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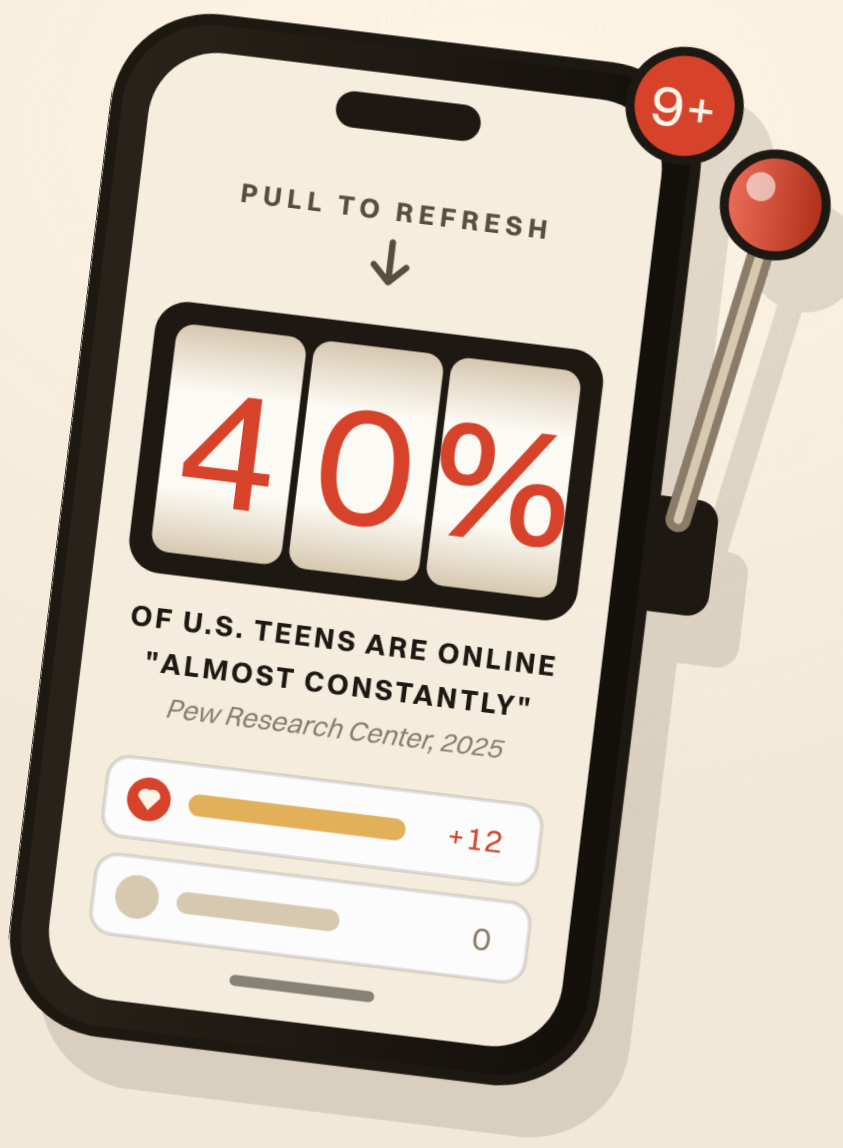
DOPAMINE DETOX, FACT-CHECKED

DOPAMINE

is a prediction, not a fuel tank

Apps don't drain your dopamine; they **train** it. Dopamine neurons fire hardest for rewards that **beat expectations**, and a feed that pays out unpredictably keeps beating them. In 2025, **40% of U.S. teens** said they are online almost constantly.



01 THE HOOK LOOP *how a variable reward becomes a habit*

STEP 1
TRIGGER
A badge, a buzz, or an internal cue like boredom.

STEP 2
ACTION
The easiest possible move: open, scroll, pull to refresh.

STEP 3
VARIABLE REWARD
Sometimes a like, sometimes nothing. A variable-ratio schedule.

STEP 4
INVESTMENT
Post, follow, keep a streak. It loads the next trigger.

WHAT DOPAMINE IS ACTUALLY SIGNALLING

Reward prediction error: the gap between what you got and what you expected (schematic, after Schultz 2016)

Better than expected bursts above baseline

As expected stays at baseline

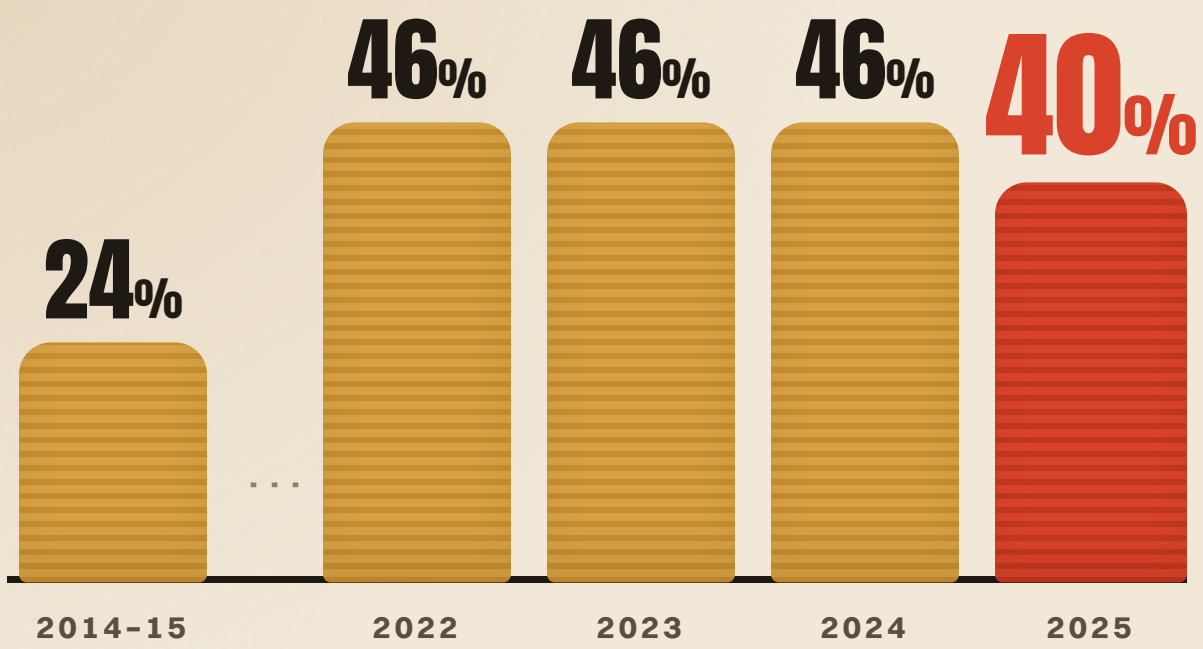
Worse than expected dips below baseline

02 THE NUMBERS *how much of the day the loop gets*

U.S. TEENS ONLINE "ALMOST CONSTANTLY"

Share of teens ages 13 to 17, Pew Research Center surveys

Up from **24%** *a decade ago, though* **down from 46%** *in 2024.*



TEEN SOCIAL MEDIA TIME PER DAY

4.8 hrs

Average across seven platforms. **51%** of U.S. teens spend at least four hours a day. Gallup, 2023



4.1 hrs a day at age 13

5.8 hrs a day at age 17

~~DOPAMINE DETOX~~
NOT HOW DOPAMINE WORKS

Dopamine **doesn't fall** when you avoid stimulation, so a "fast" can't deplete or refill it. Harvard Health: it *"doesn't actually lower your dopamine levels."* What a break **does** change is the cues and habits around the loop.

31%

of social media use is caused by **self-control problems**, per an economic model fit to a randomized experiment.

Allcott, Gentzkow & Song, AER, 2022

1M+

posts from **4,000+ people** followed the principles of reward learning: people spaced posts to maximize social rewards.

Lindström et al., Nature Communications, 2021

75.7%

of **642** subscription sites and apps used at least one dark pattern; 66.8% used two or more.

ICPEN sweep, Jan–Feb 2024

SOURCE *Pew Research Center, Teens, Social Media and AI Chatbots 2025 (n=1,458, Sept–Oct 2025). Gallup, Familial and Adolescent Health Survey (June–July 2023). Schultz et al., Science (1997); Schultz (2016). Harvard Health (2020); APA Dictionary; Allcott et al., AER (2022); Lindström et al. (2021); ICPEN (2024).*
Note: Loop after Nir Eyal's Hooked model. Dopamine traces are schematic. Pew and Gallup use different methods and years.

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