Thinking – Fast, Slow and Artificial: How AI is Reshaping Human Reasoning and the Rise of Cognitive Surrender *Shaw and Nave, 2026*

Context

This study proposes a significant theoretical update to one of the most foundational frameworks in psychology and behavioural economics: dual-process theory (the System 1/System 2 model made famous by Kahneman). The authors argue that with AI now embedded in everyday decision-making, the traditional two-system model is no longer sufficient. They introduce Tri-System Theory, which adds a third cognitive system, System 3, artificial cognition and test it empirically across three preregistered experiments with over 1,300 participants.

Key Insights

Cognitive surrender is real

This is the phenomenon that occurs when people adopt AI outputs with minimal scrutiny, bypassing both intuitive (System 1) and deliberative (System 2) processing entirely. Participants chose to consult AI on more than half of all trials, and when they did, their accuracy tracked the AI's accuracy almost completely

Cognitive surrender ≠ Cognitive offloading

Offloading is a strategic, deliberate delegation of a task where the person remains in control. Surrender is an uncritical abdication of reasoning itself, where the user stops deliberating and accepts the AI's output as their own, often without realising it.

Confidence increases regardless of accuracy

Participants who used AI reported significantly higher confidence in their answers even when the AI had led them to wrong conclusions. Cognitive surrender not only reduces accuracy but makes people feel more certain that they are right.

Context matters

Time pressure made cognitive surrender worse, as expected. People with higher trust in AI showed significantly greater cognitive surrender. Those with higher need for cognition (a genuine enjoyment of effortful thinking) and higher fluid intelligence were more resistant.

Implications

- How are you ensuring your people are genuinely deliberating, rather than rubber-stamping AI outputs?

- what additional governance or process design is needed to ensure genuine human oversight of AI recommendations?

- How does your organisation currently define and protect human accountability in AI-assisted decisions whether for employees or customers?

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