ST.GALLEN SYMPOSIUM

Global Essay Competition 2026

Title: A Healthy Brain as a Human Right: Combatting Engagement-Maximising Design and Rebuilding Human Connection

Essay:

1. Introduction

The most valuable resource of the twenty-first century is not lithium, data, or oil. It is the human capacity for sustained attention and the ability to belong without digital mediation. Yet, this resource is being quietly depleted—not by personal weakness, but by architectural design. Modern digital platforms operate on a business model that treats attention as extractable fuel. As this model scales, it collides with a demographic reality in which more people live, age, and raise children inside increasingly self-contained digital environments.

The issue lies in the architecture of extraction, not the fortitude of the user. We are witnessing a civilizational reshaping of behavior driven by the attention economy's asymmetry: one biological brain versus an industrial optimization machine trained on trillions of behavioral signals. This imbalance matters politically because attention is a prerequisite for education, productive work, and civic agency.

While digital life delivers benefits, the question is whether they must remain bundled with architectures that erode cognitive capacities. This essay argues that engagement-maximization models are becoming incompatible with human dignity. It proposes a Healthy Brain Standard: a legal framework protecting mental integrity, enforcing cognitive safety audits, and funding offline social infrastructure in a demographically fragmented world.

2. The Mechanism of Extraction: An Overview

To solve the problem, we must name it precisely. The crisis is not "screen time," a metric conflating productive work with compulsive scrolling, but the engineered imbalance between the user and the interface. On one side sits the individual human brain, evolved for scarcity and short feedback loops. On the other sits a platform optimized through continuous A/B testing and reinforcement learning, governed by a single objective: to maximize time-on-device (Zuboff, 2019). This dynamic cannot be described as a fair contest when the outcome is structurally engineered.

The mechanisms involved are rooted in behavioral psychology, particularly operant conditioning (Skinner, 1953). International bodies increasingly classify these techniques as predatory; the OECD (2022) defines "dark commercial patterns" as designs manipulating users into choices they would not otherwise make. These are not design oversights but deliberate behavioral steering.

Variable ratio reinforcement—the slot machine logic—is embedded in the pull-to-refresh gesture. By delivering rewards (likes, matches, news) on an unpredictable schedule, platforms exploit dopamine-based prediction error mechanisms, sustaining compulsive checking loops that bypass reflective choice. Short-form video feeds intensify this by removing stopping cues. TikTok-style infinite scroll creates a "ludic loop," a trance-like state of passive consumption where the absence of natural endpoints makes disengagement unlikely (Alter, 2017).

This architecture also suppresses the Default Mode Network, the neurological state associated with self-reflection and memory consolidation (Newport, 2019). A relentless stream of external stimuli keeps the user in continuous partial attention, inhibiting the mental processes required for complex thought.

Regulation has begun to recognize the problem but remains insufficiently targeted. The EU Digital Services Act bans certain dark patterns, yet enforcement is often reactive and content-focused. Regulators still police the feed's content more than its structural form. A 2024 study of major European

platforms found that 97% deployed design choices intended to subvert user autonomy (Zac et al., 2025). The result is a cognitive environment where autonomous choice is progressively diminished.

3. The Demographic Fracture: A Tale of Two Isolations

The collision between this extractive technology and shifting global demographics creates a unique vulnerability. We are witnessing a "Weak Tie Substitution" hypothesis: algorithms encourage us to replace high-friction, high-value "strong ties" (family, neighbors) with low-friction, low-value "weak ties" (followers, parasocial relationships). This substitution impacts two key demographics differently, exacerbating the risks for both.

3.1. Youth: The Engineered Replacement of Childhood

For the first time in history, a generation has undergone identity formation with a high-intensity social feedback machine in their pocket. Jonathan Haidt describes the early 2010s as the "Great Rewiring" of childhood (Haidt, 2024), a shift converting adolescence into a continuous reputational marketplace.

Evidence links this transformation to measurable harm. Since 2012, anxiety and self-harm rates have risen sharply; in the US, emergency visits for self-harm among girls aged 10–14 increased by 134% (Twenge et al., 2019). The mechanism includes constant peer surveillance and the social cost of opting out.

The impact extends to cognitive capability. OECD PISA 2022 results show that students spending less than one hour daily on leisure devices scored substantially higher than those exceeding five hours (OECD, 2023). This aligns with concerns regarding weakened "deep literacy": the capacity to process long-form text and sustain focus (Wolf, 2018). The result is a cohort trained into heightened social vigilance and reduced tolerance for solitude—conditions that undermine independent judgment.

3.2. Older Adults: The Illusion of Connectivity

Conversely, many societies face rising rates of loneliness among older adults. As family structures fragment and communities weaken under urbanization and labor mobility, digital platforms become a primary connection to the outside world. Yet algorithmic feeds rarely generate mutual care or durable reciprocity. They generate parasocial interaction: one-sided relationships with creators, passive news consumption, or low-cost interaction without commitment.

The World Health Organization has designated loneliness a global public health priority, linking it to severe health outcomes (WHO, 2023). Digital contact can reduce isolation, but it does not reliably reproduce the biological and psychological effects of in-person connection. Embodied social interaction supports stress buffering and emotional regulation via oxytocin release in ways that mediated interaction often cannot replicate (Turkle, 2015). A technology strategy for aging populations that consists mainly of "more screens" risks deepening the loneliness paradox: hyper-connectivity paired with social decoupling.

3.3. A Non-Western Perspective: High Connectivity, High Vulnerability

This collision is not limited to Europe or North America. In rapidly urbanizing regions of Southeast Asia and parts of Sub-Saharan Africa, mobile-first connectivity has expanded faster than offline civic infrastructure. In many cities, young adults experience dense digital connection alongside weak local institutions: limited public space, long commuting times, informal labor, and fragmented community life. Under these conditions, platforms become default "third spaces," replacing physical gathering places rather than complementing them.

The political stakes differ, but the cognitive dynamics are similar. Where formal institutions are weak, algorithmic attention systems can become major channels for news, identity formation, and social belonging. This increases vulnerability to manipulation, not only by advertisers but also by political actors who exploit the same engagement incentives. The point is not that connectivity is harmful; it is that when digital platforms substitute for social infrastructure, the cost of extractive design is amplified. In contexts where offline options are scarce, "just log off" is not a realistic remedy.

4. The Cost: Cognitive Decline as a Public Price

The social cost of this system is not abstract externalities; it is a tangible debt paid in healthcare, education, and civic stability.

Distraction is expensive. The constant fracturing of attention by notifications creates attention residue, where the brain struggles to refocus on a primary task after an interruption (Leroy, 2009). Gallup's State of the Global Workplace report estimates that low engagement and distraction cost the global economy $8.8 trillion annually, or 9% of global GDP (Gallup, 2023). This figure captures lost output but fails to measure the stifled innovation caused by a workforce unable to engage in deep work—the cognitively demanding, distraction-free concentration required to solve complex problems (Newport, 2016). A scarcity of attention diminishes societal productivity and the very capacity for long-term strategic thought.

The harms also accumulate intergenerationally. Youth trained into constant social evaluation and low-friction stimulation enter adulthood with reduced tolerance for boredom and higher vulnerability to anxiety. Older adults facing reduced physical community substitute algorithmic feeds for reciprocal presence. In both cases, the attention economy does not merely occupy time; it reshapes the conditions of personhood and belonging.

5. The Proposal: A Healthy Brain Standard

Expecting individuals to outlast trillion-dollar engagement systems through willpower alone is a policy fantasy. The response must target the supply side of the attention economy. I propose a three-pillar Healthy Brain Standard: (i) legal recognition of mental integrity, (ii) mandatory cognitive impact audits, and (iii) a cognitive extraction levy to rebuild offline commons.

5.1. Pillar I: Legal Recognition of Mental Integrity

Most privacy laws protect what we disclose and not what happens inside the mind. That gap matters. Mental integrity should cover the right to preserve psychological stability against non-consensual interference, including digital systems designed to bypass deliberate choice for profit. Cognitive sovereignty is the right to control one's attention and mental state without manipulation built into default settings.

Europe can move first by treating mental integrity as a protected interest in consumer and digital law, drawing on Chile's 2021 constitutional amendment on neurotechnological interference (Yuste et al., 2021). This logic does not require brain-computer interfaces. If an algorithm is engineered to condition behavior by exploiting known vulnerabilities—without meaningful consent—it crosses the line. The legal test should shift from "Did the user click agree?" to "Could an average user reasonably avoid this design without losing access to basic social participation?"

5.2. Pillar II: Mandatory Cognitive Impact Audits (CIA)

We regulate physical pollutants; we should also regulate digital designs that predictably degrade attention and mental health at scale. Any platform with more than ten million active users should face mandatory Cognitive Impact Audits (CIAs). At that threshold, a product transcends being a tool, functioning as foundational infrastructure for how people interact, learn, and spend time.

Modeled on environmental assessments or drug safety testing, these audits would evaluate high-risk features—such as infinite scroll and autoplay—for measurable effects on user well-being, prioritizing behavioral outcomes over commercial metrics. This approach extends the EU AI Act's logic on subliminal manipulation to cover ordinary recommendation systems. Features that fail would be removed or pushed behind strict opt-in flows.

Enforcement requires an independent supervisory body with powers comparable to product safety oversight. Platforms must provide auditable access to interface designs and outcome data. Compliance should follow a "safety-by-default" principle: hazardous features must remain off unless a user makes an explicit, informed choice. Instead of halting innovation, this necessitates that it occurs within defined boundaries.

5.3. Pillar III: The Cognitive Extraction Levy and Offline Commons

If platforms profit from extracting attention, they should also pay for the damage that model creates. This is a Pigouvian tax aimed at the externality of isolation. I propose a cognitive extraction levy on hyper-engagement revenue: advertising income generated from users spending more than two hours per day on a platform. The proceeds would be ring-fenced to fund offline commons.

That money should rebuild the "third places" weakened by the digital shift (Oldenburg, 1989): youth clubs, community centers, parks, and libraries designed to make face-to-face time easier, not harder. Many of these spaces should be intentionally phone-light or phone-free. Funding connection is cheaper than paying for the downstream mental health bill. The goal is not to ban technology. It is to make sure digital convenience does not replace human presence by default.

6. Counterargument: Innovation and Literacy

A common objection is that cognitive safety regulation could reduce innovation, harm startups, or discourage digital literacy initiatives. If compliance costs are too high, smaller firms may struggle while incumbents absorb regulation as a barrier to entry. This concern is legitimate, but it does not justify inaction.

The appropriate response is design: CIAs should apply primarily to platforms above a high scale threshold, where behavioral influence becomes infrastructural. Startups below the threshold can operate under lighter requirements. Moreover, regulation can increase innovation by shifting competition away from addictive design and toward genuinely useful functionality.

Digital literacy education also remains important. However, literacy cannot substitute for structural constraints when systems are engineered to exploit predictable vulnerabilities. Teaching children to "be responsible online" while leaving platforms optimized for compulsion resembles teaching nutrition while permitting undisclosed addictive additives in food. Literacy helps, but safety standards are still paramount.

7. Conclusion

The trajectory of the twenty-first century will be fundamentally determined by who exercises control over the conditions of human attention. Should we persist in treating the human mind as a resource for commercial extraction, we face the substantial risk of a future defined by structural misalignment—a populace characterized by digital over-stimulation, social fragmentation, and cognitive exhaustion.

Nevertheless, periods of significant disruption present an opportunity for choice. By mandating a Healthy Brain Standard, we possess the capacity to compel technology to align with human biology rather than to exploit it. Optimal brain health should be recognized as a fundamental human right, akin to the right to bodily integrity. Just as bodily integrity safeguards physical autonomy, brain health must safeguard cognitive autonomy and protection from factors that impair neurological function.

The impact of digital platforms on cognitive processes is well-established. The critical question, however, is whether a reciprocal influence is possible—specifically, if we possess the agency to reassert control over our mental landscape and ensure that technology ultimately serves to advance, rather than compromise, human well-being.

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Word Count (essay text only): (2099/2100)