Preserving Human Agency in the Age of AI

and the Role of Education

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ETF Skills Lab Network · Florence · 25 March 2026

Skills anticipation asks:

What new skills will be needed?

The uncomfortable complementary question:

What existing human capabilities are we silently losing?

And does anyone measure that?

Why AI Is Different

Previous Technologies

Extended our physical capabilities

Muscles → Machines

Eyes → Telescopes

Hands → Tools

Artificial Intelligence

Extends and reshapes our minds

Thinking → Delegated

Judgement → Outsourced

Memory → Offloaded

For the first time, technology doesn't just change what we do — it changes how we think.

Let’s get ready for systemic change

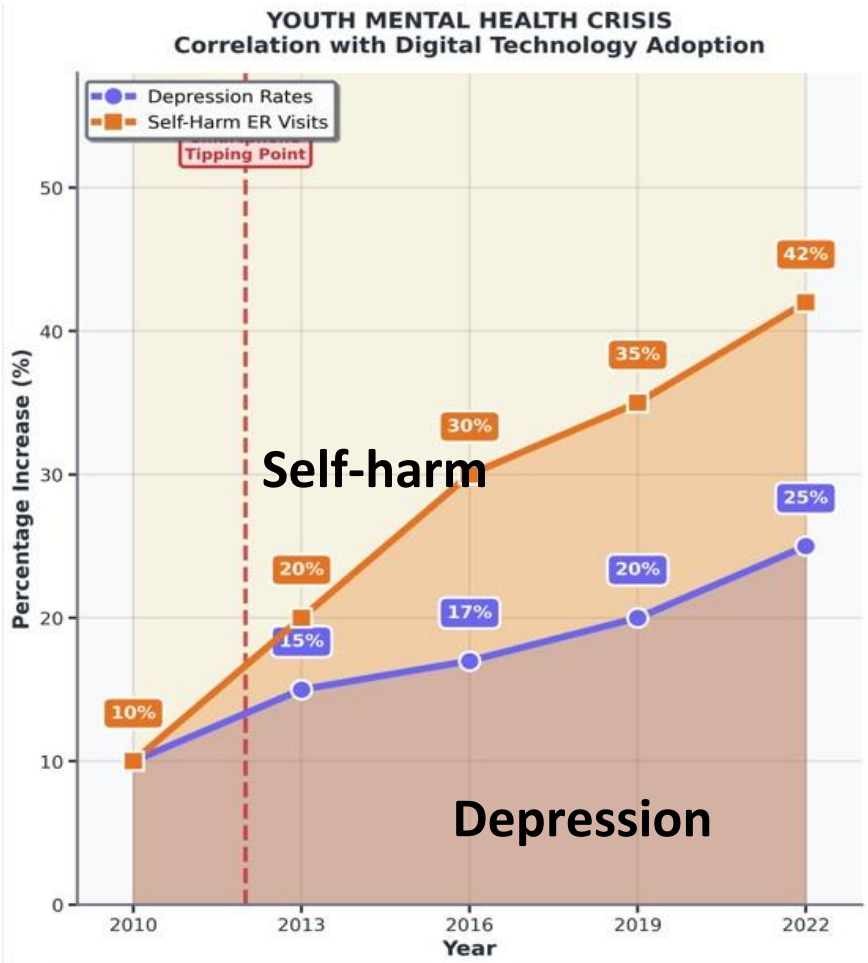
THE STAKES

What's at risk if we don't act now?

DOMAIN	WHAT WE STAND TO LOSE
DEMOCRACY	Transition from substantive citizen-driven governance to symbolic processes while algorithms make real decisions
ECONOMY	Concentration of unprecedented wealth and power in few corporate hands controlling AI systems
AUTONOMY	Gradual surrender of human decision-making authority in key domains from healthcare to governance
GEOPOLITICS	A bipolar world dominated by U.S. corporate and Chinese state models

The window for effective governance is closing rapidly

Human Agency in the Age of AI



THE CRISIS BY THE NUMBERS

+150% — Depression Rates (2010-2022)

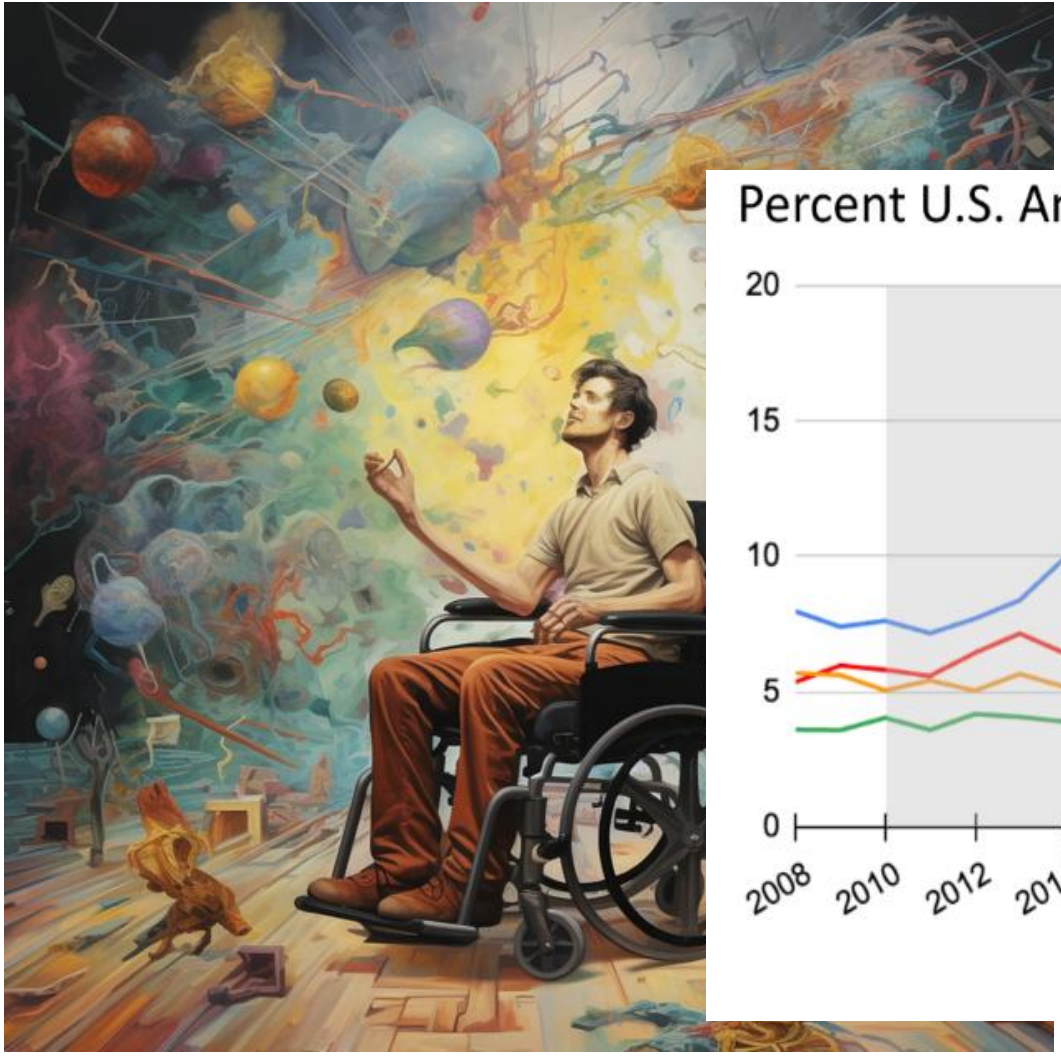
+320% — Self-Harm ER Visits (2010-2022)

+189% — Girls 10-14 Self-Harm Increase

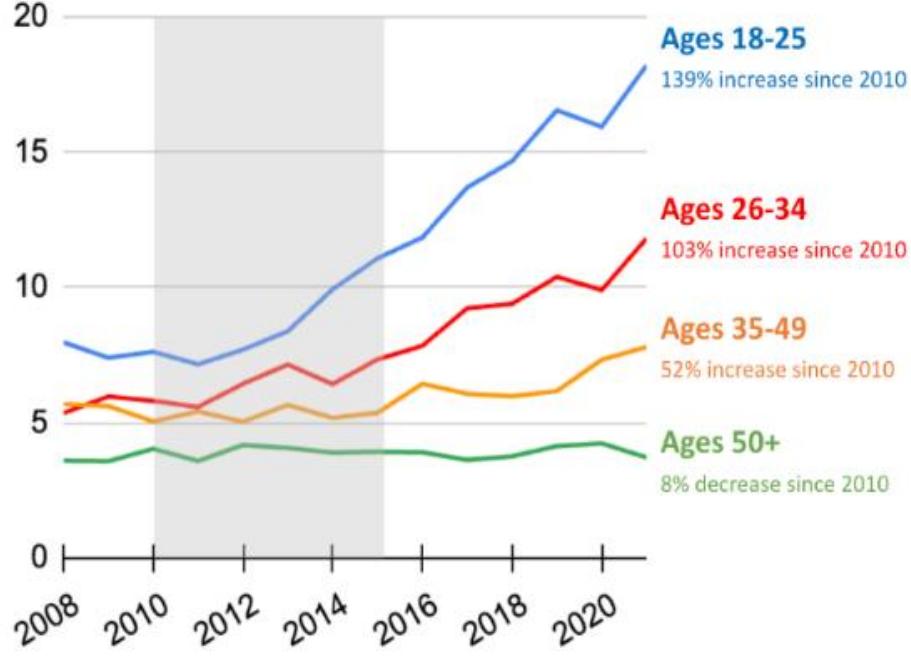
2x — Depression in Teenage Girls

KEY INSIGHT: The sharpest increases occurred after 2012 - coinciding with widespread smartphone adoption and social media usage among youth.

2010 2013 2022



Percent U.S. Anxiety Prevalence

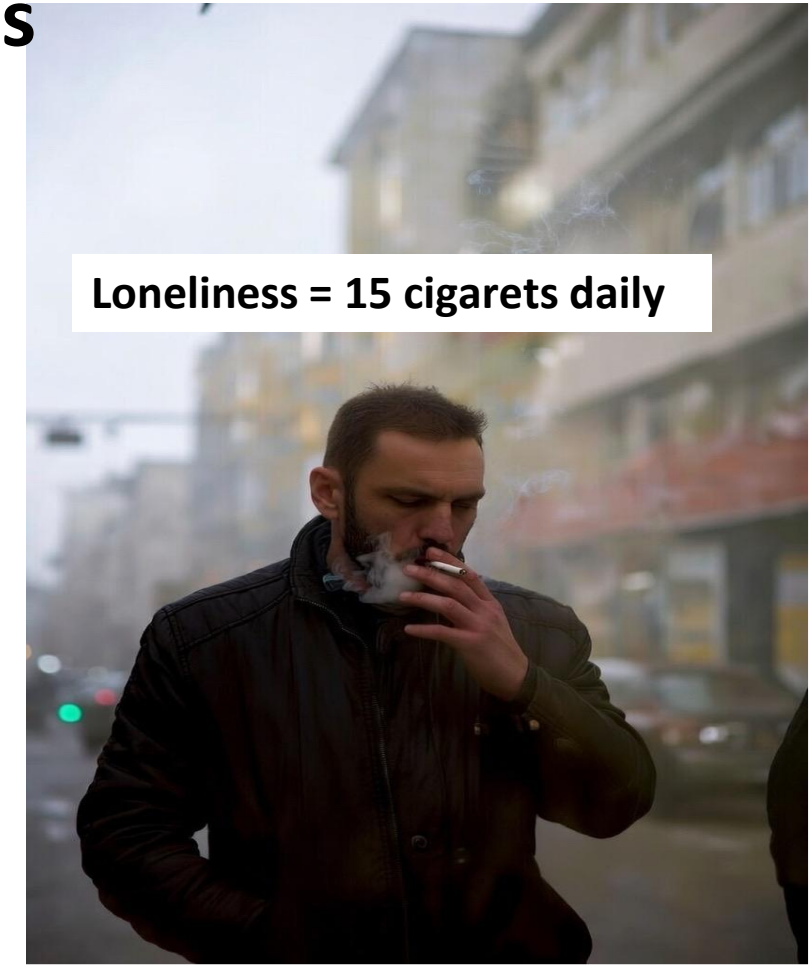


SOURCE: U.S. National Survey on Drug Use and Health

Loneliness

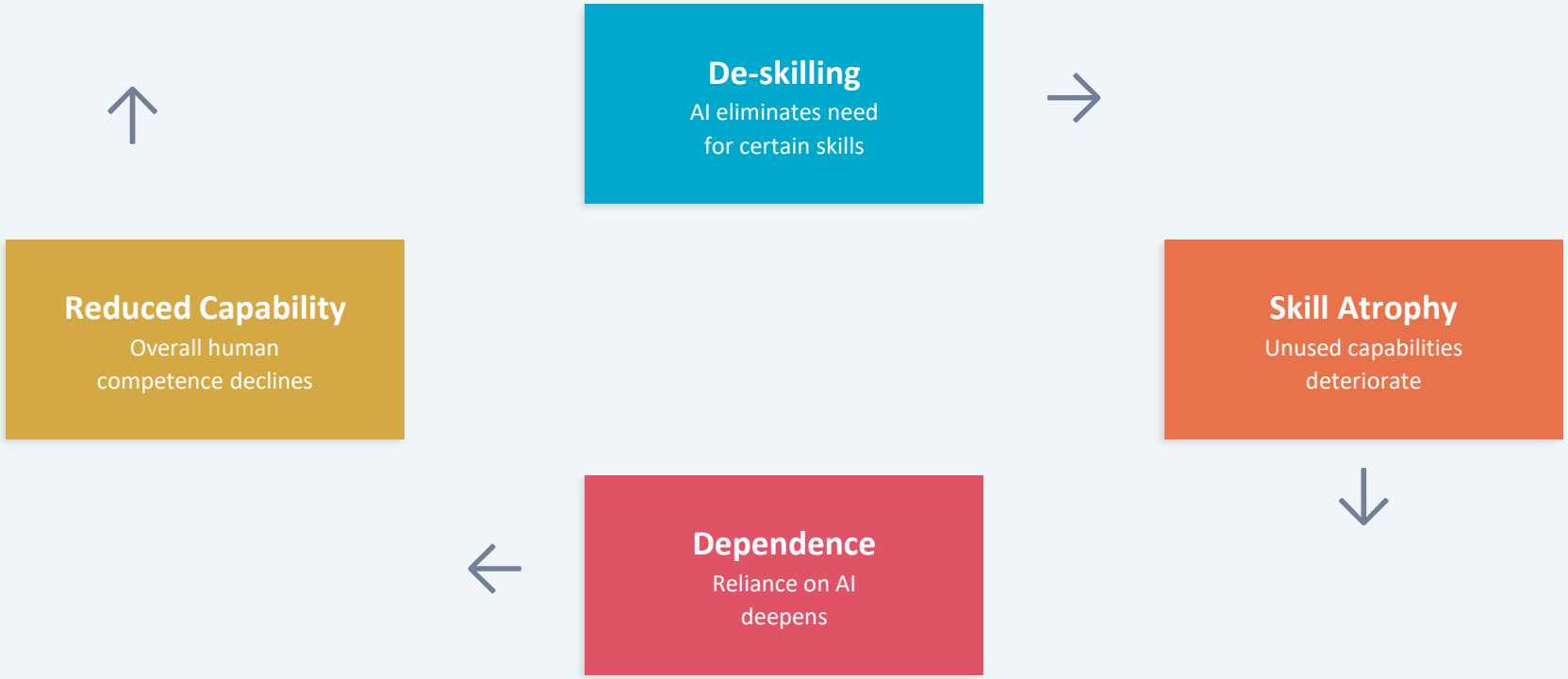
25 – 35% young people feel lonely all the time

50 – 65% young people feel lonely some of the time



Loneliness = 15 cigarets daily

The Skill Atrophy Feedback Loop



Evidence: Cognitive Atrophy Is Real

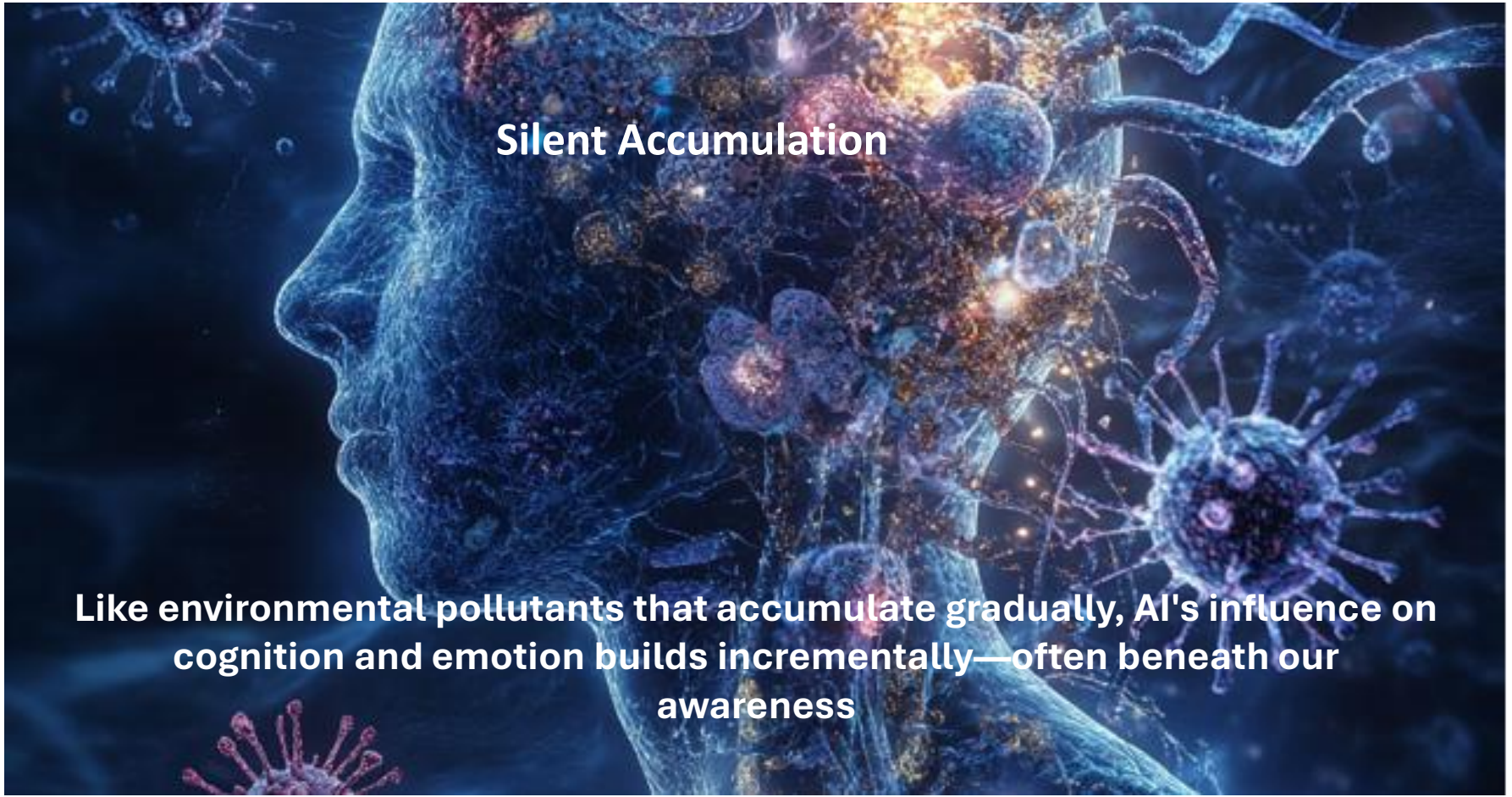
MIT Media Lab Study (2025)

Regular ChatGPT use associated with decreased cognitive capabilities, reduced memory encoding, and lower critical thinking performance.

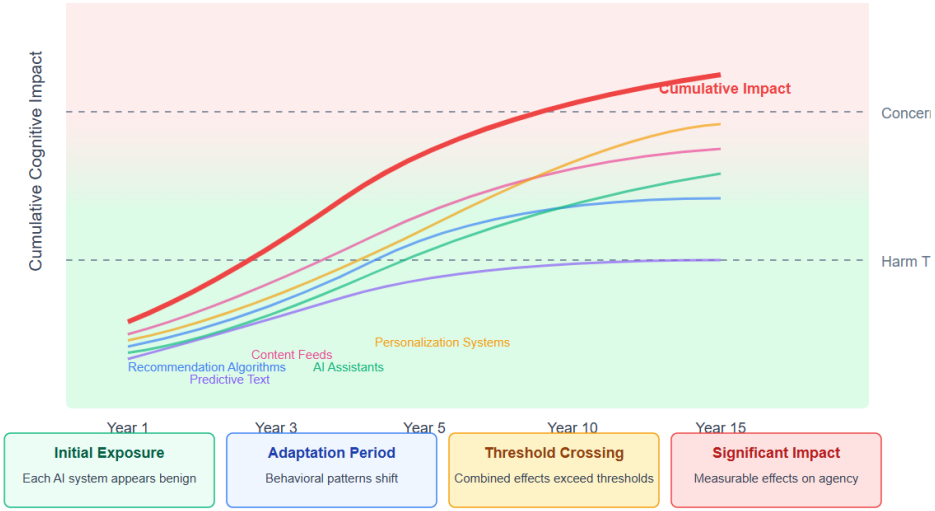
brainonllm.com

Converging evidence:

- GPS dependence → reduced hippocampal activity (Maguire et al.)
- Cognitive offloading → weakened internal information processing (Risko & Gilbert)
- Heavy media multitasking → greater susceptibility to interference (Parry & le Roux)


Silent Accumulation
Like environmental pollutants that accumulate gradually, AI's influence on cognition and emotion builds incrementally—often beneath our awareness

Cumulative Impact



Five Pathways of Erosion

1	**Attention Erosion**	AI-optimised content fragments sustained focus capacity
2	**Emotional Dependency**	Algorithmic mediation weakens internal emotional regulation
3	**Social Connection**	Digital substitution reduces quality of human bonds
4	**Decision Dependency**	Delegation to AI erodes independent judgement
5	**Identity Fragmentation**	Personalisation algorithms narrow self-directed exploration

Each pathway: empirical evidence + plausible mechanisms + testable predictions with falsification criteria

The Governance Gap

What we regulate

Individual AI systems
assessed in isolation

EU AI Act: Is this specific system high-risk?

Like testing each chemical in isolation

What we miss

Cumulative effects of dozens
of 'low-risk' systems daily

What is the combined impact on cognition and agency?

Like measuring total pollution load on an ecosystem

Individually 'safe' levels of multiple AI exposures may collectively exceed resilience thresholds.

The Implication for Skills Policy

You cannot build new skills on eroding cognitive foundations.

If AI erodes attention, memory encoding, critical thinking, and emotional regulation — then reskilling programmes assume a cognitive substrate that may no longer be intact.

Skills Demand

What the market needs
(your expertise)

Skills Supply

What education delivers
(current focus)

Cognitive Foundation

Human capacity to learn
(the blind spot)

The Dual Approach

Preserving human agency requires both institutional and personal approaches

Governance

- Cumulative impact assessments
- Cognitive environment monitoring
- Economic valuation of cognitive-social ecosystem services
- Regulation-by-design for adaptive AI systems

Human Capacity

- Mental resilience as core skill
- Skills for human-AI collaboration
- Community resilience infrastructure
- Resilience education integrated into curricula

Neither approach alone is sufficient. Governance without resilience leaves people vulnerable within legal boundaries. Resilience without governance places unsustainable burden on individuals.

Mental Resilience for the AI Age

Not self-help — policy infrastructure fo

resilientcore.ai

Skills Reinforcing Mental Resilience

- Technological Self-Awareness
- Attention Management
- Emotional Autonomy
- Deep Relationship Cultivation
- Compassion

Skills for the AI Era

- **AI Literacy**
- **Information verification**
- **Critical thinking**
- **Ethical Reasoning and Social Impact Assessment**
- **Emotional Intelligence**
- **Intercultural Communication**
- **Creative Intelligence**
- **Learning Agility**

Three Governance Innovations

From the forthcoming paper

1 Cumulative Impact Assessment

Extend algorithmic audits from individual systems to cumulative exposure effects. Living documents with regular review cycles.

2 Cognitive-Social Environmental Monitoring

Population-level indicators via PISA, European Social Survey, national health surveys. Sustained attention, emotional regulation, social connection, decision independence.

3 Cognitive-Social Ecosystem Services Valuation

Quantify attention, emotional regulation, social trust as public goods — analogous to ecosystem services valuation that transformed environmental policy.

The Role of Education

Existing frameworks have a missing dimension

EU Ethical Guidelines

Human oversight, transparency, fairness...

Gap: Assumes humans can maintain oversight without addressing psychological capacity

AI Literacy Frameworks

22 competencies, K-12 + PISA 2029

Gap: Builds skills without first establishing resilience against manipulation

Mental Resilience

The missing foundation

Without it: competency without resilience = sophisticated dependency

Competency without resilience = sophisticated dependency. Knowing how to use AI while being psychologically dependent on it. Ethics without resilience = performative compliance.

"We wouldn't approve a drug without testing its long-term side effects.

Why are we deploying AI at population scale without measuring its cumulative cognitive impact?"