carrying and how it shapes our classrooms

Mays Imad . . . mimad@conncoll.edu . . . Holistic Pursuit in Education (HOPE)

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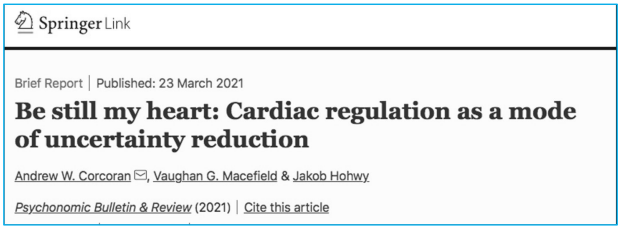
TO BEGIN · TURNING TOWARD THE HEART

On the wonders of the heart



Springer Link

Brief Report | Published: 23 March 2021

Be still my heart: Cardiac regulation as a mode of uncertainty reduction

Andrew W. Corcoran ✉, Vaughan G. Macefield & Jakob Hohwy

Psychonomic Bulletin & Review (2021) | Cite this article

Corcoran, Macefield & Hohwy (2021). Psychonomic Bulletin & Review.

> *We normally think of the heart pumping blood while the brain takes care of perception. [T]he heart and the brain collaborate to better understand the world.* ***When the brain is uncertain, the heart helps out by quieting down.***

2

OPENING ACTIVITY · WHAT'S ON YOUR HEART?

Turn toward your heart

1 **Draw a heart**

Animate and decorate it.

2 **Pause. Listen inward**

What is on your heart, right now?

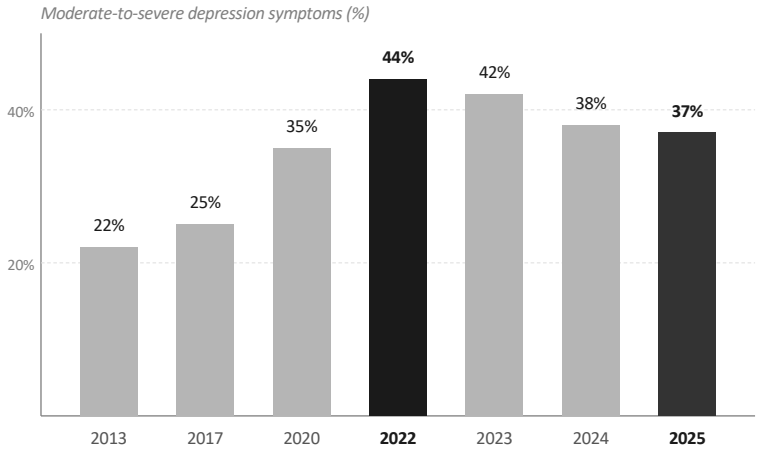
3 **Turn to a neighbor**

Share what's there (literal or metaphorical), as much or as little as feels right.

3

THE LONGER VIEW · 2013–2025

Improving … still high above pre-pandemic levels



Healthy Minds Study, 2013–2025. Depression = moderate-to-severe symptoms on PHQ-9.

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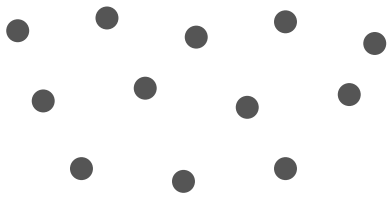
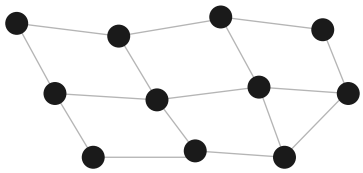
ALONGSIDE ANXIETY · A SECOND CRISIS

Loneliness is the other story

ISOLATED



CONNECTED



52%

of college students report high levels of loneliness.

The Surgeon General has named loneliness a public health epidemic.

→ *Its mortality impact is comparable to smoking 15 cigarettes a day.*

Healthy Minds Study 2024–25 (loneliness, UCLA scale) · U.S. Surgeon General's Advisory on Loneliness, 2023.

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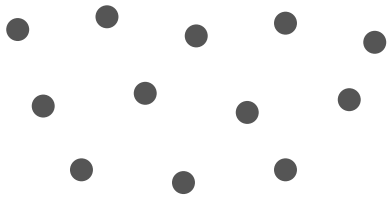
Social pain is biological pain

ISOLATED



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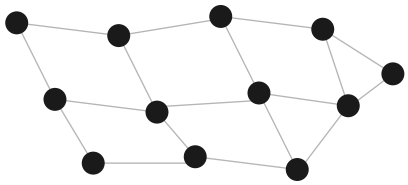

Loneliness changes our body…

- Activates the same neural alarm circuitry as physical pain;
- Elevates baseline cortisol; narrows attention and threat detection;
- Suppresses immune and prefrontal function over time;
- Reduces willingness to take intellectual or social risk;
- → ***belonging and mattering are reparative. Connection literally re-tunes our system.***

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WHERE STUDENTS ARE · 2024–2025

Students, by the numbers

37%

report moderate-to-severe depression symptoms

measured by PHQ-9

32%

report moderate-to-severe anxiety symptoms

measured by GAD-7

52%

report high levels of loneliness

measured by UCLA

11%

seriously considered suicide in the past year

measured by HMS

Healthy Minds Study, 2024–2025 · N = 84,000+ students across 135 institutions.

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The state of students: anxiety, loneliness, and learning

37% moderate to severe depressive symptoms

32% moderate to severe anxiety

1 in 4 felt isolated from others

11% reported suicidal ideation

CONDITIONS	LEARNING EFFECTS	CLASSROOM EXPRESSIONS
anxiety	attention fragmentation	silence
loneliness	reduced working memory	disengagement
overwhelm	threat monitoring	missed work
uncertainty	motivation dips	perfectionism
		withdrawal

What else might be happening?

WHAT WE SEE IN OUR CLASSES MAY BE THE SURFACE OF A DEEPER STORY

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BEYOND ANXIETY AND DEPRESSION

Many of our students are burned out

DEPRESSION	BURNOUT
A mood disorder. Pervasive sadness, hopelessness, and loss of interest across all of life.	*A response to chronic, unrelenting demand. Symptoms appear in the domain of the demand within school, work, caregiving.*
▪ clinical diagnosis ▪ biochemical & psychological ▪ treatable with care	▪ situational, not clinical ▪ contextual & structural ▪ responds to changing conditions

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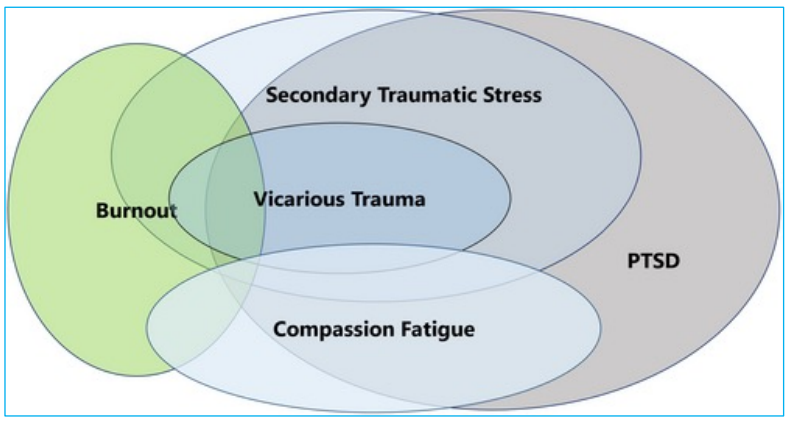
BURNOUT vs TRAUMA

Burnout can co-occur with other conditions



Systematic Review of Trauma & Burnout https://doi.org/10.1111/jpm.13082

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BURNOUT · THREE DIMENSIONS

Burnout has a structure

1 → **2** → **3**

EXHAUSTION

depleted

Physical and emotional depletion. "I have nothing left to give." The most visible dimension and the easiest to mistake for the whole.

CYNICISM

detached

Distance, irritability, loss of meaning. "Why bother?" A protective response that hardens over time into disengagement.

INEFFICACY

diminished

Sense of incompetence, of not making a difference. "Nothing I do matters." Often the last to arrive and the slowest to leave.

Maslach, C. & Leiter, M. P. — Maslach Burnout Inventory. World Psychiatry, 2016.

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BURNOUT IS NOT ONE THING · THREE SUBTYPES

Frenetic, under-challenged, worn-out

FRENETIC

overloaded · over-involved

> ***I can't stop working.***

Active coping with too much. High ambition, racing engine, eventual collapse.

UNDER-CHALLENGED

indifferent · adrift

> ***This work is mind-numbing.***

Evasive coping with too little. Boredom, lack of growth, mounting detachment.

WORN-OUT

depleted · giving up

> ***Working harder won't change anything.***

Passive coping after long unrecognized effort. Surrender, neglect, exit.

Dedication falls dramatically from frenetic to worn-out

Montero-Marín & García-Campayo (2010), BMC Public Health · building on Farber (1990).

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BURNOUT · WHY IT HAPPENS

Six places work and person fall out of alignment

WORKLOAD

Demands chronically exceed capacity.

CONTROL

Little say over pace, methods, or priorities.

REWARD

Effort isn't recognized, paid, or meaningful.

COMMUNITY

Isolation, conflict, or absent support.

FAIRNESS

Decisions feel inequitable or unjust.

VALUES

What's required clashes with what one believes.

Maslach & Leiter — six areas of work-life mismatch.

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PAUSE · REFLECT · SHARE

What do you think is driving this?

In your experience, what is fueling the mental-health decline and burnout you see in your students?

Turn to a neighbor. **Five minutes each.** **Share your highlights.**

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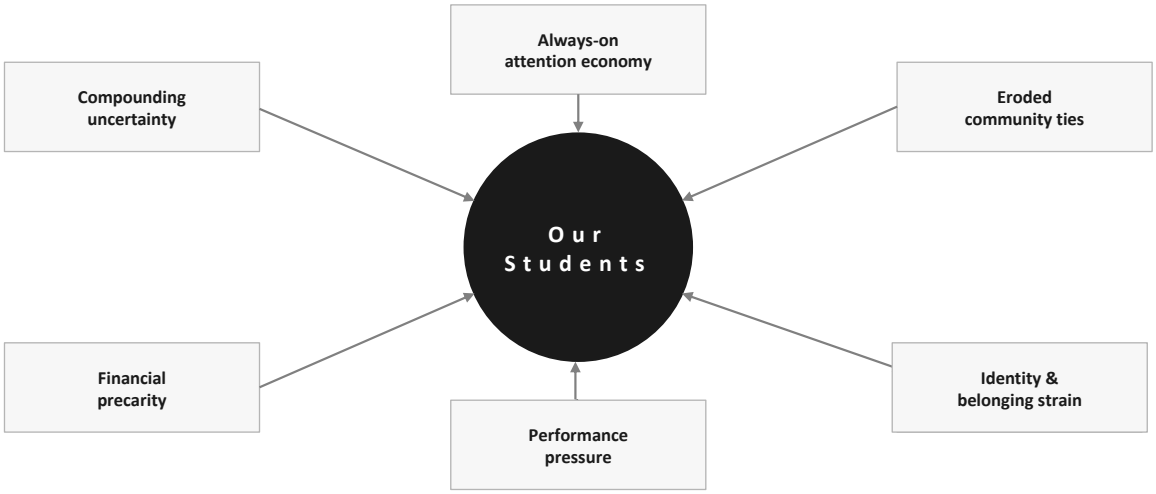
ONE WORKING HYPOTHESIS

Many forces, converging at once



Synthesis: APA, Surgeon General, Healthy Minds Network, and qualitative research with students.

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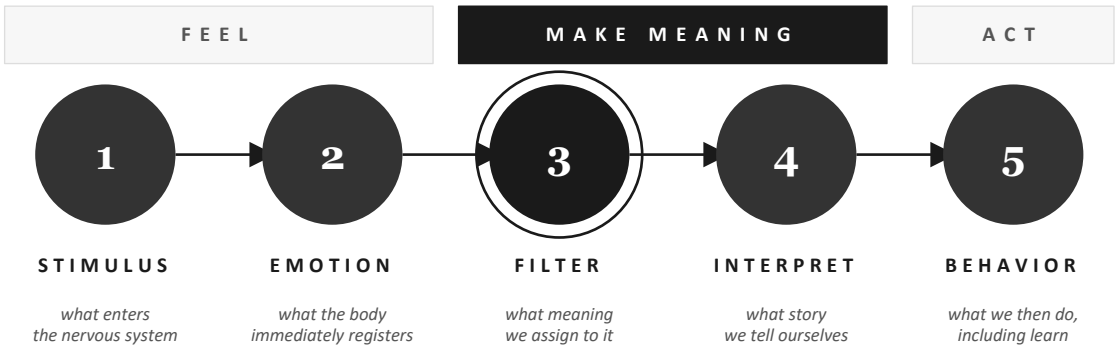
BEFORE A STUDENT CAN LEARN

We feel, then we make meaning, then we act



Engagement and learning are downstream of meaning

If we want students to act … to participate, to risk, to learn → we have to help them feel safe first, and make meaning second

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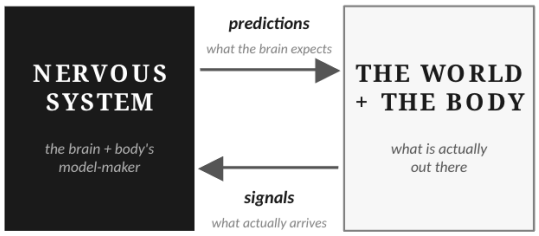
OUR NERVOUS SYSTEM AT WORK

A meaning-making prediction engine



Our embodied nervous system functions as a meaning-making prediction engine.

ACTIVELY SAMPLING
the world outside — and the body within.

MINIMIZING SURPRISE
by adjusting predictions to fit what is sensed.

REGULATING
safety and social connection at every moment.

Predictive-processing frameworks: Friston, Barrett, Hohwy.

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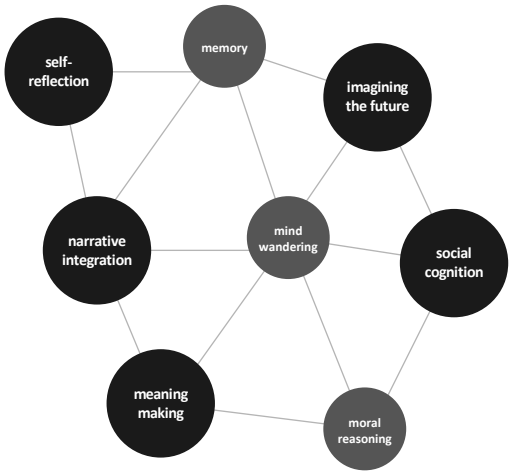
THE WANDERING MIND IS WORKING

The Default Mode Network



Wandering & Meaning-making

- The DMN activates when the brain is "at rest" like daydreaming, walking, in the shower.
- It is where the brain weaves disparate experiences into a coherent self and story.
- Anxiety hijacks it into rumination; meaningful learning recruits it productively.

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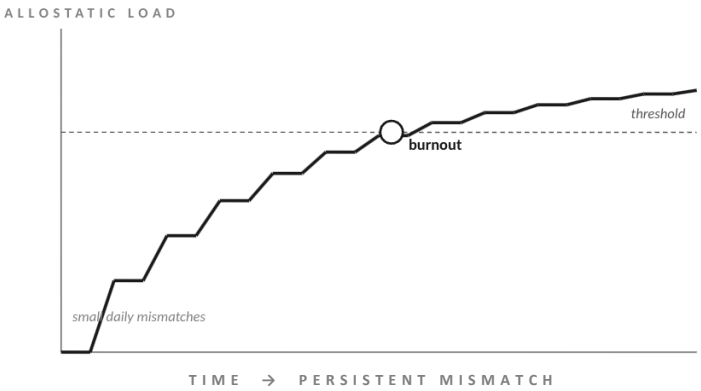
WHEN PREDICTION AND REALITY DIVERGE

Wear-and-tear becomes burnout



The cost of regulating!

Under persistent mismatch between predictions and reality, the work of regulating (*minimizing surprise, securing safety, maintaining connection)* accumulates as **allostatic load: wear and tear.**

The nervous system shifts into burnout → conserving energy through withdrawal & blunted engagement

McEwen — allostatic load. Friston/Hohwy — predictive processing and burnout.

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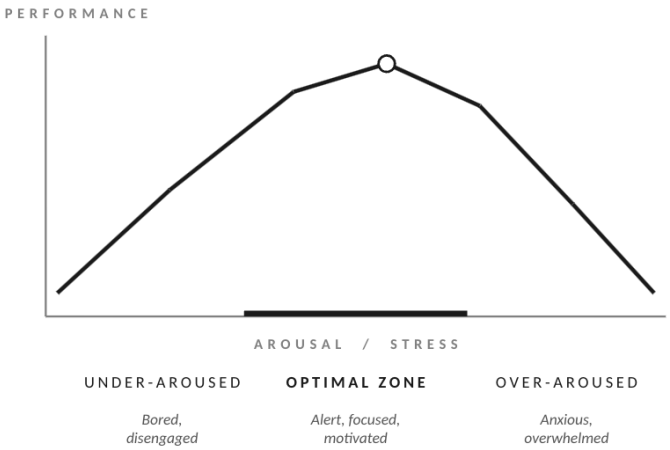
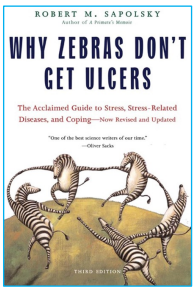
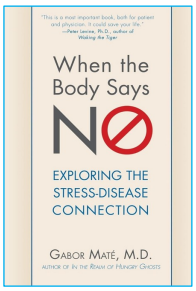
THE YERKES-DODSON CURVE

Not all stress is bad







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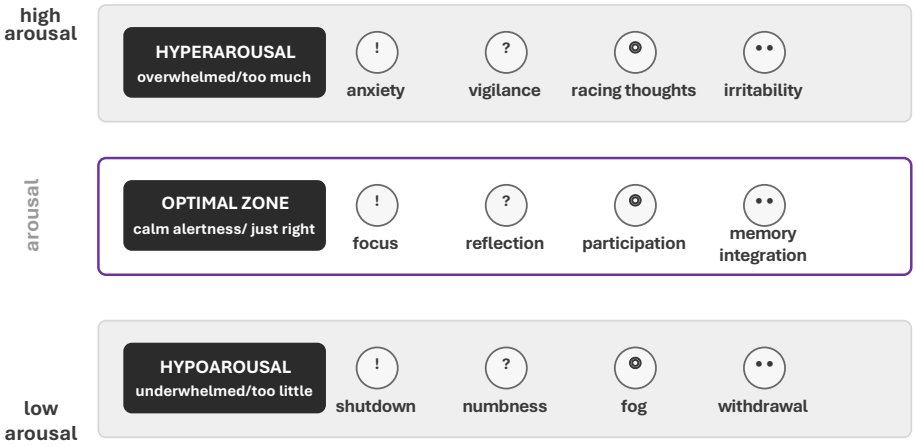
Stress, arousal, and learning



IN THE CLASSROOM THIS SUPPORTS

- attention
- working memory
- motivation
- participation

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TO BEGIN · SITTING WITH TWO IDEAS

ethical & relevant educator

. . .

meaningful learning

. . .

in an age of anxiety

What do these words mean to you today?

Sit with the phrase. Notice what rises. We will write briefly, then share with one other person.

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THE TRAP WE ARE IN

More demands. Less capacity. Another list.

DEMANDS ON FACULTY

- more student mental-health needs
- more pedagogical innovation
- more belonging work
- more compliance and assessment
- more advising and crisis response
- more 'just one more thing'

OUR CAPACITY = depleted

"Here are five new things to try."

Every well-meaning workshop adds to the list.

Every new strategy assumes capacity that isn't there.

Faculty are asked to be the patch on a system that is itself producing the wound.

WHY QUICK FIXES CANNOT REACH THIS

The crisis is not at the level a quick fix operates

QUICK FIXES OPERATE AT	THE PROBLEM LIVES AT
behavior · what to do Tuesday	orientation · how we show up
syllabus language · policy text	relationship · trust over time
individual strategies · tactics	nervous system · regulation
the symptom	*the conditions*
fast, visible, addable	*slow, structural, emergent*

Adding more tactics to a depleted system doesn't reach the problem. It just adds load.

BUT WHAT … THERE IS MORE

Asking the right questions … the wrong wound

What current approaches reach	What they structurally cannot reach
individual stress and fatigue	Conscience/values under compromise
workload management	policies that produce harm
coping skills and self-care	accumulated moral residue
access to clinical support	truth we cannot speak
psychological safety language	injury to identity and meaning

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BUT WHAT … THERE IS MORE

Three conditions with distinct repairs

Burnout *occupational*	Mental health *clinical*	Moral injury *relational / structural*
What it is Occupational exhaustion	*What it is* Clinical syndrome (varies by type)	*What it is* Wound to identity and conscience
Caused by Chronic workload and depletion	*Caused by* Biology, psychology, life events	*Caused by* Betrayal, complicity, witnessed harm
What it needs Rest • Reduced load • Restored meaning	*What it needs* Therapy • Medication • Clinical care	*What it needs* Truth-telling • Accountability • Repair

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Descent: the sequence, and what intercepts it

Fragmentation → **Distress** → **Residue** → **Injury**

the moral map breaks | *knowing and unable* | *the lingering stain* | *wound to identity*

Cognitive disengagement

euphemism, diffusion, victim-blaming, moral licensing → we might reframe the harm as legitimate

Somatic dissociation

shutdown, hyperarousal, numbness, autopilot → our body protects itself from what it cannot metabolize

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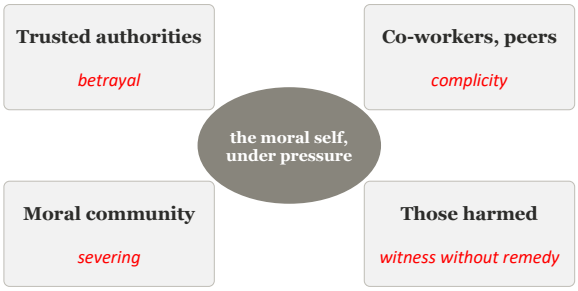
Moral injury is relational injury

It is constituted in relationship — and can only be repaired there



Individual coping cannot repair an injury that was never only individual

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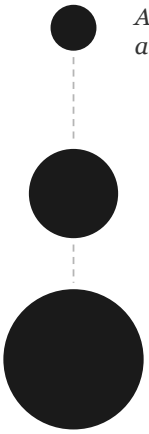
A DIFFERENT KIND OF MOVE

Change emerges



A small thing attended to

It takes root. It finds others.

The room feels different.

Strategy as (re) orientation

- Small is good. Small is all.
- Move at the speed of trust.
- Less prep, more presence.
- What you pay attention to grows.

adrienne maree brown, Emergent Strategy (AK Press, 2017).

BEFORE WE TURN TO HER WORK

The small thing IS our work

How we are at the small scale
is how we are at the large scale.

adrienne maree brown

PERSPECTIVE

The plasticity of well-being: A training-based framework for the cultivation of human flourishing

Cortland J. Dahl[a,1], Christine D. Wilson-Mendenhall[a], and Richard J. Davidson[a,b,c,d,1]

Edited by Michael I. Posner, University of Oregon, Eugene, OR, and approved October 29, 2020 (received for review August 19, 2020)

Research indicates that core dimensions of psychological well-being can be cultivated through intentional mental training. Despite growing research in this area and an increasing number of interventions designed to improve psychological well-being, the field lacks a unifying framework that clarifies the dimensions of human flourishing that can be cultivated. Here, we integrate evidence from well-being research, cognitive and affective neuroscience, and clinical psychology to highlight four core dimensions of well-being—awareness, connection, insight, and purpose. We discuss the importance of each dimension for psychological well-being, identify mechanisms that underlie their cultivation, and present evidence of their neural and psychological plasticity. This synthesis highlights key insights, as well as important gaps, in the scientific understanding of well-being and how it may be cultivated, thus highlighting future research directions.

well-being | meta-awareness | mindfulness | insight | purpose

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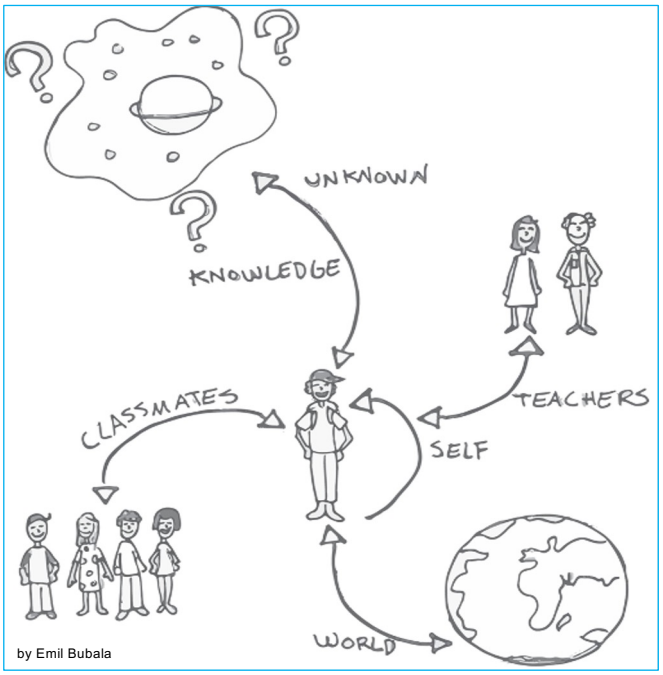

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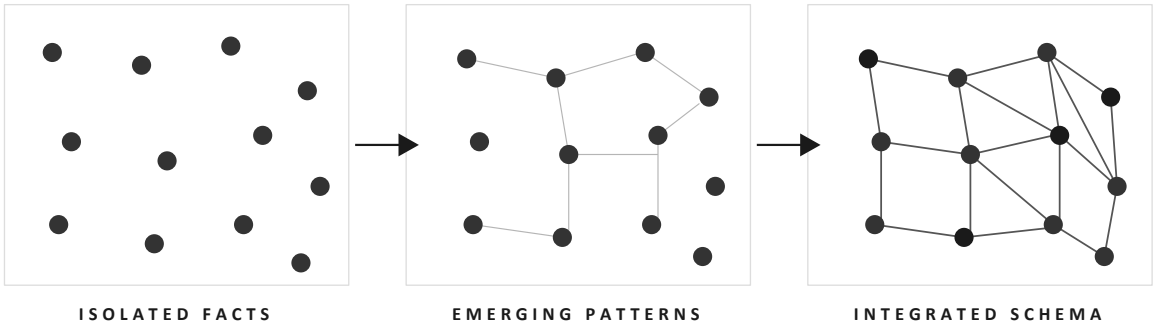
HOW LEARNING HAPPENS

Our brain weaves meaning



Learning is our brain's continual effort to weave meaning → through relationships to find relevance, pattern, and coherence.

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Relationships spark understanding because …

… they give knowledge somewhere to go:

- into memory,
- into identity,
- into community,
- and, into action.

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We learn and our learning sticks ...

... when we can answer four questions:

1. Why does this matter?
2. How does it connect to what I know?
3. Can I return to it enough for it to settle?
4. Do I have the emotional and cognitive room to learn it?

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To cultivate connections for student learning is to design for meaning

Teaching for meaning is not about making every lesson personally customized. It is about designing learning so our students can form relationships with knowledge.

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THE Teaching PROFESSOR

Teaching for Meaning: How Neuroscience Informs Connected, Relevant, and Coherent Learning

Mays Imad • August 25, 2025

Years ago, the community college I was teaching at awarded me a small grant to help students understand and practice emotional regulation. I launched a series of short, informal learning sessions called "Hello, Brain." Each week, students dropped in to spend 20 relaxed minutes learning about their brain and nervous system. We explored how classroom experiences translate into learning at the cellular level and vice versa. We discussed what facilitates learning and what can inhibit it. Students frequently expressed feeling validated by understanding the science behind their experiences. My goal was always to empower them with the basic biology of learning, enabling them to be more self-aware and reflective learners who were better equipped to regulate their own learning journeys.

One afternoon, a student waited until the end of the session and almost apologetically shared that they were struggling with their history class, specifically citing difficulties connecting to the French

THE Teaching PROFESSOR

Teaching for Replay, State, and Sustainability: Making Learning Stick, Settle, and Endure

Mays Imad • September 22, 2025

Throughout my career, I have been deeply curious about learning: what it means, how it happens, and what facilitates or hinders it. My own trajectory, from philosophy to neuroscience and ultimately education, reflects this continuous exploration. Philosophy provided the tools for asking foundational questions about knowledge and meaning making. Later, neuroscience offered me empirical ways to explore how the brain physically achieves this remarkable feat. I started becoming interested in translational neuroscience, a field that helps bridge the gap between theoretical insights from the lab and practical applications in everyday life. The goal of translational neuroscience is to shine light on the importance of bringing scientific understanding into accessible formats. Today, I continue to turn to neuroscience because I believe its discoveries can help shape education and broader societal practices beyond the confines of labs, petri dishes, and computer models. In other words, making neuroscience accessible and comprehensible to everyone is crucial; doing so democratizes

THE Teaching PROFESSOR

Aha Moments and the Art of Cultivating Insightful Thinking

Mays Imad • December 15, 2025

In my classes, there is a reaction from my students that I have learned to wait for. It isn't flashy. No hand shoots into the air. No triumphant "I got it!" echoes across the room. It's much simpler and nuanced and yet more precise: a small, involuntary smile tugging at the corner of their mouth, followed by a subtle nod. Their eyes lift, not to me but to some middle distance, as if the student is watching their own mind reroute itself. It lasts a second, maybe two. If you've ever suddenly realized you're in love on an ordinary day while doing an ordinary thing, you know the feeling: The world is unchanged and yet newly lit from within. That quiet glow is the signature of an insight, the moment a problem rearranges itself and becomes suddenly, mercifully obvious.

As a teacher and a neuroscientist, I've come to relish those seconds. They carry my students, yes, but they also carry me. They remind me why I teach and why I study the nervous system in the first place: because minds are living, plastic, relational systems that don't just store facts but reconfigure reality.

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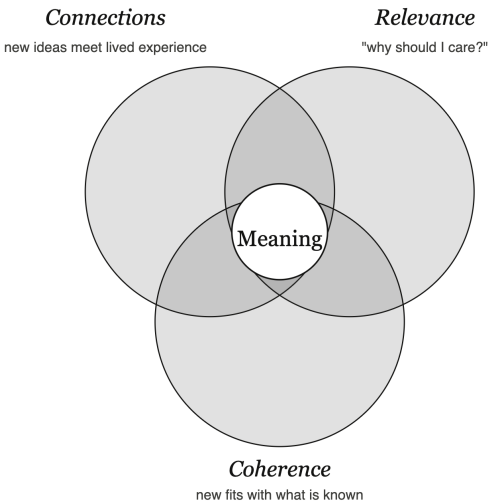
Three pillars of meaning-making



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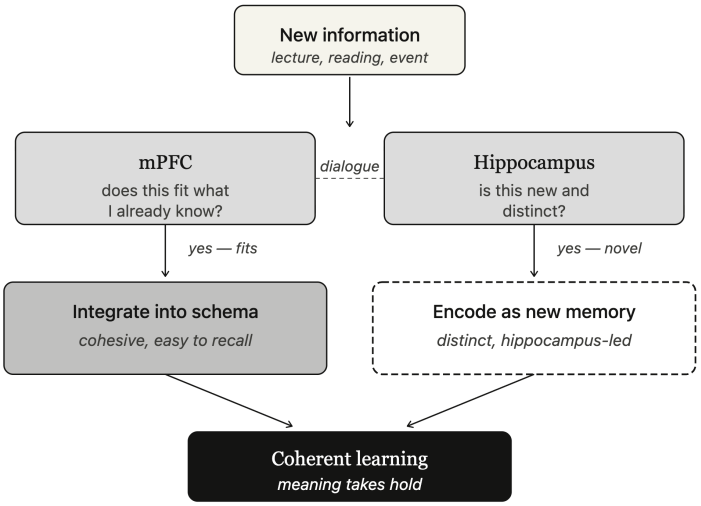
How the brain decides?



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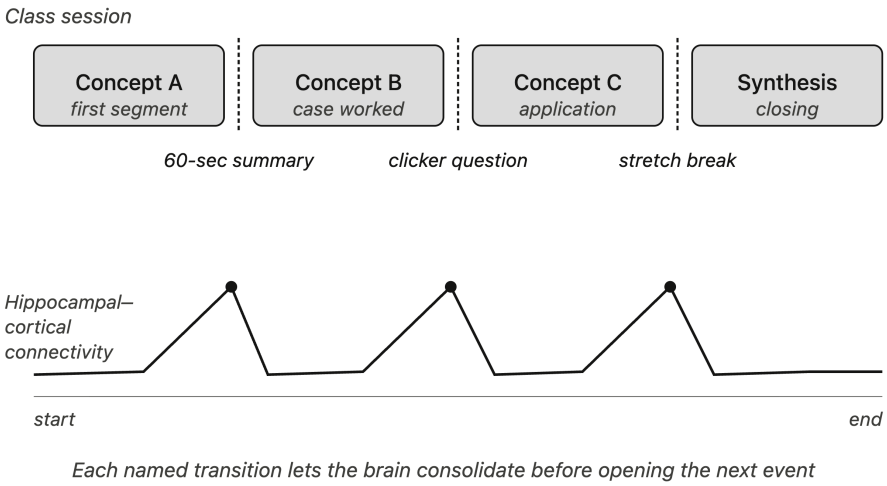
Event boundaries in my physiology class



Each named transition lets the brain consolidate before opening the next event

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Integrate → Remember

Memorized in isolation
easy to forget

Glomerulus
Aldosterone
Loop of Henle
Sodium
Distal tubule
Blood pressure
Reabsorption

Integrated in a model
easy to apply

Aldosterone rises
↓
Sodium reabsorbed
↓
Water follows
↓
Blood pressure rises

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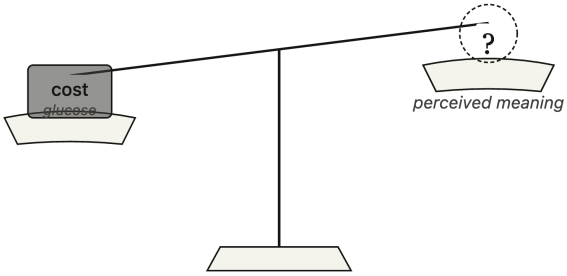
Our energy-conserving brain

"Why should I invest precious glucose in this material?"
— the brain, pragmatically



The brain is a predictive, meaning-making, energy-conserving organ

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Siegel and Drulis *Annals of General Psychiatry* (2023) 22:5
https://doi.org/10.1186/s12991-023-00434-5

Annals of General Psychiatry

RESEARCH Open Access

An interpersonal neurobiology perspective on the mind and mental health: personal, public, and planetary well-being

Daniel J. Siegel and Chloe Drulis*

Abstract

This article outlines an Interpersonal Neurobiology (IPNB) perspective on the fundamental components that comprise mental health and promote well-being. The central aim of this paper is to answer essential but often overlooked questions related to the field of mental health, such as: What is the mind? What is the basis of well-being? What is the self and how does it develop? We will offer scientific support for the IPNB position that the mind is relational and embodied and that integration is the basis of mental health. It will also describe how the self extends beyond the individual, arising from and inextricably connected to the social, cultural and planetary systems in which we exist. IPNB is not a form of therapy; rather, it is a framework that focuses on deepening our understanding of the mind and human development across the lifespan. Drawing from interdisciplinary principles from a range of fields including physics, mathematics, neuroscience, and psychology, we will provide a practical view of the underlying basis of mental suffering and the scientific mechanisms of change to improve mental well-being. These core principles are building blocks of clinical evaluation and treatment that can be applied across multiple theoretical orientations and client populations. The special emphasis in this article is on the issue of psychache as an underlying cause of suicide and its relationship to personal, public and planetary health.

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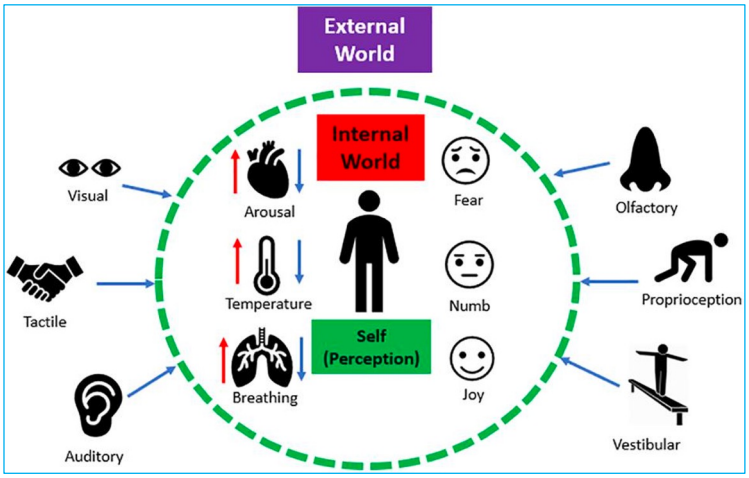
BEFORE A STUDENT CAN LEARN

Our external and internal sensations interact



Processing Sensory Information https://doi.10.3389/fnins.2021.625490

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WHY ATTENTION AND MEMORY SUFFER

Distress narrows what learning is even possible

1	2	3	4	5
Chronic stress	**Amygdala bias**	**Working memory shrinks**	**Engagement drops**	**Learning impaired**
elevated baseline	*threat takes priority*	*less room to hold ideas*	*less risk-taking, less participation*	*fewer schemas form, less retention*

The student isn't choosing to disengage. Their nervous system is choosing for them.

Synthesis: Maslach & Leiter; Healthy Minds Network; cognitive load and stress research.

THE THREAT CASCADE

When a student feels unsafe

1	2	3	4	5
Perceived Threat	**Amygdala Activation**	**HPA-Axis Response**	**Body Mobilizes**	**Cortex Goes Quiet**
Cold call. Pop quiz. Criticism.	*Threat tagged in ~80 ms*	*Cortisol, adrenaline release*	*Heart rate up. Blood to limbs.*	*Working memory, reasoning shrink.*

The student's nervous system is doing exactly what it evolved to do.

→ safety is precondition for higher-order thinking.