Phalanx Labs

Method paper

Research paper · Version 1.0

How to Stop Gambling

Why betting, casino apps and speculative trading are so hard to stop for people who are careful everywhere else, why you can't win it back, and what a staged 90-day method targets, day by day

Phalanx Labs

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Where each section sits in the 90 days

Days 1 to 30	Days 31 to 60	Days 61 to 90
Brain chemistry restabilization	Impulse control	Identity rewiring

1 How do you stop gambling? The short answer — Background

2 Is gambling an addiction, and how do I know if I have a problem? — Before Day 1

3 Why can't I stop gambling when I know the odds are against me? — Days 1 to 17

4 Why does almost winning make me want to bet again? — Days 18 to 31

5 Why do I keep chasing my losses? — Days 40 to 43

6 Can I win back what I've lost? — Day 27

7 Why is betting on my phone so hard to stop? — Days 3 to 9

8 Is trading or crypto gambling? — Day 15

9 What happens when you stop gambling? — Days 6 to 19

10 How do I block gambling, and does self-exclusion work? — Days 31 to 38

11 What triggers a gambling relapse, and how do you stop it? — Days 44 to 60

12 What should I do about gambling debt, and who else does it hurt? Days 27 to 90

13 Can you stop gambling on your own? Days 1 to 7

14 What should I do if I gamble again? Days 15 to 60

15 What does the Phalanx program target for someone stopping gambling, and when? Days 61 to 90

16 What do our results show, and what can't this paper tell you? Background

17 When should you get help straight away, and what is this program not? Background

Sections	Figures	Tables	References	Reading time
17	15	5	101	89 min

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Abstract

What works to stop gambling is making the next bet hard to place and having a plan for the moments you want one, not trying harder when the urge hits. Gambling hooks the brain's reward system with wins that come at random, near-misses that feel like almost winning, and an app that is always in your pocket. The odds are also built so the longer you play, the more you lose, which means you can't win your losses back. People who stop for good usually close their accounts, sign up to self-exclusion, block gambling payments, put their money where someone they trust can see it, and plan a response for every trigger that's left. If you're having thoughts of harming yourself, contact a crisis line or emergency services now. If you're in debt, free debt advice can help.

This paper explains each part of that answer and the research behind it. It covers whether gambling is a real addiction, why you keep betting when you know the odds are against you, why almost winning makes you want to play again, why you chase your losses, why you can't win them back, why betting on your phone is so hard to stop, whether trading or crypto can be gambling, what stopping feels like, how to block gambling and whether self-exclusion works, what sets off a relapse, how to face the debt, whether you can stop on your own, and what to do if you bet again. Each section starts with a short, direct answer. The detail and the evidence follow.

The last part of the paper describes what the Behavior Control System, the 90-day method Phalanx Labs runs with every client, targets for someone stopping gambling and on which days. Of the 290+ clients we have worked with across 12 countries over 7 years, 98.4% had already tried and failed to stop before they came to us. We report a 97% success rate, defined as the share of clients who ran the program and stayed off the habit through the program and the six months of aftercare that follow it, and we explain how it is tracked and what it cannot show. It comes from client follow-up, not from a controlled trial. The program is not therapy, clinical care, medical treatment or financial advice, and it does not replace a doctor or a crisis service.

Keywords

how to stop gambling | gambling disorder | gambling addiction | variable ratio reinforcement | dopamine and uncertainty | near-miss effect | losses disguised as wins | chasing losses | house edge | expected value | sports betting | in-play betting | trading and gambling | self-exclusion | gambling debt | suicide risk | relapse prevention

Section 01

How do you stop gambling? The short answer

In brief

You stop gambling for good by putting distance between the urge and the bet, getting the money where someone can see it, and planning what you'll do at each moment you used to bet. Willpower in the

moment is the approach that fails most often. If you're thinking about harming yourself, get help now.

Safety note

Gambling problems are linked to a much higher risk of suicide. If you're having thoughts of harming yourself, contact emergency services or a crisis line now. In the US, call or text 988. In the UK and Ireland, call Samaritans on 116 123. In India, call Tele-MANAS on 14416. Gambling helplines are free too: 1-800-MY-RESET in the US, and the National Gambling Helpline on 0808 8020 133 in Great Britain. If you're in serious debt, free, non-profit debt advice can help you deal with it, for example StepChange in the UK or a non-profit credit counselor in the US. If you take medication for Parkinson's disease or restless legs, tell your doctor about the gambling, because some of those medicines can cause it. If you also drink heavily every day or take benzodiazepines, don't stop those suddenly without a doctor. Sections 12 and 17 explain why.

Most people who want to stop gambling have already tried, often many times. Of the 290+ clients we have worked with across 12 countries over 7 years, 98.4% had already tried and failed to stop a habit before they came to us, and betting, casino apps and trading that has turned into gambling are among the habits they bring. The attempts were real: an app deleted after a bad night, a deposit limit, a promise to stop once the money was back, a rule about only betting on the weekend. They didn't last, and the research shows why that's so common. In a study that followed 101 people who had recently stopped gambling, only 8% stayed completely free of gambling over the next twelve months[1]. The same study found that relapses happened most often in the evening, when the person was alone and thinking about money.

The usual explanation is a lack of willpower. That's wrong in a useful way. Deliberate self-control, run largely by the prefrontal cortex, is real, but stress, tiredness and things the brain links to past gambling take it offline easily[2-4]. Gambling adds problems of its own. Its rewards arrive at random, which produces some of the most persistent behavior known[5]. Near-misses and small wins that are really losses keep the reward system engaged even when no money is won[6, 7]. After a loss, people become more willing to take risks, not less, so the urge to win it back gets stronger exactly when the losses are biggest[8, 9]. And today the next bet is a few taps away, at any hour, with money moving in seconds[10]. A decision made calmly in the morning has to be carried out by a stressed, restless person at night, with the app in their hand. People are poor at predicting how differently they'll feel in that second state[11].

Gambling disorder is now classed with the substance addictions in the main US psychiatric manual, because it shares so much with them: the same symptoms, the same high overlap with other addictions, and treatments that were built on addiction treatment[12]. The brain's reward system is at

the center of it. Dopamine cells respond most strongly when the outcome is most uncertain[13], and in people with gambling problems, dopamine release during gambling has been linked to how excited they feel and how severe their problem is[14, 15]. The rest of this paper shows how each part of gambling, the machine, the odds, the phone, the debt and the thoughts that argue for one more bet, works on that system, and what to change about each one.

Table 1. The ways people most often try to stop or control gambling, what each one changes, and what each one leaves in place. These are the attempts our clients most often describe before they came to us.

Attempt	What it changes	What it leaves in place
Deleting the app	One route to a bet, for a while	The account, the saved card, the marketing emails and every other site. Reinstalling takes a minute.
A deposit or loss limit	How much can go in, on one site	The limit is set by the person who will later want to raise it, and other sites have no limit at all.
Stopping once you're back to even	Nothing until the money comes back	The house edge makes getting back to even less likely the longer you play (Section 6), so the stop date keeps moving.
Only small bets, or only at weekends	Size or timing	Every bet keeps the reward system and the urge trained. A small bet after a loss is where chasing starts.
Switching from casino apps to sports, or from betting to trading	The product	The same uncertain rewards and the same urge, through a different screen (Section 8).
A promise to someone, made after a bad loss	Motivation, for a few days	Nothing structural. The access, the triggers and the debt that led to the last bet are still in place.

The rest of this paper takes the questions people ask about stopping gambling one at a time. Section 2 answers whether gambling is a real addiction and how to tell if you have a problem. Sections 3 to 6 explain why it's so hard to stop: what random wins do to the reward system, why near-misses work, why you chase losses and why the odds mean you can't win it back. Sections 7 and 8 deal with betting on your phone and with trading that has turned into gambling. Section 9 describes what

stopping feels like, Section 10 how to block gambling and whether self-exclusion works, and Section 11 what sets off a relapse. Section 12 deals with the debt and the people affected, Section 13 with whether you can stop on your own, and Section 14 with what to do if you bet again. Section 15 sets out what the Behavior Control System targets for someone stopping gambling, day by day, Section 16 reports our results and the limits of this paper, and Section 17 says when to get help straight away. Where the program is described, we say what each day targets and why. We do not publish how.

Section 02

Is gambling an addiction, and how do I know if I have a problem?

Before Day 1

In brief

Yes. Gambling disorder sits in the same chapter as the substance addictions in the main US psychiatric manual. The clearest signs are chasing losses, lying about how much you gamble, borrowing to cover it, and feeling restless when you try to stop.

Gambling can be an addiction in the full sense, and the main US psychiatric manual treats it as one. When the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) was prepared, the disorder was renamed from pathological gambling to gambling disorder and moved out of the impulse-control chapter, where it had sat beside conditions such as kleptomania, and into the chapter on substance-related and addictive disorders[12]. The reasons were that gambling and substance problems present with similar symptoms, occur together far more often than chance, share biological markers and thinking problems, and respond to treatments built on addiction treatment. A diagnosis now needs four or more of nine criteria within one year. The threshold used to be five, and the criterion about committing illegal acts to fund gambling was removed because it added little to an accurate diagnosis. It was folded into the criterion about lying to cover up the extent of gambling.

Gambling problems are common. A systematic review of 69 studies found that the share of adults with a gambling problem in the past year ranged from 0.12% to 5.8% across countries, and from 0.12% to 3.4% across Europe, with the differences partly due to how each study measured it[16]. A Lancet review put the range at 0.2% to 5.3% of adults worldwide, depending on the screening tool used and how easy gambling is to get to[17]. In the United States, gambling disorder affects an

estimated 0.5% of adults, and most people who have it are never identified or treated, including when they see a doctor[18]. Those figures count disorder at its most severe. Harm from gambling reaches a much larger group, because it isn't limited to people who meet the criteria[19].

2.1 The signs

No single sign settles it, but some are close to the center of the problem. Chasing losses, betting more to win back what you've lost, is widely regarded as the defining feature of disordered gambling and the mark of the change from recreational to disordered gambling[9]. Borrowing money to cover gambling, or relying on others to bail you out, is one of the diagnostic criteria, and consumer credit use and debt rise with the severity of the problem[20]. Lying to hide how much you gamble is another, and the DSM-5 text names illegal activity as one form that lying can take[12]. Many people also bet more over time to get the same feeling, and feel restless and irritable when they try to cut down, the gambling versions of tolerance and withdrawal[21].

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Table 2. Signs of a gambling problem that the cited research places at or near the center of the disorder, in plain words. This is not the full DSM-5 list and not a diagnosis. A doctor or psychologist can assess it properly.

Sign	What it looks like	What the research says
Chasing losses	Betting again, often bigger, to win back what you've lost	Widely regarded as the defining feature of disordered gambling[9]
Borrowing or bailouts	Credit cards, loans or family money to cover gambling or its debts	A diagnostic criterion; credit use and debt rise with severity[20]
Hiding it	Lying about how much you gamble, hidden accounts, deleted histories	A diagnostic criterion, which in DSM-5 includes illegal acts to fund gambling[12]
Needing more	Bigger stakes than before to feel the same	Most gamblers in one study raised their stakes, mainly in pursuit of winning[21]
Restless when stopping	Irritable, on edge and preoccupied when you try to cut down	Reported by 87% of pathological gamblers in one study[22]
Gambling to change how you feel	Betting when bored, stressed, low or wired	Boredom and the search for arousal are linked to gambling problems[23]

2.2 It rarely comes alone

Gambling problems usually sit beside other problems. In the National Epidemiologic Survey on Alcohol and Related Conditions, which interviewed 43,093 adults in the United States, 0.42% had had pathological gambling at some point in their lives. Of those, 73.2% had also had an alcohol use disorder, 60.4% nicotine dependence, 49.6% a mood disorder, 41.3% an anxiety disorder and 38.1% a drug use disorder[24]. A meta-analysis of eleven population studies found the same pattern, with nicotine dependence the most common at 60.1%, followed by a substance use disorder at 57.5%[25]. That overlap is why the program treats habits that travel together as one problem (Section 15), and why drinking matters to anyone stopping gambling. A few drinks lower the guard, and the bet gets placed.

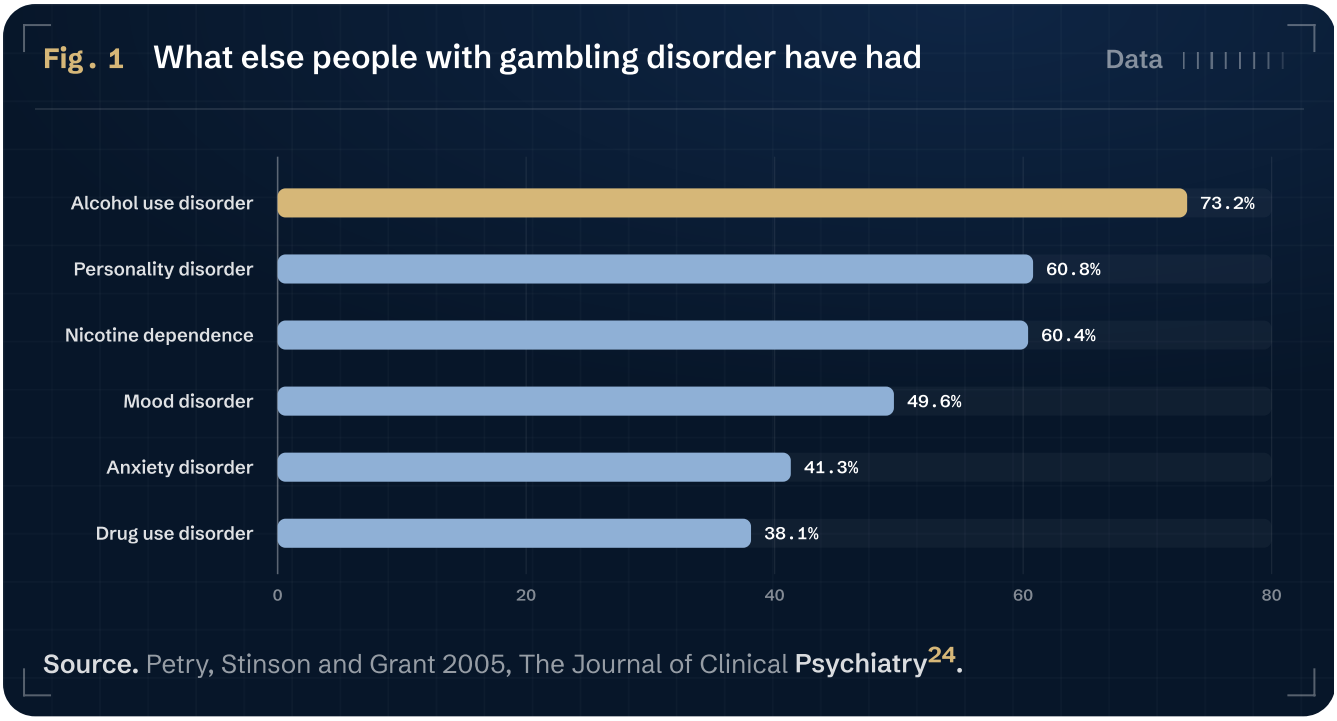


Figure 1. The share of people with lifetime pathological gambling who had also had each other disorder in their lifetime, in a US national survey of 43,093 adults (Petry, Stinson and Grant, 2005). These are the study's figures. They describe a population, not any one person, and they don't show which problem came first.

2.3 Different people get there by different roads

People don't all develop gambling problems the same way. Blaszczynski and Nower's pathways model describes three groups: people whose problem was mainly learned, through wins, near-misses and habit; people who were emotionally vulnerable before they started and use gambling to change how they feel; and people with a more impulsive, antisocial pattern[26]. The groups need different emphasis. Someone in the first group may need mostly to break the conditioning and cut off access. Someone in the second also needs other ways to deal with stress, low mood or boredom, because gambling was doing that job. This is part of why the program begins with a diagnostic conversation rather than a standard plan (Section 15).

One cause is easy to miss and important to rule out. Some medicines that act on dopamine can bring on gambling. In a study of 3,090 people being treated for Parkinson's disease at 46 centers in the United States and Canada, 13.6% had an impulse control disorder and 5.0% had a gambling problem. These disorders were more common in people taking a dopamine agonist, 17.1% against 6.9% in those who weren't, which meant two to three and a half times the odds[27]. Dopamine agonists are also prescribed for restless legs. Anyone taking one who finds themselves gambling should tell their doctor, and should not stop or change the medicine on their own.

In the program — **Before Day 1**

Root-Cause Diagnostic

The diagnostic asks which forms of gambling the person uses, what else travels with it, what has been tried, and about medication, debt and risk to themselves. It identifies the loop beneath the gambling, and the situations where the program is not the right help on its own, such as a crisis or a medicine that may be causing the gambling. In those cases we say so and point the person to a doctor or crisis service.

Section 03

Why can't I stop gambling when I know the odds are against me?

Days 1 to 17, Brain chemistry restabilization

In brief

Because knowing the odds doesn't reach the part of the brain that's driving the bet. Gambling pays out at random, and random rewards produce the most persistent behavior there is. The brain's dopamine system responds most when the outcome is uncertain, so the thrill comes before the result, win or lose.

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Knowing the odds and feeling the urge happen in different systems. The odds are known by the part of you that does arithmetic and makes plans. The urge comes from a reward system that learns from experience, and what gambling teaches it is that the next bet might be the one. That lesson is taught by the way gambling pays out, not by its average, and it doesn't go away because you understand it. Many of the people who lose most to gambling are good with numbers. Their arithmetic is fine. It isn't the part of them that's placing the bet.

3.1 Rewards that come at random

In the 1950s Charles Ferster and B. F. Skinner mapped how the timing of rewards shapes behavior. A reward that comes after a fixed number of actions produces bursts of work with pauses after each reward. A reward that comes after a varying number of actions, unpredictably, produces a high, steady rate that is very hard to stop, because there is never a moment when the next action is clearly

pointless[5]. They called it a variable-ratio schedule. Gambling is a version of it. Haw points out that a gaming machine works on a random-ratio schedule, where each bet has the same chance of paying, and that what keeps people playing is less the average rate of wins than the early wins and the long runs without one[28]. Harrigan and Dixon obtained the design documents for slot machines in use in Ontario and showed how the machines are built around this: the speed of play, the near-misses, wins that are really losses, and identical-looking machines that pay back very different percentages[29].

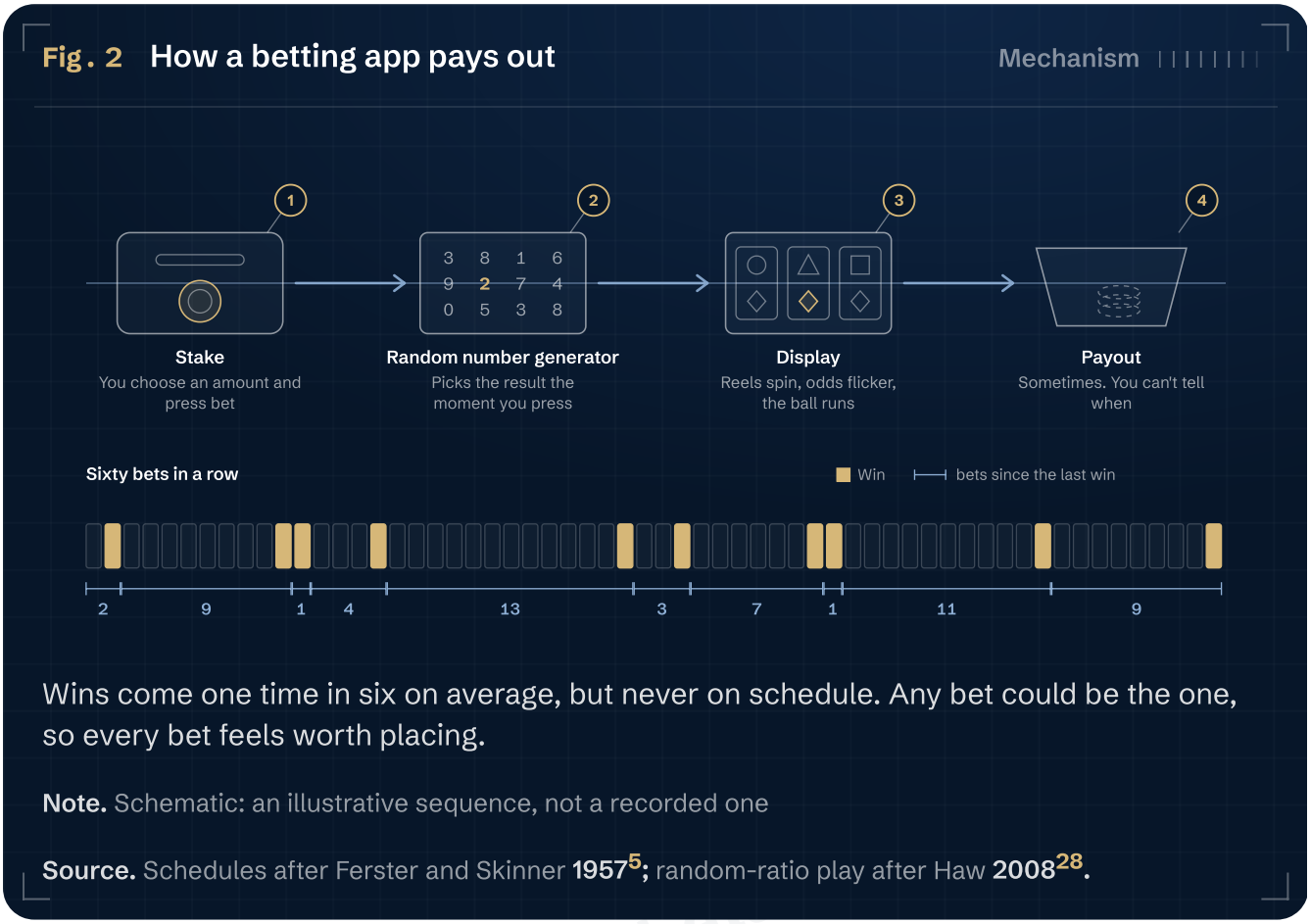


Figure 2. A betting app or online slot drawn as a machine, and sixty bets on two schedules that pay out equally often: one win in six. On the fixed schedule the next win is predictable. On the variable schedule, the one gambling uses, it never is, so every bet could be the winning one. Variable schedules produce the most persistent behavior described by Ferster and Skinner (1957). The sequence is illustrative.

3.2 The thrill comes before the result

Dopamine cells do two jobs that matter here. In the work that defined the modern view, they fired in response to the difference between the reward that came and the reward that was expected, a teaching signal[30]. Fiorillo, Tobler and Schultz then showed a second response. Monkeys saw signals that predicted a reward with different probabilities. The quick burst of activity when the reward arrived varied steadily with probability, as a teaching signal should. But a slower response built up

gradually between the signal and the moment the reward might arrive, and it was largest when the outcome was most uncertain, at a 50% chance, and smaller when a reward was nearly certain or very unlikely[13]. Uncertainty itself was being coded.

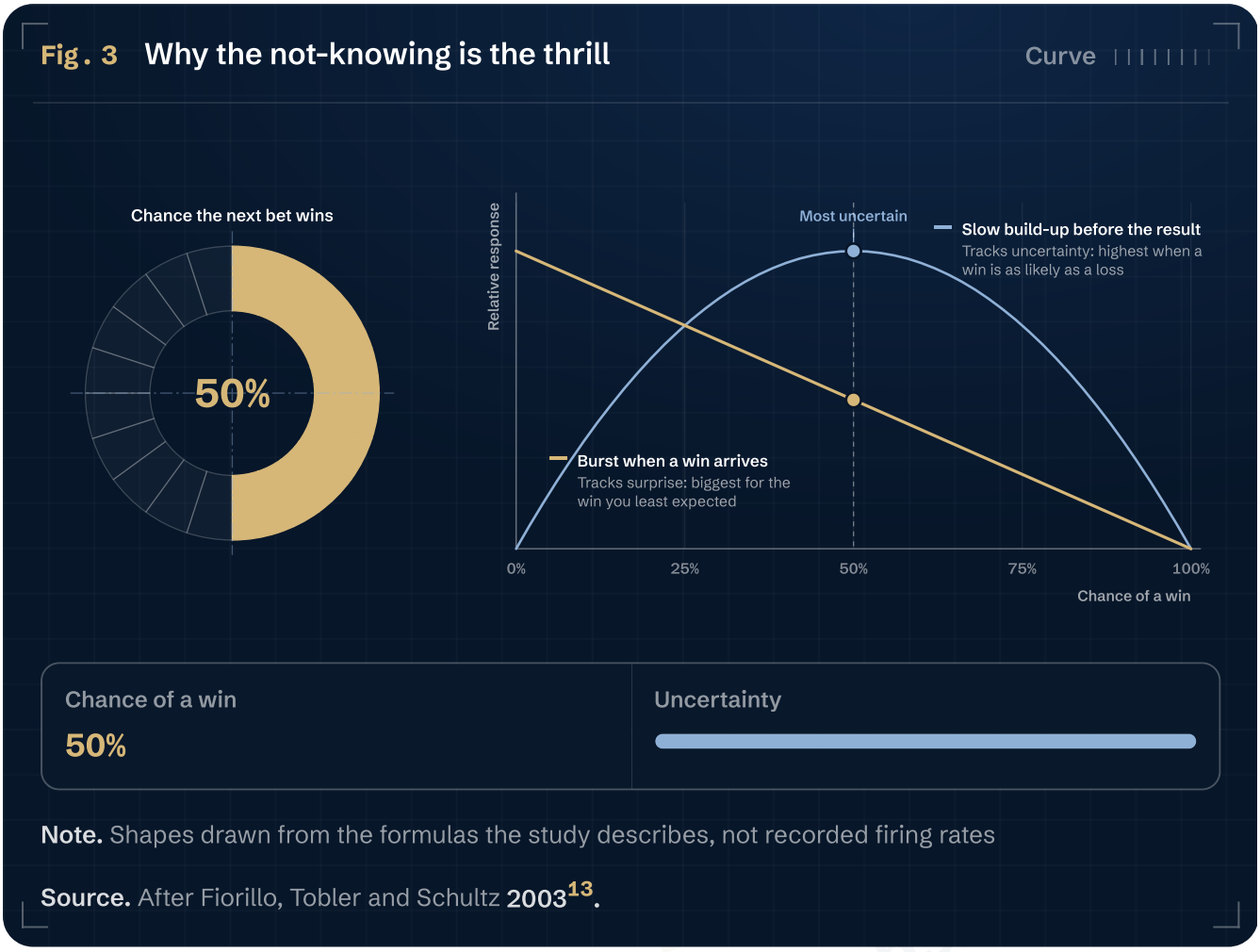


Figure 3. The two dopamine responses described by Fiorillo, Tobler and Schultz (2003). The slow build-up before the result follows uncertainty, which peaks when a win is as likely as a loss. The burst when a win arrives is biggest when the win was least expected. Move the chance of a win to see both change. The curves follow the formulas the study describes; they are not the recorded firing rates.

Gambling is built out of exactly that state: a result that hasn't happened yet, at odds that feel close. Anselme and Robinson's review argues that in gamblers, dopamine release seems to reflect the unpredictability of the reward rather than the reward itself, so the motivation to gamble is driven largely by not knowing[31]. Human imaging fits. In a PET study of 24 men playing a slot machine task, dopamine was released in the striatum during both high-reward and low-reward games, whatever the outcome, and the size of the release in the ventral striatum tracked how high the players felt. In the men with pathological gambling, a larger release went with more severe symptoms[15]. In a study of 18 pathological gamblers and 16 controls, gamblers whose dopamine was released during a card

game reported more excitement than controls, even though they played worse[14]. The buzz arrives while the reels spin, the match is live or the position is open. That's why a person can keep betting after the money stopped mattering.

The body joins in. Meyer and colleagues measured ten regular gamblers in a casino on two occasions: once playing blackjack for their own money, and once playing the same game for points. With money on the table, heart rate rose within thirty minutes and stayed up, and cortisol, a stress hormone, rose at thirty minutes and higher still at sixty, then returned to normal after the game ended[32]. Gambling is a stress response that people seek out. That matters later in this paper, because the stress of the debt is one of the things that sends people back (Sections 11 and 12).

3.3 Less response to everything else

Over time the rest of life can come to feel flat in comparison. Reuter and colleagues scanned pathological gamblers and controls during a simple guessing game and found less activation in the ventral striatum and the ventromedial prefrontal cortex in the gamblers; the more severe the gambling, the lower the activation[33]. Van Holst and colleagues' review concludes that gambling disorder fits current models of addiction, which stress the pathway from the brain's dopamine source to the orbitofrontal cortex, and that people who play slot machines and people who play table games may reach the problem by different routes[34]. Berridge and Robinson's distinction between wanting and liking helps explain what people describe: the urge to bet can grow even as the enjoyment of betting fades[35].

The way the brain values time shifts too. Petry asked 60 pathological gamblers and 26 controls to choose between smaller amounts of money now and $1,000 later. The gamblers devalued the delayed money faster than the controls, and gamblers who also had a substance use disorder devalued it faster still[36]. A meta-analysis across addictive behaviors found the same steep discounting[37]. A bet pays off in seconds or minutes. Getting out of debt, rebuilding trust and saving pay off over months and years. A brain that discounts the future steeply weighs those two very unequally, and the bet wins the comparison.

Finally, repetition turns the bet into a habit. Everitt and Robbins describe addiction as a shift from goal-directed control, which weighs an action by its expected outcome, to habitual control, which runs a practiced response directly from the setting[38]. Behavior repeated in a stable context comes to be triggered by that context with little reference to current goals[39], and stress pushes the balance further toward habit[3]. A thumb that opens the betting app at half-time, or a hand that checks the price on the train home, is running a habit. By the time a decision is made, the app is already open.

In the program · Phase 1, Brain chemistry restabilization **Days 1 to 17**

Days 1 , 2 and 10	**Understanding the loop** The client learns how repeated high-intensity rewards produce tolerance and change the brain, what dopamine does in that process, and the five-stage cycle the program uses to describe every habit, so they can start recognizing each stage in their own nightly log.
Days 12 and 17	**Other sources of reward** On Day 12 the client lists every source of big, unearned reward in their life, because gambling rarely runs alone and the program stops them together. On Day 17 they take up a demanding new pursuit with clear goals and room to improve, and give it time every day, so the part of them that enjoys risk, competition and reading patterns has somewhere to go that builds something.

The new pursuit comes early because stopping gambling leaves a hole where a strong reward used to be. Animal research shows that an enriched environment, with novelty, exercise, social contact and challenge, both prevented the development of drug addiction and reduced relapse-like behavior[40], and Bickel and colleagues describe addiction as an excessive value placed on one reward with a short time horizon, at the expense of other rewards, with building those other rewards as one route out[41]. For someone who has spent years reading form, odds or charts, a pursuit that rewards skill, effort and patience gives that part of them real work to do.

Section 04

Why does almost winning make me want to bet again?

Days 18 to 31

In brief

Because the brain treats a near-miss partly like a win. In scanning studies, near-misses lit up the same reward areas as real wins and made people want to keep playing, even though they felt worse.

Modern machines also celebrate small wins that are really losses, which the body responds to as if they were wins.

A near-miss is a loss, but the brain doesn't fully file it as one. When the third cherry stops just above the line, the horse finishes second or one leg of the accumulator fails, part of the reward system responds as if you'd nearly done it, and nearly doing it suggests you're getting close. You aren't. On a machine or an app, each result is independent of the last. But the feeling of being close is one of the strongest reasons people give for playing on, and it has been measured.

4.1 What a near-miss does in the brain

Clark and colleagues built a simple two-reel slot machine with six icons on each reel and a payline across the middle. On some trials the player chose which icon to play, and on others the computer chose. A win came when the right-hand reel stopped with the chosen icon on the payline, one trial in six. A near-miss came when it stopped one place above or below, two trials in six, and a full-miss when it stopped further away, three trials in six[6]. In 40 volunteers, near-misses were rated as less pleasant than full-misses, yet they increased the desire to keep playing, and that effect appeared when the player had chosen the icon. In the scanner, with a second group of 15 volunteers, near-misses recruited parts of the striatum and the insula that also responded to wins, and the insula response to near-misses was stronger in people who scored higher on a questionnaire about gambling beliefs. The authors' conclusion is that near-misses invigorate gambling by recruiting reward circuits even though they pay nothing.

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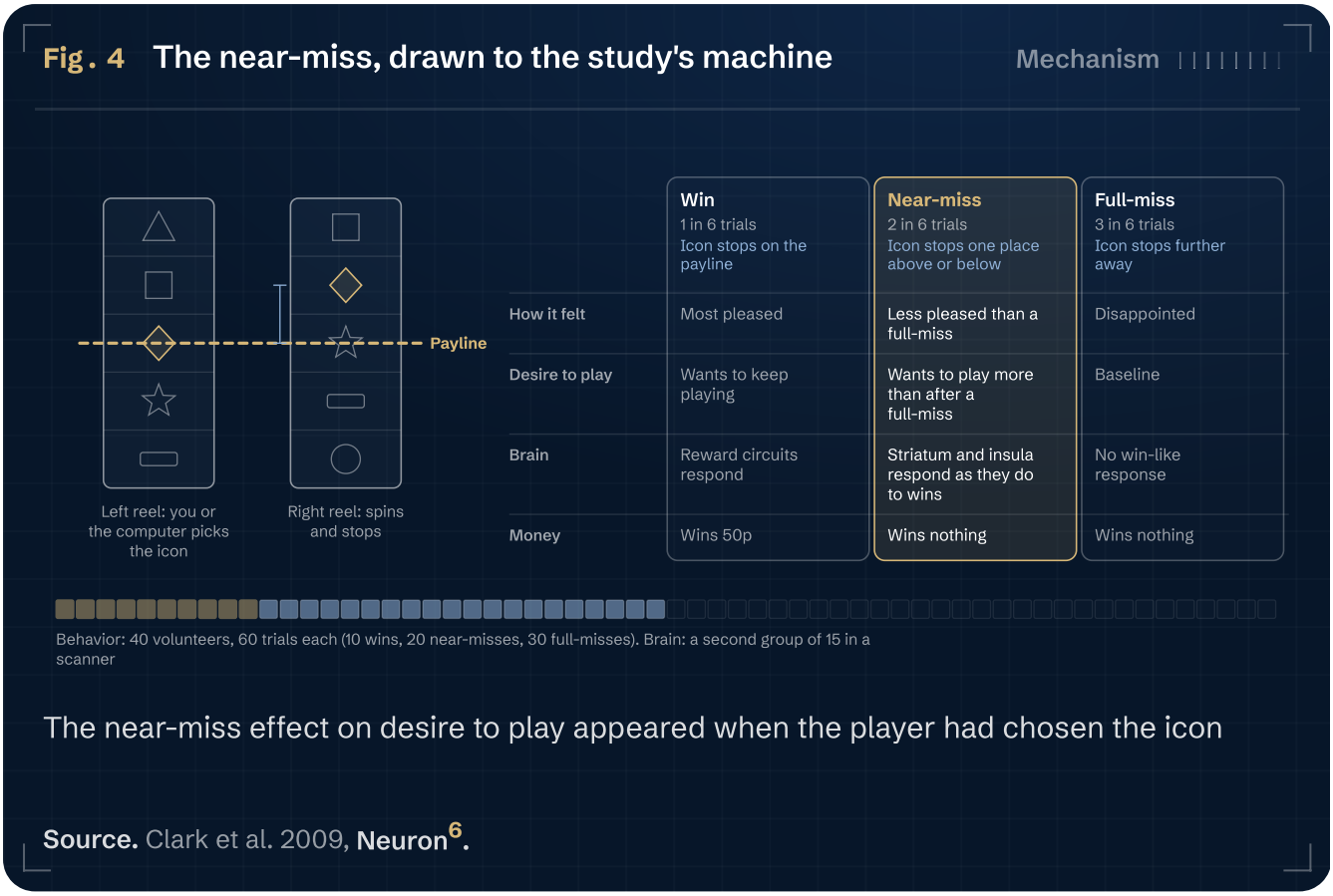


Figure 4. The two-reel slot machine used by Clark and colleagues (2009), with the stopping positions on the right-hand reel that counted as a win, a near-miss and a full-miss, and what each outcome did. Near-misses felt worse than full-misses but made people want to play more, and they engaged reward areas that also responded to wins. Select an outcome to see it.

In regular gamblers the effect is stronger. Chase and Clark scanned 20 regular gamblers, from recreational players to people with probable pathological gambling, on the same task. Near-misses produced a response in the ventral striatum, which also responded to wins, and the more severe a person's gambling, the larger the response to near-misses in the dopamine-producing midbrain[42]. Habib and Dixon compared 11 pathological and 11 non-pathological gamblers looking at slot machine outcomes: near-misses activated brain regions linked to wins in the pathological gamblers, and regions linked to losses in the others[43]. For a person with a gambling problem, a near-miss carries part of the feeling of a win.

How often near-misses happen matters too. Kassinove and Schare had 180 students play a computerized four-wheel slot machine set to show near-misses on 15%, 30% or 45% of losing spins, then stopped all wins and counted how long each person kept playing. Near-misses on 30% of spins produced the most persistence, more than either 15% or 45%. An early big win made no measurable difference[44]. Too few near-misses and the machine feels cold. Too many and they stop meaning anything. In between, they keep people at the machine.

4.2 Losses disguised as wins

Modern machines and online slots have a second trick. On a game where you bet across many lines at once, a spin can pay back less than it cost and still be presented as a win, with the lights, the sounds and the word on the screen. Dixon and colleagues called these losses disguised as wins. They measured skin conductance, a sign of the body's arousal, and heart rate in 40 novice players on a multi-line slot machine. Skin conductance after a disguised loss was similar to skin conductance after a real win, and both were larger than after a plain loss[7]. The player had lost money on the spin, and their body responded as if they'd won.

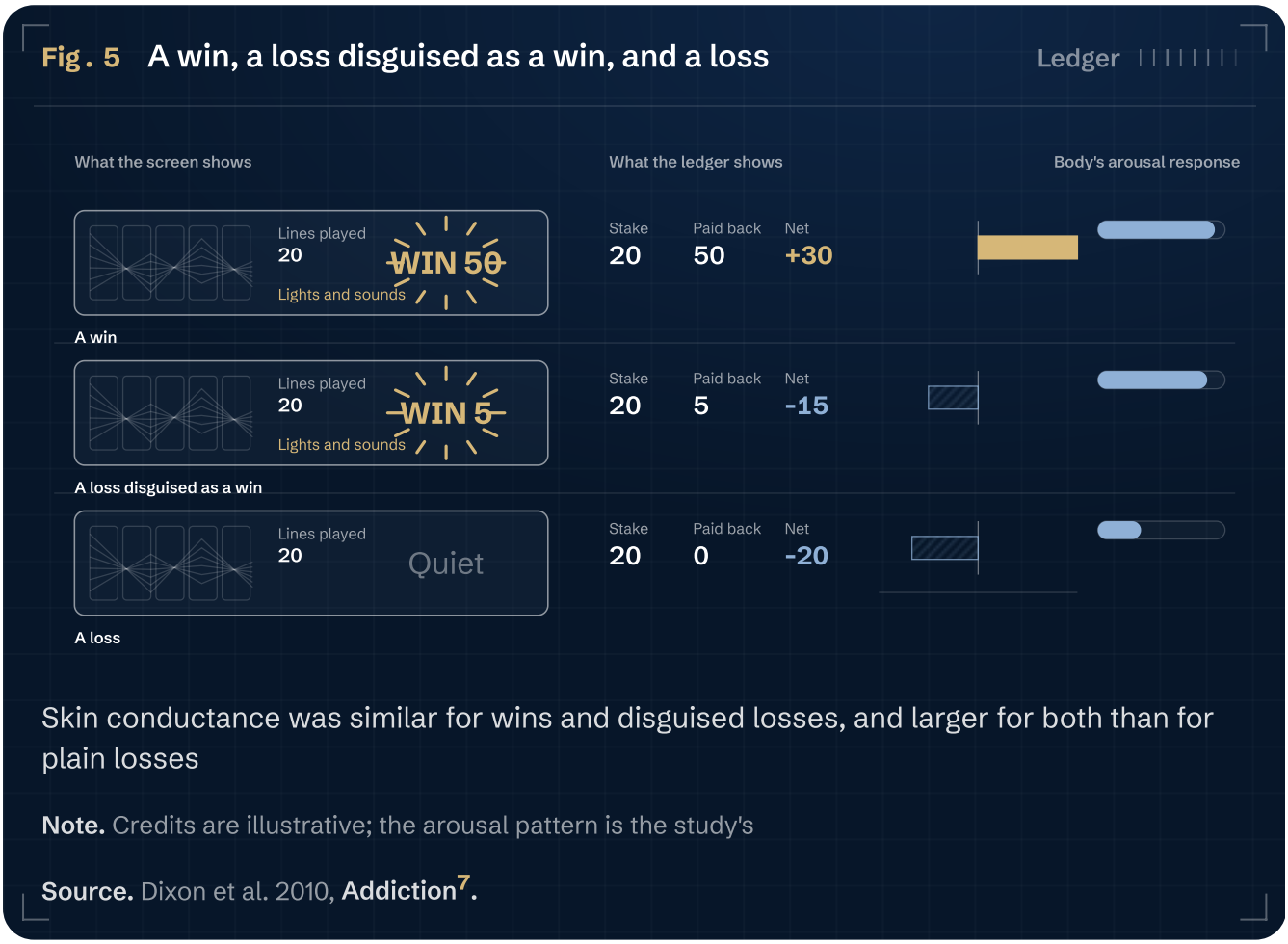


Figure 5. Three spins of a multi-line slot machine, as the screen presents them and as a ledger records them. The middle spin pays back 5 of the 20 credits staked: a loss of 15, celebrated as a win. In 40 novice players, the body's arousal after such spins was similar to arousal after real wins, and larger than after plain losses (Dixon and colleagues, 2010). The credit amounts are illustrative. Switch between the two views to compare.

4.3 The feeling of control

Gambling also gives people a sense of control over outcomes that are mostly chance. In a series of six studies, Ellen Langer found that bringing features of skill into a game of chance, such as choosing your own lottery ticket, competing against someone who seems nervous, or practicing first, made people more confident of winning than the odds justified. She called it the illusion of control[45]. Clark's finding that the near-miss effect depended on the player having chosen the icon is the same illusion in the brain[6]. A meta-analysis of the questionnaires that measure gamblers' thinking errors found large differences between pathological gamblers and other people on all six instruments. The illusion of control and the gambler's fallacy, the belief that after a run of one result the other becomes more likely, were the two errors measured most consistently, and the gambler's fallacy showed the larger effects[46]. Picking your numbers, studying the form or reading the chart feels like skill, and the feeling of skill keeps you in.

In the program — Days 18 and 31

Seeing the moment as it happens

On Day 18 awareness training begins: the client practises noticing the earliest moment of an urge, before the app is open. On Day 31 they build a full map of everything that sets off their gambling, including the near-misses, offers and results that restart the urge.

Section 05

Why do I keep chasing my losses?

Days 40 to 43, Impulse control

In brief

Because losing makes people more willing to take risks, not less, and because winning it back feels like the way to undo the loss. Each chase needs a bigger bet to recover a growing hole, so chasing is how small losses turn into large ones.

People chase losses because a loss that's been won back no longer feels like a loss, and the mind will take a large risk to get there. Behavioral economists have shown that people take risks to avoid a sure loss that they'd never take to secure a sure gain[8]. After a losing session, the choice feels like

walking away down $300 for certain, or one more bet that might put you back to even. The second option feels like the sensible one. It isn't, because each attempt to get back to even needs a bigger stake than the last, against odds that haven't changed.

5.1 Why a loss makes risk feel better

Kahneman and Tversky's prospect theory describes how people actually choose under risk. The value people place on a loss is steeper than the value they place on an equal gain, people are risk-averse when choosing between gains and risk-seeking when choosing between losses, and they give too much weight to small probabilities, which the authors note may add to the appeal of gambling[8]. Zhang and Clark's review describes loss-chasing as the defining feature of disordered gambling and the mark of the move from recreational to disordered play, and they show it takes two forms: chasing within a session, and coming back another day to get even[9]. They contrast two explanations. One is a failure of the brain's brakes, through weak inhibitory control and acting rashly under strong emotion. The other is that the gambler values outcomes in a way that makes getting back to even especially important. The second explains why breaking even matters so much to people who gamble.

Imaging shows the two sides of the choice. Campbell-Meiklejohn and colleagues scanned healthy adults as they decided whether to chase losses or quit to prevent further losses. Choosing to chase was linked to more activity in areas tied to motivation and the expectation of reward. Choosing to quit was linked to less activity in those areas and more in areas tied to anxiety and conflict. Activity in the anterior cingulate cortex after chasing and losing predicted a decision to stop at the next opportunity[47]. Chasing feels like hope. Stopping feels like anxiety. In the moment, the brain is weighing a feeling of possibility against a feeling of dread, and the arithmetic isn't part of it.

5.2 The arithmetic of chasing

The best-known chasing system makes the problem plain. After every loss, you double the stake, so that one win recovers everything lost and leaves you a single original stake ahead. On a $10 even-money bet, the first loss means betting $20, then $40, then $80. After seven losses in a row you have lost $1,270, and the next bet has to be $1,280, still to win back only $10. On a single-zero roulette wheel, an even-money bet loses on 19 of the 37 pockets, so seven losses in a row has a chance of under 1% on any given run. But over 200 spins, the chance of meeting at least one run of seven losses is 60.4%. That figure is the arithmetic of the wheel, worked out exactly. The chase doesn't fail because of bad luck. It fails because long losing runs are certain to come, and the stake needed grows faster than any bankroll or betting limit.

Fig. 6 The chasing spiral

Spiral



Goal: win back the first $10

Losses in a row	Lost so far	Next bet needed	Chance of a run this long
1	-$10	$20	51.4%
2	-$30	$40	26.4%
3	-$70	$80	13.5%
4	-$150	$160	6.95%
5	-$310	$320	3.57%
6	-$630	$640	1.83%
7	-$1,270	$1,280	0.94%
8	**-$2,550**	**$2,560**	**0.48%**

If the next bet wins, the net gain is still $10

In 200 spins of a single-zero wheel, the chance of meeting at least one run of 7 losses is 60.4%

Note. Even-money bets on a single-zero wheel: 19 of 37 pockets lose

Figure 6. Chasing losses by doubling the stake after each loss, on even-money bets on a single-zero roulette wheel. Each step out along the spiral is one more loss, and each ring is labeled with the bet now needed to win back the original $10. All amounts and chances are exact arithmetic for this game. Press Start over, then Lose again, to step through it.

5.3 How the mind keeps the score

Chasing is easier to keep doing because the memory of gambling isn't an accurate account. Gilovich recorded what people said about the outcomes of their bets on professional American football. They spent more time explaining their losses than their wins, and the explanations followed a pattern: wins were taken at face value and even bolstered, while losses were explained away as flukes, the result of a bad call or a freak play that shouldn't count. When a critical fluke play was made more salient, it changed the expectations of people who had bet on the losing side more than those who had bet on the winner[48]. A loss explained away as bad luck doesn't count against your judgment, so the next bet feels just as smart.

Fig. 7 The account in your head, and the account at the bank

Ledger



Match	Stake	Result	Balance	Explained away
Saturday, home win	$50	+$45	+$45	
Saturday, both to score	$50	-$50	-$5	*Penalty in the 89th minute*
Sunday, away win	$100	-$100	-$105	*Keeper's mistake*
Monday, over 2.5 goals	$100	+$90	-$15	
Tuesday, accumulator	$40	-$40	-$55	*Four of five legs came in*
Wednesday, home win	$150	-$150	-$205	*Wrong team picked by the manager*
Saturday, correct score	$30	+$240	+$35	
Saturday, home win	$200	-$200	-$165	*Red card*
Account balance			**-$165**	

Note. Illustrative bets; the pattern of explaining away losses is the study's

Source. Gilovich 1983, Journal of Personality and Social **Psychology**[48].

Figure 7. A week of football bets, as memory keeps them and as the account records them. In memory, wins stand and losses carry a reason that excuses them; on the statement, every loss counts. Gilovich (1983) found that bettors explained away their losses and bolstered their wins in just this way. The bets and amounts are illustrative. Switch views to compare.

Lesieur's study of people whose gambling had become compulsive described a narrowing spiral: as the losses mount, the person's options shrink, borrowing and hiding become part of keeping the gambling going, and involvement deepens to cover the losses it has caused[49]. Blaszczynski and colleagues asked gamblers why they had increased their bets. Most had, and the main reason was not to keep up the excitement, as the older diagnostic manual suggested, but thinking about winning[21]. Bigger bets are usually a plan to win it back.

In the program · Phase 2, Impulse control **Days 40 to 43**

The thoughts that argue for a bet

The client identifies the thoughts that talk them into a bet, such as the one about winning it back, and checks each one against what they have decided about who they are now, using their own numbers as the evidence. The work is to see these thoughts for what they are and let them pass, not to win the argument with them.

The aim on those days isn't to suppress the thought. Pushing a thought away tends to make it come back more often[50], and approaches that teach people to notice a thought as a thought, without obeying it, have support across many problems[51]. The program's view is that the thought about winning it back will come, especially after a loss, a payday or a big match, and that the work is to recognize it on sight and to have already decided what it is.

Section 06

Can I win back what I've lost?

Day 27, Brain chemistry restabilization

In brief

Not by gambling. Every casino game and betting market is priced so the operator keeps a share of everything staked. The more you bet, the closer your result gets to that built-in loss, so the longer you play to win it back, the more certain you are to lose more.

No. Not reliably, and not by gambling more. Every game is priced so the house keeps a share of the money staked over time. That share is called the house edge. On a single bet anything can happen, which is what makes gambling feel winnable. Over many bets the edge takes over, and the share of people who are ahead shrinks as the bets add up. Trying to win back losses means placing more bets, and more bets bring the result closer to the loss the game was built to produce.

6.1 The edge, worked out

A single-zero roulette wheel shows the arithmetic plainly, because its rules are simple and public. It has 37 pockets: 18 red, 18 black and one green zero. A $10 bet on red wins $10 on 18 pockets and loses $10 on 19. On average, then, each $10 bet loses 10 times 1 in 37, about 27 cents, which is 2.7% of

the stake. That's the house edge. After 1,000 bets of $10, $10,000 has been staked and the expected loss is about $270. Nobody loses exactly that, and the spread of results is what keeps people playing. But the spread grows slowly while the expected loss grows steadily. After 10 bets, about 34% of players are ahead. After 100 bets, about 36%. After 1,000 bets, about 19%. After 5,000 bets, under 3%. Those figures are exact arithmetic for this game, not a simulation. Other games carry different edges, and Harrigan and Dixon showed that two slot machines that look identical can be set to pay back very different percentages, which a player has no way to see[29].

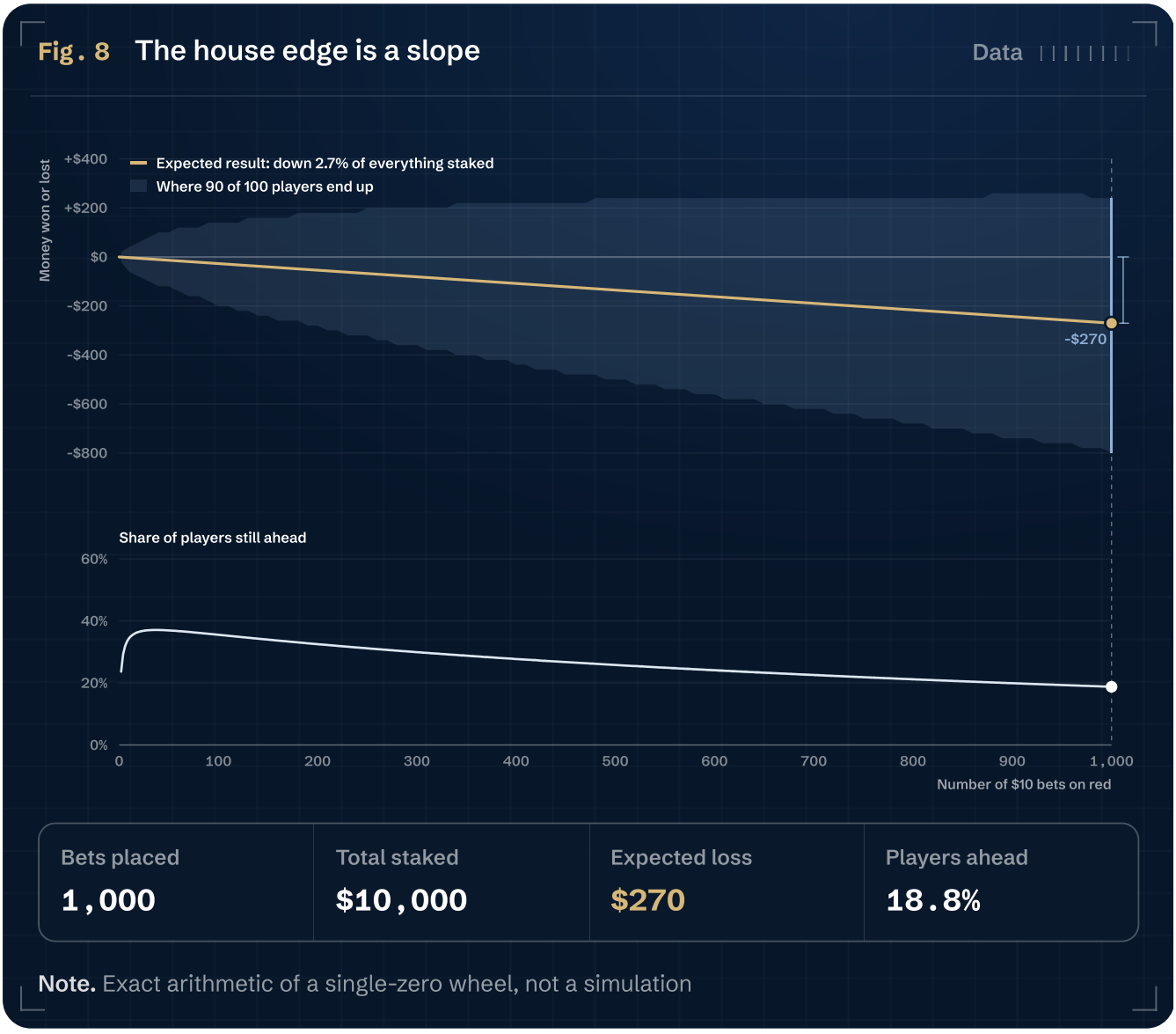


Figure 8. What happens to players who keep betting $10 on red on a single-zero roulette wheel. The straight line is the expected result, falling 2.7% of every dollar staked. The shaded band holds 90 of every 100 players. The lower panel shows the share of players still ahead. All values are calculated exactly from the rules of the game. Move along the bets to read them.

6.2 What about skill?

Sports betting and poker involve some skill, and that's exactly what makes them persuasive. Knowing the teams or reading the table can feel like an edge. But the operator builds its own margin into the odds of every market, so a bettor has to beat the margin as well as the result. And in a study of sports bettors, the strongest predictors of problems weren't how much people bet but why and how they thought about it: betting for money, mistaken beliefs about predicting results, strong urges, drinking problems and lower self-control. Higher-risk bettors were also less likely to watch the event they had bet on, which suggests the bet itself had become the point[52]. The belief that skill will win the losses back is one of the thinking errors measured most consistently in gamblers[46].

This is the point at which many of our clients stop arguing with the urge and start working with the numbers. When a person writes down, from their bank statements, what they have lost and what they owe, the case for one more bet to win it back loses most of its force. The program asks every client to put every problem in their life on paper, money included, before the trigger work starts (Section 15).

In the program · Phase 1, Brain chemistry restabilization **Day 27**

Every problem on paper

The client writes down every problem they're dealing with, including health, money and relationships, without softening any of it. For someone stopping gambling that means the real figures: what has been lost, what is owed and to whom. The figures become evidence for the work on Days 40 to 43.

Section 07

Why is betting on my phone so hard to stop?

Days 3 to 9, Brain chemistry restabilization

In brief

Because the phone removes everything that used to slow a bet down. It's always with you, it never closes, money moves in seconds, and in-play betting turns one match into dozens of bets. Faster games are

more exciting and harder to stop, especially for people who already have a problem.

Betting on a phone is hard to stop because nothing stands between the urge and the bet. For most of history, gambling meant going somewhere: a betting shop with opening hours, a casino a drive away, cash in your pocket. Each of those was a delay, and a delay gives the part of you that makes plans a chance to step in. A phone takes the delays away. Gainsbury's review describes internet gambling, including mobile, as the fastest-growing way to gamble, and names the concerns about it: it is always accessible, the interface is immersive, and money is very easy to spend[10].

7.1 Speed

How fast a game runs changes how people play it. Harris and Griffiths reviewed eleven studies of speed of play. Across the studies, faster games were preferred and rated as more exciting by every kind of gambler, from people with no problem to people with a serious one, and fast games were particularly appealing to people with a gambling problem. The behavioral results were less consistent, but the general trend was that faster games led to more bets, longer play and more difficulty stopping, especially for problem gamblers[53]. Speed matters for a simple reason. Every second between one result and the next bet is a second in which a person might stop. When the next bet is immediate, that second never comes.

The machines that run fastest show it most clearly. Breen and Zimmerman compared 44 people in outpatient treatment for pathological gambling. Those who gambled mainly on machines had met the criteria for the disorder about a year after they started gambling regularly, against about three and a half years for those who gambled on more traditional forms such as cards or racing (1.08 years against 3.58)[54]. Dowling and colleagues caution that the popular description of gaming machines as the crack cocaine of gambling goes further than the evidence, which they found inconclusive[55]. What the research does support is that the features of a game, its speed, its frequency of results and its near-misses, shape how hard it is to stop.

7.2 In-play betting

Sports betting used to be one decision per match. In-play betting turns it into many. Killick and Griffiths' scoping study notes that online sports betting made up 37% of the annual online gambling market in Europe, examined 338 online gambling sites that offered sports betting and found that 26% offered at least one in-play feature, such as cashing out a bet before the match ends. Their review of the research concluded that in-play betting may be more harmful than other ways of betting because of how it is built[56]. It brings the features that make machines hard to stop, fast results and constant chances to bet again, to sport.

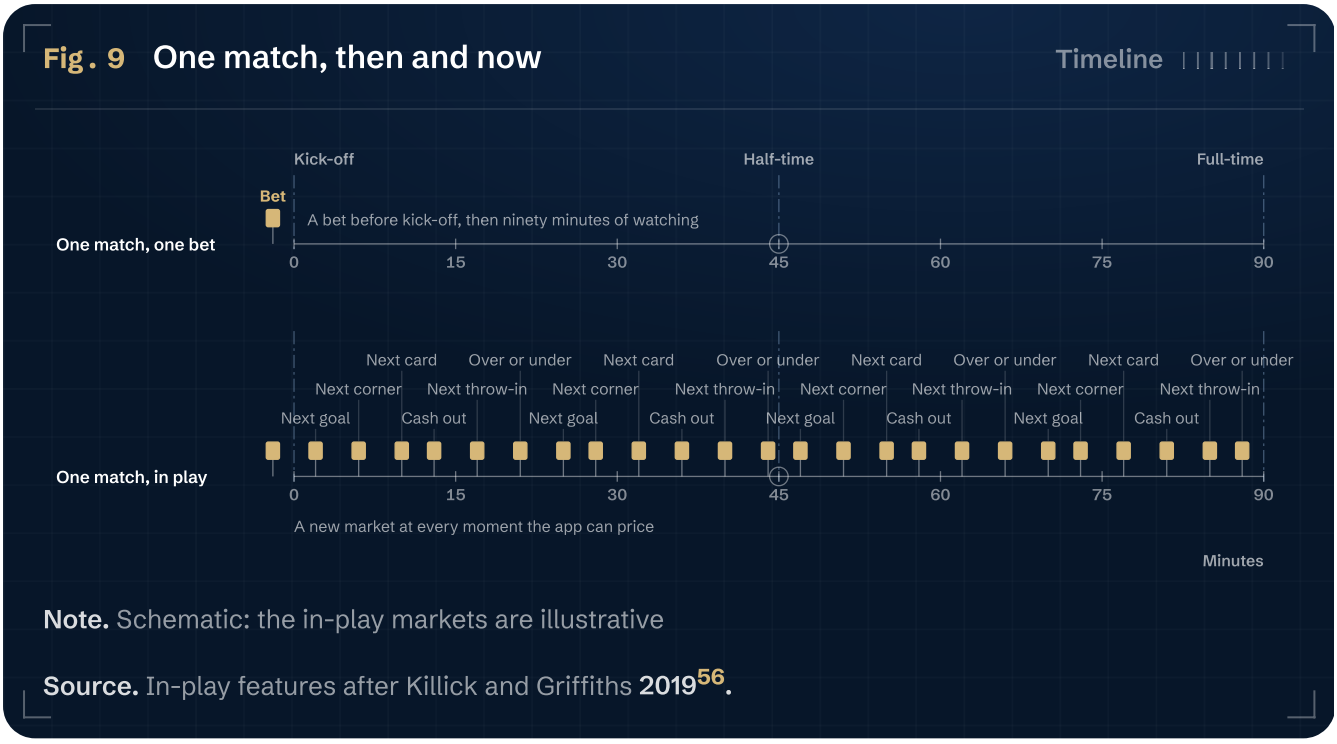


Figure 9. A football match as a betting product. Before in-play betting, a match was one decision made before kick-off. With in-play markets, the app can offer a new bet at almost any moment, so ninety minutes hold dozens of decisions, each with a result in minutes. The markets shown are illustrative; Killick and Griffiths (2019) found at least one in-play feature on 26% of 338 betting sites. Switch views to compare.

7.3 Offers, notifications and the timing of temptation

The phone also brings the triggers to you. Newall and colleagues' review of gambling marketing from 2014 to 2018 found that it is highly targeted and everywhere around sport, that its most common forms promote the brand, complex financial incentives to bet, such as free bets, and complex odds, and that awareness of gambling marketing is associated with gambling more often and taking more risk[57]. A free-bet email that lands on payday, a push notification at half-time and an odds graphic in a sports feed are all triggers, delivered at the moment they are most likely to work. Cue-reactivity research shows that things linked to past use reliably produce craving and arousal[58]. In men with pathological gambling, watching gambling scenes produced strong urges to gamble, rated 5.20 on average against 0.32 in controls, and relatively less activity in frontal brain regions involved in controlling impulses[59].

Late nights make it worse. Matches in other time zones, markets that never close and an app on the pillow keep people up, and a short night weakens the brakes the next day. After a night without sleep, the brain's emotional center reacted more strongly to unpleasant images, and its connection with the prefrontal cortex, which normally keeps it in check, was weaker[60]. One night without sleep also reduced the availability of a type of dopamine receptor in the brain's reward center[61]. A tired person with a betting app in bed is set up to lose the argument.

In the program · Phase 1, Brain chemistry restabilization — Days 3 to 9

Days 3 to 5	**Sleep and the phone at night** The client sets fixed sleep and wake times, gets morning daylight, cuts bright screens in the evening and leaves the phone in another room at night. For someone who bets on their phone, the last of these also removes the chance to place bets in bed.
Day 9	**A day built on fixed anchors** The client builds the day around fixed daily practices spaced through it, so that fewer stretches of the day are empty and unstructured. The program notes that most relapses happen in unstructured time, and match days and market hours are planned in advance.

Section 08

Is trading or crypto gambling?

Day 15, Brain chemistry restabilization

In brief

It can be. Investing and gambling are different, but speculative trading sits in between, and the people who do it have the same thinking patterns and motivations as gamblers. Problem speculation and problem gambling go together, and the investors who trade most earn least.

Trading becomes gambling when it's done for the result rather than the analysis: positions opened to feel something, leverage used to win back a loss, prices checked every few minutes, and trades that would never survive being written down beforehand. Arthur, Williams and Delfabbro reviewed the relationship between gambling, investing and speculation. They concluded that investing is distinct from gambling, but that speculation sits between the two: some of its features are like investing, some are like gambling and several are neither. People who gamble, invest and speculate have similar thinking styles, motivations and personalities, and the link is particularly strong between gambling and speculation. Speculators tend to be heavily involved in traditional gambling as well, and problem speculation is strongly correlated with problem gambling. The authors recommend that speculative trading be included when gambling is assessed, and that it be studied as a possible addiction in its own right[62].

Whether trading has become gambling depends far more on how a person behaves in the market than on which market it is. The same is true of crypto, options and spread betting. The useful questions are the ones in Section 2: whether the trading involves chasing losses, hiding positions or borrowing to keep going, and whether the person feels restless and preoccupied when they try to stop.

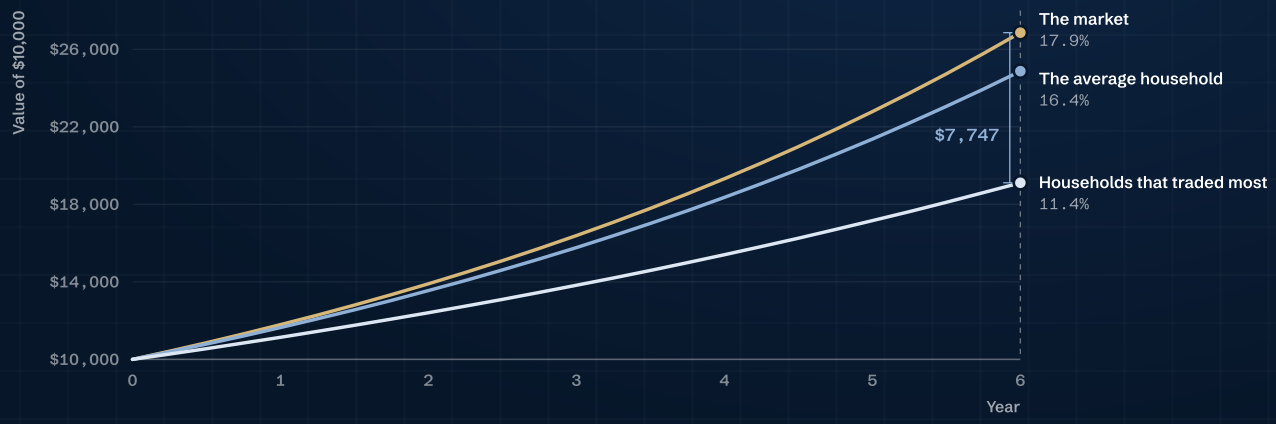
8.1 What frequent trading costs

The money tells the same story. Barber and Odean studied 66,465 households with accounts at a large discount broker from 1991 to 1996. The average household turned over 75% of its portfolio a year and earned 16.4% annually, while the market returned 17.9%. The households that traded most earned 11.4%. The authors attribute the high trading and poor performance to overconfidence, and their conclusion was that trading is hazardous to your wealth[63]. With the complete trading records of every investor in Taiwan, Barber and colleagues later found that individual investors as a group lost 3.8 percentage points a year to their trading, losses equal to 2.2% of Taiwan's gross domestic product, and that almost all of it could be traced to their aggressive orders[64].

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Fig. 10 What trading more did to returns

Data



The market	17.9%	$26,859
The average household	16.4%	$24,872
Households that traded most	11.4%	$19,112

The average household turned over 75% of its portfolio a year

In Taiwan, all individual investors together lost 3.8 percentage points a year to their own trading

Note. Annual returns reported for 66,465 households, 1991 to 1996, compounded here for illustration

Source. Barber and Odean **2000**[63]; Barber et al. **2009**[64].

Figure 10. The annual returns Barber and Odean (2000) reported for 66,465 US households from 1991 to 1996: the market, the average household and the fifth of households that traded most. Each line shows $10,000 growing at that annual rate over the six years of the study. The compounding is our illustration of the reported annual figures; the households' actual paths varied year by year.

For someone whose job involves trading, stopping gambling can't mean leaving the market. It means drawing a clear line between the trading the job requires and the speculation that has turned into gambling, and putting the second behind the same barriers as any other form of gambling (Section 10). In the program that line is worked out with the client's specialist before the stop on Day 15.

In the program · Phase 1, Brain chemistry restabilization **Day 15**

Gambling stops, in every form

Gambling stops: sports bets, casino and poker apps, lottery and scratch cards, fantasy leagues played for money, and speculative trading done for the buzz, together with every other source of big, unearned reward on the client's list. Habits that travel together, such as drinking and betting, stop together.

Section 09

What happens when you stop gambling?

Days 6 to 19, Brain chemistry restabilization

In brief

There's no dangerous physical withdrawal, but stopping is uncomfortable. Most people feel cravings and restlessness, and many sleep badly or feel physically unwell for a while. Boredom, money worries and the urge to check scores or prices are common in the first weeks.

Most people feel restless, irritable and preoccupied when they stop, and many feel physically off for a while. Gambling doesn't carry the medical danger that stopping heavy drinking can, but the discomfort is real and well documented. Rosenthal and Lesieur asked 222 people with pathological gambling about physical symptoms when they tried to cut down or stop, and compared them with people in treatment for substance dependence who gambled at least casually. Sixty-five percent of the gamblers had at least one physical symptom, against 2% of the comparison group. The most common were insomnia, in 50%, headaches, upset stomach or diarrhea, and loss of appetite. Ninety-one percent had cravings and 87% felt restless and irritable[22]. The symptoms were more common in people who gambled more hours and had more severe problems.

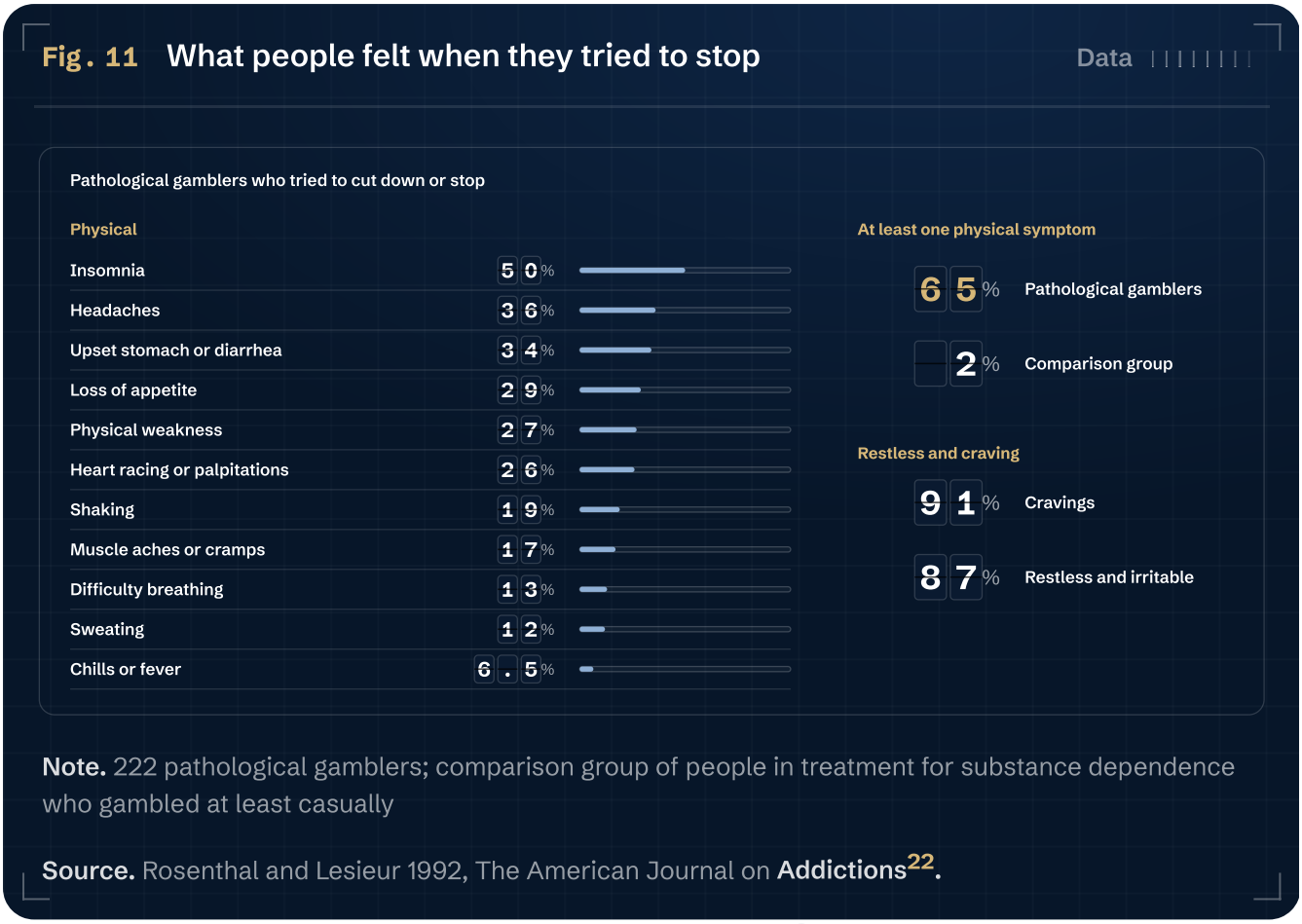


Figure 11. Symptoms reported by 222 people with pathological gambling when they tried to cut down or stop, from Rosenthal and Lesieur (1992). Sixty-five percent had at least one physical symptom, against 2% of a comparison group. These are the study's figures, from people in treatment, and they were reported, not measured. Cravings and restlessness are set out beside the physical symptoms.

Blaszczynski and colleagues compared gamblers, people with alcohol dependence and people with both. Gamblers reported withdrawal symptoms as severe as those of the alcohol-dependent group. The authors noted it was still unclear whether the symptoms come from being unable to gamble or from losing a way of escaping stress[21]. Either way, the first weeks are the hardest, and the program plans for them rather than hoping they'll pass unnoticed.

9.1 Boredom and the missing buzz

Gambling fills empty time better than almost anything, so stopping leaves a lot of empty time. Mercer and Eastwood found that boredom was linked to gambling problems even after allowing for sensitivity to reward, and that people seemed to gamble to raise their arousal more than to escape the bad feeling of boredom[23]. Stopping removes a reliable way of feeling something. That is why the first month of the program fills the day before the stop and adds a demanding new pursuit soon after it (Section 3).

Exercise helps with the restlessness. In a program of eight 50-minute sessions of physical activity for 33 people in treatment for pathological gambling, craving fell after each session and over the program, and anxiety, depressive symptoms and gambling behavior improved[65]. The study was small and had no control group, so it shows that the effect is plausible rather than proven. It fits the wider evidence that exercise affects the reward and stress systems involved in addiction[66].

Cravings come in waves. The elaborated intrusion theory of desire describes a craving as a passing thought that becomes compelling when the mind elaborates on it, imagining the bet and the win, and fades when attention moves elsewhere[67]. No study gives a fixed number of minutes that a gambling craving lasts, and we don't quote one. What the research does show is that an urge that isn't fed tends to pass, and that strong urges and gambling beliefs predict relapse in people trying to stay stopped[68].

In the program · Phase 1, Brain chemistry restabilization **Days 6 to 19**

Day 15	**The first weeks without gambling** From the day gambling stops, the client keeps their attention on their routines and daily practices, not on the gambling. They don't watch the match to see what they would have won, check the odds or argue with the urge. If they do gamble in this stretch, they write down what led up to it, as material for the work in Phase 2.
Days 6 , 16 and 19	**The body under stress** Progressive training and cardio begin on Day 6. Heat and cold exposure come in on Day 16, and a breathing practice on Day 19, all aimed at the stress and restlessness that the first weeks without gambling bring.

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Section 10

How do I block gambling, and does self-exclusion work?

Days 31 to 38, Impulse control

In brief

Close your accounts, sign up to every self-exclusion scheme that covers the sites and venues you use, turn on your bank's gambling block, install blocking software on every device, and stop the

marketing. Self-exclusion isn't watertight, but people who use it gamble less and report feeling better.

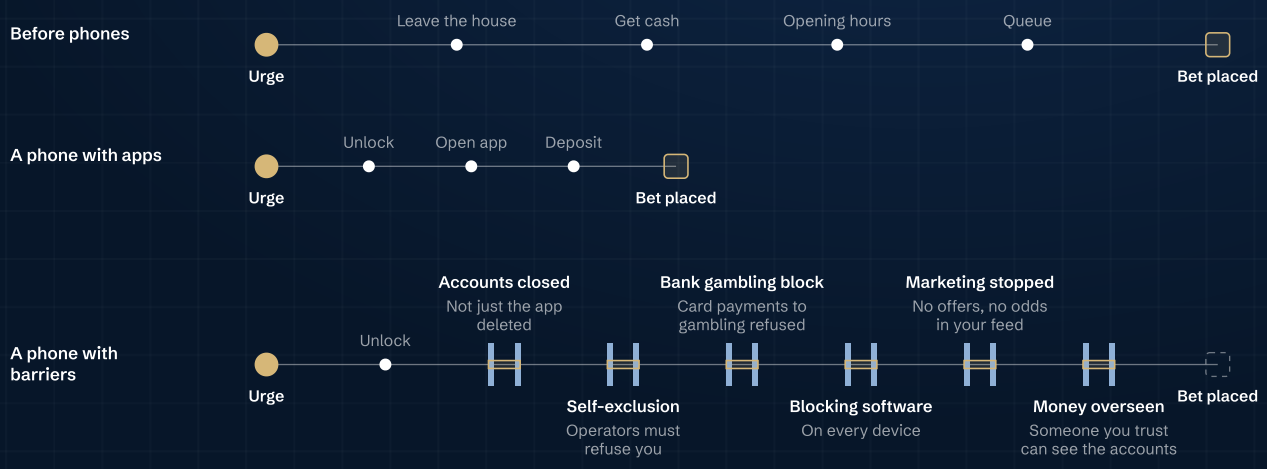
Block gambling at every level you can, because each barrier adds a delay, and a delay is when a plan has a chance to work. Close the accounts rather than only deleting the apps. Self-exclude from the operators and venues you use; many countries have a national scheme that covers all licensed online operators at once. Turn on the gambling block that many banks now offer on cards. Install blocking software on every phone, tablet and computer. Unsubscribe from every marketing email and text, leave the tipster and trading groups, and mute accounts that post odds. If it helps, ask someone you trust to have oversight of your accounts for a while. None of these is a cure. Together they turn a few taps into a long, deliberate effort.

This follows a basic finding about self-control. Strategies that change the situation before an urge starts work better than resisting an urge already under way[69]. Habits are triggered by settings, so changing the setting is one of the most reliable ways to break one[70]. Resisting the bet at eleven at night, alone, after a loss, is the hardest version of the task. Making the bet impossible to place at that moment is the easiest.

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Fig. 12 The distance between an urge and a bet

Process



Each barrier adds a step, a delay or a person between the urge and the bet.

In one casino scheme, 30% of people who excluded themselves reported they had stopped gambling completely

Note. Schematic: steps, not measured times

Source. Self-exclusion figure from Ladouceur et al. 2000[71].

Figure 12. The steps between wanting to bet and having bet, before phones, on a phone with betting apps, and on a phone with barriers in place. Each barrier adds a step, a delay or another person, and gives a plan time to work. The steps are drawn to show the structure, not measured times. Switch between the three to compare.

10.1 What the evidence on self-exclusion shows

Self-exclusion is an agreement with a gambling operator, or a national scheme, that it will refuse to let you gamble for a set period. The evidence is encouraging but limited. In a study of 220 people who had barred themselves from a Canadian casino, 95% scored as severe pathological gamblers, and 30% reported that they had stopped gambling completely once enrolled[71]. A follow-up of 161 people who excluded themselves, interviewed at 6, 12, 18 and 24 months, found that the urge to gamble fell and the sense of control rose, that the harm gambling did to daily life, social life, work and mood went down, and that the number of diagnostic criteria they met fell, a drop already visible by six months[72]. A study in European casinos found the same improvement in people's wellbeing, starting from the moment the agreement was signed, and noted that people's willingness to change peaked at the time they decided to exclude[73].

Gainsbury's review gives the balance. Self-exclusion programs are under-used by people with gambling problems, and they are not completely effective: some people gamble in venues they have excluded from, or switch to other forms of gambling. But people who self-exclude generally report less gambling and better psychological wellbeing and functioning[74]. That is why one barrier isn't enough. Self-exclusion closes one door, and the bank block, the blocking software and the money oversight close the others. Hayer and Meyer's finding that the willingness to change is highest at the moment of decision is also a practical point: put the barriers in place the day you decide, not later.

10.2 The money

Money is the access route that matters most, because no bet can be placed without it. Borrowing is one of the diagnostic criteria for gambling disorder, credit use and debt rise with how severe the problem is, and financial institutions are increasingly asked to recognize the harm that easy credit does to customers with gambling problems[20]. Practical steps follow from that: a bank card gambling block, lower or no available credit, and wages paid into an account the person can't spend from on impulse. For some people, letting a trusted person see the accounts for a while is the barrier that makes the others hold.

In the program · Phase 2, Impulse control — **Days 31 to 38**

Days 31 and 32	**Access removed** On Day 31 the client maps everything that sets off their gambling. On Day 32 they remove every trigger that can be removed: for gambling, the accounts, apps, saved cards, marketing and groups, and the routes past betting shops or casinos. Blockers are installed on every device. The program is clear that these are distance, not a solution: they slow the next bet down enough for the skills that follow to work.
Day 38	**Situations that can't be avoided** For situations the client can't skip, such as a big match with friends, a work trip to a city with casinos or a desk where people talk about trades all day, they decide in advance how they will handle it, where they will be and who will know they've stopped.

Section 11

What triggers a gambling relapse, and how do you stop it?

Days 44 to 60, Impulse control

In brief

Relapses happen most often in the evening, when people are alone and thinking about money, and they're driven more by thoughts about winning than by low mood. You prevent them by knowing your triggers, removing the ones you can, and deciding in advance what you'll do about each one that's left.

The single most common setting for a gambling relapse is an evening alone with money on your mind. Hodgins and el-Guebaly followed 101 people who had recently stopped gambling for a year and asked about every relapse. Relapses varied a lot, but they happened most often in the evening, when the person was alone and thinking about their finances. Moods before a relapse were as likely to be good as bad. The most common reasons people gave, especially for major relapses, were thoughts about winning and feeling a need to make money. That is different from relapse to drugs and alcohol, which people tend to put down to bad moods[1]. Gambling is the one addiction that promises to solve the problem it has caused, and that promise is often the trigger.

Research on relapse in gambling is still thin. Ledgerwood and Petry's review found no consistent definition of relapse and only a few studies that had measured it directly, and drew on the wider addiction research to fill the gaps[75]. What that wider research shows applies here. Triggers are learned: a match, a payday, a notification or the sofa on a Saturday becomes linked to betting through repetition, and the link survives stopping. Bouton's work shows that stopping a learned behavior doesn't erase the learning. It adds a new memory that depends on context, which is why the old response returns in old settings, after time has passed, or after a single exposure[76].

11.1 The thoughts that argue for a bet

Because the reasons people give for gambling relapse are so often thoughts about winning, the thoughts themselves need work. In a study of Gamblers Anonymous members, stronger urges and more mistaken beliefs about gambling went with relapse, while attending meetings and support from family and friends went with staying stopped[68]. Table 3 sets out the thoughts that come up most often, and what the evidence in this paper says about each.

Table 3. Thoughts that argue for a bet, the thinking error behind each, and what the evidence in this paper says. The thoughts are typical examples, not quotations from clients.

The thought	The error	What the evidence says
I'm due a win.	The gambler's fallacy	Each spin or bet is independent; the gambler's fallacy is the most consistently measured error in problem gamblers[46]
I'll win it back, then I'll stop.	Chasing	Each attempt needs a bigger stake against the same odds, and long losing runs are certain to come (Section 5)[9]
I know this team. I know this market.	The illusion of control	Choice and familiarity raise confidence beyond the odds[45]; the operator's margin is built into every price
I was so close last time.	The near-miss	A near-miss pays nothing, but engages reward circuits as a win does[6]
That loss was a fluke.	Biased evaluation	Bettors explain away losses and bolster wins[48]
One big win would fix everything.	Ignoring the edge	The longer you play, the smaller the share of players who are ahead (Section 6)
This is investing, not gambling.	Mislabeling speculation	Speculation and gambling overlap closely, and the most active traders earn least[62, 63]

Knowing a thought is wrong doesn't stop it arriving, so the work is to recognize it quickly and already know what it is. Suppressing a thought tends to make it return[50], and naming what you feel can reduce the emotional brain's response to it[77]. A thought about winning it back, recognized on sight as the one that always comes after a loss, has much less power than the same thought taken at face value.

11.2 A response for every trigger

Triggers that can't be removed need a response decided in advance. Implementation intentions, plans of the form if this happens, then I will do that, have a medium-to-large effect on reaching goals across nearly a hundred studies[78], and deliberately watching for the moment a habit starts helped people control strong habits[79]. A response decided in advance moves the decision from the evening,

when the urge is strong and self-control is weak, to the morning, when it isn't. For an urge that is already under way, urge surfing, noticing the urge in the body and watching it rise and fall without acting on it, reduced the link between craving and use in a study of smokers[80]. The program names gambling among the habits it is used for.

In the program · Phase 2, Impulse control — **Days 44 to 60**

Days 44 to 51	**Emotion, stress and the urge itself** The client works on the emotions and stress that set off gambling, including the stress of facing the money, with breathing and relaxation practices. On Day 49 they learn to observe an urge in the body and let it pass without acting on it. On Day 51 they build a vivid picture of their future self to hold against the pull of one more bet.
Days 52 to 60	**A response for every trigger** Every remaining trigger is matched to a prepared response, and the client practises the whole set for a week while recording every urge. Match days, paydays, offers and the thought about winning it back each have a planned response.

The stress work matters more for gambling than its reputation suggests, because the stress is often caused by the gambling itself. Debts, hidden accounts and the conversations that haven't happened yet don't go away when the betting stops. Stress makes people fall back on habits[3] and weakens the prefrontal control needed to resist them[2]. A response to money stress that isn't a bet has to be in place before the first hard phone call with a lender.

Section 12

What should I do about gambling debt, and who else does it hurt?

Days 27 to 90

In brief

Face the full figure, get free debt advice, and stop any borrowing that funds gambling. Gambling harm reaches well beyond the gambler: a typical person with a gambling problem affects about six people.

Gambling problems are also linked to a much higher risk of suicide, so get help early.

Start by getting the whole figure onto paper, every debt, every account and who is owed, and then get free debt advice before making any deal with a lender. Non-profit debt services can help you work out what you can afford, deal with creditors and avoid borrowing more. Don't use gambling to fix the debt. Section 6 explains why that makes it worse, and Section 5 why the urge to do it is so strong. The figures matter because the debt itself becomes a trigger: thinking about money is one of the most common settings for a relapse[1].

The harm is measurable at scale. Muggleton and colleagues used anonymous data from a UK retail bank covering up to 6.5 million people over up to seven years, and examined how gambling, as a share of monthly income, was linked to 31 financial, social and health outcomes. Gambling was associated with more financial distress and less saving and planning, with worse lifestyle, health and wellbeing outcomes, with higher rates of later unemployment and physical disability, and, at the highest levels of gambling, with substantially higher mortality. The associations were strongest among the heaviest gamblers, and gambling tended to persist over time[81]. These are associations, not proof that gambling caused each outcome, but they come from what people actually spent, not what they reported.

Debt makes everything else harder. Swanton and Gainsbury's review found that gambling-related debt increases the likelihood of psychological distress, substance use, harm to the family, crime and suicidality[20]. Langham and colleagues' framework for gambling harm shows that the harms aren't limited to people who meet the criteria for a disorder, and that they reach families and communities[19].

12.1 The people around you

Goodwin and colleagues asked 3,076 Australians with gambling problems, and 2,129 people affected by someone else's gambling, how many people a gambling problem harmed. The people affected estimated six, including themselves; the gamblers estimated four. The authors concluded that six is the more accurate figure, because people with gambling problems tend to understate the harm. Low-risk and moderate-risk gamblers affected about one and three people. The people most often harmed were close family: partners and children[82].

Fig. 13 How many people one gambling problem reaches Data



1	**Low risk**	About one other person affected
3	**Moderate risk**	About three other people affected
6	**Problem gambling**	About six people affected, counting the person answering

People with gambling problems themselves estimated four

Note. Estimates from 3,076 people with gambling problems and 2,129 people affected by someone else's gambling, in Australia

Source. Goodwin et al. 2017, International Gambling **Studies**[82].

Figure 13. The number of people negatively affected by one person's gambling, by how serious the gambling is, as estimated by Goodwin and colleagues (2017) from 3,076 people with gambling problems and 2,129 people affected by someone else's gambling. The roles shown around the figure are illustrative; the study found that partners and children were affected most often. Select a level to compare.

12.2 Suicide risk

Gambling problems carry a serious risk of suicide, and it should be said plainly. In a Swedish national register study of 2,099 people diagnosed with gambling disorder between 2005 and 2016, the suicide rate was 15 times that of the general population, and deaths from all causes 1.8 times; depression predicted suicide death[83]. In a national survey of 7,403 adults in England, 19.2% of people with problem gambling had had suicidal thoughts or attempts in the past year, against 4.4% of everyone else. Allowing for depression, anxiety, substance dependence and other factors reduced the difference, but problem gamblers still had 2.9 times the odds[84]. Among 3,549 young adults aged 16 to 24 in Great Britain, problem gambling was linked to nine times the odds of a suicide attempt in young men and nearly five times in young women, after adjusting for other factors[85].

If you're thinking about suicide

Tell someone today. Contact emergency services or a crisis line. In the US, call or text 988. In the UK and Ireland, call Samaritans on 116 123. In India, call Tele-MANAS on 14416. These services are free and you don't need to be in immediate danger to call. The feelings that come with gambling losses, the shame, the panic about money and the sense that one big win is the only way out, are common and they pass. A debt can be dealt with. Phalanx Labs is not a crisis service, and the program is not the right help on its own for someone at risk of harming themselves.

In the program — Days 27 to 90

Day 27	**The money, on paper** The client writes down every problem they are dealing with, money included, with the real figures. Seeing the whole picture is uncomfortable, and it replaces a vague dread that feeds the urge to win it back with a problem that can be planned for.
After Day 90	**Facing what it cost other people** In the work on self-forgiveness after Day 90, the client faces what gambling has cost them and the people around them, including the money and the lies, so they can stop carrying it and keep the commitments they have made.

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Section 13

Can you stop gambling on your own?

Days 1 to 7, Brain chemistry restabilization

In brief

Some people do. About a third of people who have had gambling disorder recover without formal treatment. But most attempts don't last, and structured help works better than trying alone: talking

therapies, especially cognitive behavioral therapy, have the strongest evidence, and some medication can reduce urges.

Some people stop on their own, and that's worth knowing, because gambling disorder isn't a life sentence. Slutske examined two large US national surveys. Among people who had had pathological gambling at some point in their lives, 36% to 39% had had no gambling problems in the past year, yet only 7% to 12% had ever had treatment or gone to Gamblers Anonymous. About a third, in other words, had recovered without formal help[86]. But staying stopped is hard. In the study that followed 101 people who had recently stopped, only 8% went the next twelve months without gambling at all[1].

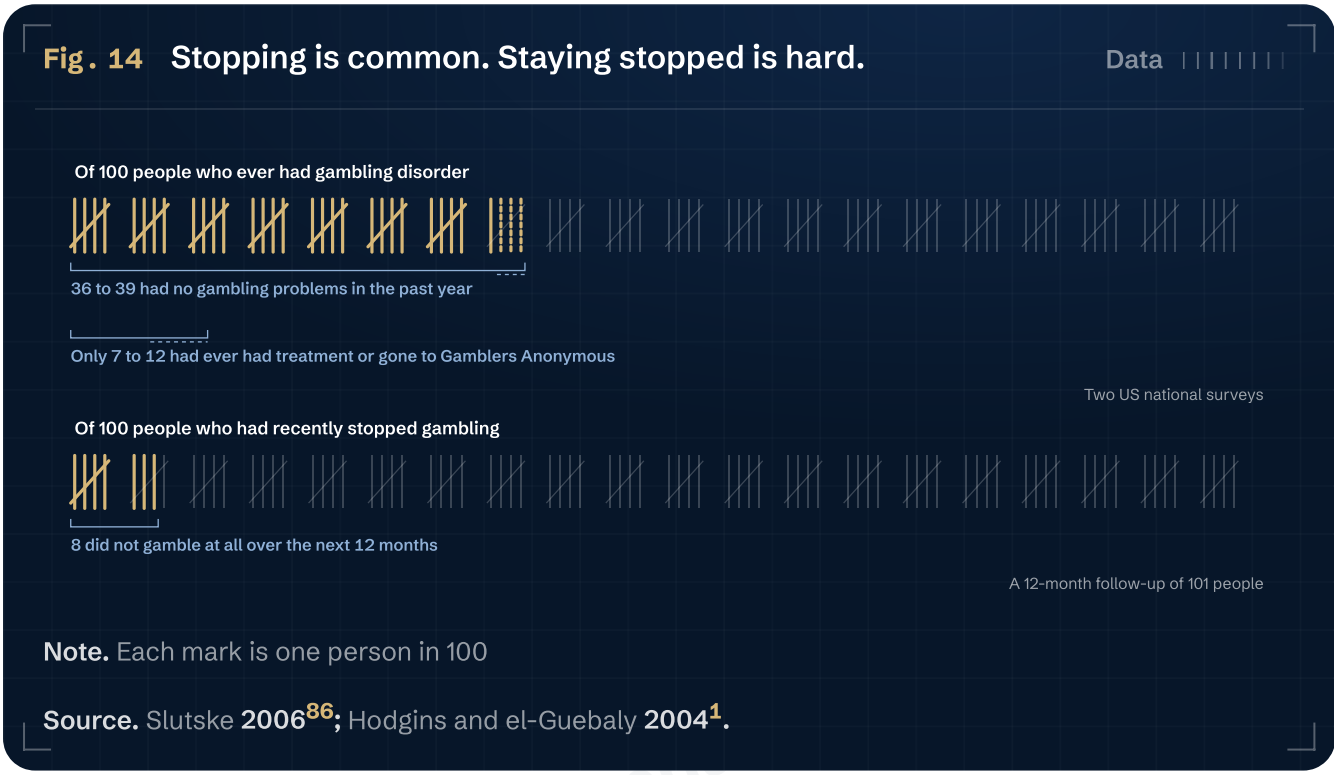


Figure 14. Two findings drawn as tallies of 100 people. Top: of people who had ever had pathological gambling, 36 to 39 had no gambling problems in the past year, while only 7 to 12 had ever had treatment or gone to Gamblers Anonymous (Slutske, 2006). Bottom: of 101 people who had recently stopped gambling, 8% did not gamble at all over the next 12 months (Hodgins and el-Guebaly, 2004). The two studies measured different things in different people.

13.1 What treatment has been shown to do

Talking therapies have the strongest evidence. A Cochrane review of 14 randomized trials with 1,245 people found that cognitive behavioral therapy, compared with control conditions, had benefits in the three months after treatment that ranged from medium, for money lost to gambling, to very large, for the severity of gambling symptoms. Only one trial measured outcomes nine to twelve

months later, and its effects were smaller and not statistically significant, so how long the benefit lasts is less certain[87]. In one of the larger trials, 231 people with pathological gambling were randomly given a referral to Gamblers Anonymous, the referral plus a workbook, or the referral plus eight sessions of individual cognitive behavioral therapy. The therapy reduced gambling compared with the referral alone, and both going to meetings and completing more sessions or exercises were linked to stopping[88].

Some medication helps with urges. In an 18-week trial, 77 people with pathological gambling were randomly assigned to naltrexone, an opioid blocker, or a placebo. Those on naltrexone had significantly larger reductions in gambling urges and gambling behavior, and the lowest dose worked as well as the higher ones[89]. No medication is formally approved for gambling disorder, but placebo-controlled trials suggest that opioid blockers can help, and cognitive behavioral therapy, motivational interviewing and Gamblers Anonymous are all supported[18]. The evidence for Gamblers Anonymous itself is mixed: a scoping review of 17 studies found its effectiveness inconsistent[90], while in one study of members, attending meetings and support from family and friends went with staying stopped[68]. Any decision about medication belongs to a doctor. Our program doesn't prescribe or recommend it, and it works alongside whatever care a person has.

What these approaches share is structure: a plan, a way of tracking what happens, work on the thoughts that drive gambling, and other people involved. Recording progress toward a goal improves the chances of reaching it, especially when the record is written down or shared[91]. People who stop alone can borrow that structure. They rarely have it by accident.

In the program · Phase 1, Brain chemistry restabilization **Days 1 and 7**

Tracking and support

From Day 1 the client keeps a brief nightly log and, each week, a written progress update. From Day 7 they meditate daily, groundwork for noticing urges. The client checks in with our team through the program, and has a progress call at the end of each of the first two phases.

Section 14

What should I do if I gamble again?

Days 15 to 60

In brief

Don't try to win it back. One bet is one event. Carrying on the next day to recover it is what turns one bet into a relapse. Write down what led

to it, close whatever gap let it happen, and tell someone the same day.

If you place a bet after stopping, the most important thing is what you do next: don't try to win it back. With gambling, a single bet turns into chasing faster than with almost any other habit, because the loss itself creates the reason for the next bet (Section 5). The program's rule is that one bet is one event. Going back the next day to chase it, or to feel the rush again, is what the program calls a relapse. So stop the same day, write down what led up to it, close the gap that let it happen, whether that was an account, an app, a card or a free evening, and tell someone. If you're working with us, contact our team straight away.

How you explain the bet matters. Curry, Marlatt and Gordon studied people who had a cigarette after stopping. Those who blamed the lapse on something internal, stable and global about themselves, such as a lack of willpower, were more likely to go on to a full relapse[92]. Marlatt called this the abstinence violation effect: the feeling of having already failed, which makes it seem pointless to stop again. With gambling it has a sharper edge, because the bet left a loss, and the thought that comes with the shame is often that the only way to undo it is to win the money back. Witkiewitz and Marlatt's model of relapse treats a lapse as an event with causes that can be found and changed, not as proof that the attempt has failed[93].

Coming back to get even is one of the two forms of chasing Zhang and Clark describe, alongside chasing within a session[9]. It's the version that follows a lapse. A bet placed on a Tuesday is a lost stake. A run of bets on Wednesday, Thursday and Friday to recover it is a relapse with a bigger hole. The difference between the two is decided in the hours after the first bet, and it can be decided in advance.

In the program — Days 15 to 60

Days 15 to 30	**Learning from a lapse** If the client gambles in the first weeks after stopping, before the trigger work in Phase 2, they write down what happened and what led up to it. Those notes become material for the trigger map and the responses built from Day 31.
Days 52 to 60	**The plan for a lapse** The response set built in Phase 2 includes what the client will do in the hours after a bet: who they contact, which gap they close and how they deal with the urge to win it back.

If you gamble again

Don't try to win it back. Stop the same day. Write down what led up to it. Close the gap that let it happen: the account, the app, the card or the empty evening. Tell someone you trust, or contact our team if you're working with us. If the loss has left you feeling desperate or thinking about harming yourself, contact a crisis line now (Section 12).

Section 15

What does the Phalanx program target for someone stopping gambling, and when?

Days 61 to 90, Identity rewiring

In brief

Ninety days in three phases. The first month rebuilds sleep, structure and the shape of the day, puts the money on paper, and stops gambling on Day 15. The second month cuts off access, maps every trigger and builds a response for each. The third works on identity and the people and places that still tempt a bet. Six months of aftercare follow.

The Behavior Control System is the same 90-day program for every habit, applied to the loop beneath each person's gambling. Days 1 to 30 rebuild the ground gambling has been running on: sleep, the body clock, exercise, stress and a structured day with no long empty stretches. The client stops gambling on Day 15, in every form, after two weeks of that work. Days 31 to 60 work on the moment a bet actually happens: every trigger is mapped, access is removed wherever it can be, and each trigger that's left gets a prepared, rehearsed response, including the thoughts about winning it back and the stress of the money. Days 61 to 90 work on identity, on what drove the person to risk in the first place, and on the betting culture, events and relationships that still tempt them to bet. Six months of aftercare follow. It asks for about thirty minutes of focused work a day: a short lesson each morning, a brief log each night, and a set of daily practices, which the program calls north stars, built into the routine the person already has.

15.1 Before Day 1

Every program starts with a Root-Cause Diagnostic: an application describing the habits involved and what has already been tried, followed by a thirty-minute, one-on-one conversation with our team. For gambling it has two jobs. The first is safety: it asks about debt, about risk to the person themselves, about medication that might be driving the gambling, and about drinking or other drugs that may need a doctor's involvement (Sections 2 and 17). The second is to identify the loop beneath the gambling: what it does for the person, the earliest recurring trigger, the conditions that make it likely, why earlier attempts broke down and what's missing for change to hold. Two people who both bet every day rarely have the same loop. One bets on in-play markets for the buzz during otherwise flat evenings; another trades to win back losses they're hiding; a third plays casino apps to switch off from stress. The structure of the diagnostic parallels the three domains the Addictions Neuroclinical Assessment proposes for this problem: the urge set off by triggers, negative emotion and executive function[94]. It also draws on the pathways model, which distinguishes gambling that was mainly learned from gambling that serves an emotional need[26]. It is not a clinical assessment.

A preparatory phase, Phase 0, follows before Day 1 and doesn't count toward the 90 days. It separates the decision to stop from the start. The client sets out in concrete terms the life they are building and what gambling has cost it, makes a commitment to someone who matters to them, chooses a start date that marks a real boundary in their life, and proves to themselves that they can hold one full day of control. The choice of start date rests on the fresh start effect: temporal landmarks such as the start of a week, a month or a meaningful date were followed by increases in aspirational behavior[95]. The day of control rests on Bandura's finding that direct experience of succeeding at a behavior is the most dependable source of belief that one can do it[96]. A commitment that is recorded and made to another person holds better than a private one[91].

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Fig. 15 The 90 days for someone stopping gambling

Timeline



Day 15. Gambling stops

Brain chemistry restabilization, Days 1 to 30

Homeostasis

Day 1	Nightly log begins
Day 3	Fixed sleep and wake times
Day 5	Phone out of the bedroom
Day 9	A day built on fixed anchors
Day 12	Every cheap reward listed
Day 15	**Gambling stops**
Day 17	A demanding new pursuit
Day 18	Awareness training
Day 27	Every problem on paper, money included

Impulse control, Days 31 to 60

Abstinence with systems

Day 31	Full trigger map
Day 32	Accounts, apps and access removed
Day 38	Unavoidable situations planned
Day 40	The thoughts that argue for a bet
Day 45	Stress and gambling again
Day 49	Watching an urge pass
Day 52	A response for every trigger

Identity rewiring, Days 61 to 90

Burn down the old subconscious and unconscious thinking models

Day 61	Identity work begins
Day 65	What motivates you, pointed elsewhere
Day 68	Betting culture and outside pressures
Day 71	Rehearsing high-risk situations
Day 81	Replacing what gambling did

Figure 15. The program drawn as a 90-day ledger, one cell per day, with the three phases and the days on which the targets that matter most for gambling are introduced. Gambling stops on Day 15. Phase 0 comes before Day 1, and six months of aftercare follow Day 90. Select a marked day to read its target. The exercises themselves are not published.

Table 4. The day map for someone stopping gambling: what each stretch of the program targets, and the evidence behind the choice. Days refer to the program calendar. The table states the target only; the exercises themselves are not published.

Days	Target	Why it matters for stopping gambling
Before Day 1	Root-Cause Diagnostic: the loop beneath the gambling, and checks for debt, risk to self and medication	Gambling disorder carries a raised suicide risk[83]; the loop is read across trigger-set urges, negative emotion and executive function[94]
Before Day 1	Commitment, a meaningful start date, one day of control	Fresh starts and direct experience of success raise follow-through[95, 96]
1 to 2	How the loop works; the nightly log	Recorded monitoring of progress improves goal attainment[91]
3 to 5	Sleep and wake times, daylight, evening light, phone out of the bedroom	Sleep loss weakens prefrontal control of emotion[60]
6	Progressive resistance training and cardio	Physical activity reduced craving and anxiety in people treated for gambling[65]
7	Daily meditation	Groundwork for observing urges; mindfulness-based relapse prevention reduced relapse to drugs and heavy drinking[97]
9	A day built on fixed anchors	Boredom and the search for arousal are linked to gambling problems[23]
10 to 14	The loop, every cheap reward listed, self-assessment	Gambling rarely travels alone[24]
15	Gambling stops, in every form; habits that travel together stop together	Each bet keeps the learned links to its triggers alive[76]
16 to 26	Heat and cold exposure, a demanding new pursuit, awareness training, breathing, memory and strategy training, perspective	Other rewards compete with the bet; vigilance controls strong habits[41, 79]

Days	Target	Why it matters for stopping gambling
27 to 30	Every problem on paper, money included; how dopamine and triggers work	Debt and thoughts about money are among the strongest relapse settings[1, 20]
31 to 32	Full trigger map; accounts, apps, cards, marketing and routes removed	Changing the situation beats resisting an urge already under way[69]; self-exclusion reduces gambling[74]
33 to 39	Why the early weeks are hard, the response sequence, unavoidable situations, breaking the routine	Cravings and restlessness are near universal when stopping[22]
40 to 43	The thoughts that argue for a bet	Thinking errors are large and consistent in problem gamblers[46]
44 to 51	Emotion, stress, breathing, relaxation, urge observation, an earned reward, the future self	Gambling raises cortisol, and money stress is a common relapse setting[1, 32]
52 to 60	A response for every trigger; daily practice and an urge record	Implementation intentions have a medium-to-large effect on reaching goals[78]
61 to 70	Identity, motivation, betting culture, outside pressures, limiting beliefs	Identity shapes which actions feel natural[98]; recovery is also a change of social identity[99]
71 to 80	Rehearsal of high-risk gambling situations	Mental practice improves performance[100]
81 to 90	Replacing each function gambling served; review of the 90 days	A new routine takes weeks to months to become automatic[101]
After 90	Self-forgiveness, identity reinforcement, six months of aftercare	How a lapse is explained predicts whether it becomes a relapse[92]

15.2 Why the order matters for gambling

The order follows from the research in Sections 2 to 14. Gambling stops after two weeks of work on sleep, structure and stress, because the empty evenings and the stress that set off most relapses need something already in place on the first night without a bet[1, 23]. The money goes onto paper at the end of the first month, before the work on thoughts about winning it back, so that the client's own figures are ready as evidence. Access is removed systematically at the start of the second month, guided by a full map of the triggers, so that the barriers cover every route rather than only the obvious one, and the responses that follow have time to work in the delay those barriers create[69]. Identity and social context come last, because they change slowest and because a new self-description needs weeks of evidence behind it to be believed.

In the program · Phase 3, Identity rewiring — **Days 61 to 70**

Identity and motivation

Gambling is often tied to how people see themselves: the one who knows sport, the trader, the risk-taker, the one always one win away from fixing everything. The client works on that self-image and on the betting culture around them. On Day 65 they identify what drives them, whether achievement, connection with others or power and winning, and point it at goals that build something.

The motivation work matters for gambling because the drive behind it is often a good one in the wrong place. A person who loves competition, reading odds and taking calculated risks doesn't need to stop being that person. They need somewhere for it to go that adds up over time instead of draining away. People act in line with the identity that feels relevant at the moment[98], and recovery from addiction often involves taking on a new social identity as well as dropping an old one[99].

In the program · Phase 3, Identity rewiring — **Days 81 to 90**

Replacing what gambling did

The client confirms a replacement for each function gambling served: the buzz, the escape from stress, the hope of a big change, the thing to do during a match or a quiet evening. They review the full 90 days against their log and record what they have gained.

Replacement comes last because a habit that served a function leaves a gap when it stops, and a gap left empty tends to be filled by whatever is most available. A replacement placed at the same time and in the same setting as the old bet can take over its context[39]. Lally and colleagues found that the automaticity of a new daily behavior built up gradually, reaching 95% of its plateau after a median of 66 days, with wide variation between people, and that missing a single occasion didn't materially affect the process[101]. By Day 90 the replacement has been in place long enough to begin running on its own. Rebuilding finances usually takes longer than 90 days, and the aftercare period exists partly for that stretch.

15.3 In our clients' words

None of the clients whose stories we have published came to us mainly for gambling, so this paper quotes no client. We would rather leave the section without a quotation than borrow one from someone who came for a different habit. Our results for gambling are part of the overall figures reported in Section 16.

What this paper does not publish

This paper states what each part of the program targets for someone stopping gambling, on which days and why, with the evidence for each choice. It does not publish the exercises, their steps, scripts, worksheets or wording. A reader can evaluate the reasoning from this paper, but cannot reproduce the program from it.

Section 16

What do our results show, and what can't this paper tell you?

In brief

We report a 97% success rate, meaning clients who ran the program and stayed off the habit through the program and six months of aftercare. It comes from our own client follow-up, not from a controlled trial, and the research in this paper supports each part of the method without testing the whole.

Phalanx Labs has worked with 290+ clients across 12 countries over 7 years. Of those clients, 98.4% had already tried and failed to stop before they came to us. Our success rate is 97%, defined as the share of clients who ran the program and stayed off the habit through the program and the six months of aftercare that follow it. That rate covers all of our clients and all of the habits they came with. We don't publish a separate rate for gambling. Because the definition matters as much as the number, we set out below what each figure counts, how it is known and what it does not establish.

Table 5. The figures we report, what each one counts and how it is known. All figures are drawn from our own client records and cover every habit we work with, not gambling alone.

Figure	What it counts	How it is known
290+ clients	People who have worked with Phalanx Labs over 7 years	Client records
12 countries	Countries in which those clients lived while working with us	Client records
98.4%	Share of clients who had already tried and failed to stop before they came to us	What clients reported about their history in their application and the diagnostic
97% success rate	Clients who ran the program and stayed off the habit through the program plus 6 months of aftercare	Client follow-up across the program and the six months of aftercare

16.1 How outcomes are tracked

Throughout the program, the client keeps a nightly log and completes a weekly progress update. These are written records of what happened, what was difficult and what was handled; they are not scored instruments. At the end of each of the first two phases the client has a progress call with our team, the first around Day 28 and the second after Day 60. During aftercare we follow up with clients on whether they have stayed off the habit. A client counts as a success when they have run the program and stayed off the habit through the program and the full six months of aftercare.

16.2 What our figures do not show

- Self-report. Whether a client has stayed off gambling is known from what the client tells us, not from bank or operator records.
- Selection. Clients choose to apply, are accepted after a diagnostic in which we decline people we can't help, and are counted only if they ran the program. People who decide to work with us may differ in motivation or circumstance from people who don't.
- No comparison group. We can't say how many of the same people would have stopped through another route, such as therapy, medication, Gamblers Anonymous or on their own, over the same period. Section 13 shows that a substantial share of people recover without treatment.

- Time window. The success rate covers the program and six months of aftercare. It doesn't describe what happens after that, and the relapse research in Section 11 shows that risk continues beyond it.
- All habits together. The rate is across every habit our clients bring. We don't report a rate for gambling alone, and a single rate doesn't predict the outcome for any one person.

16.3 What the research in this paper does not show

The studies cited here have their own limits, and readers should weigh them. Several of the most vivid findings come from small samples or from people who were not problem gamblers: the near-miss and disguised-loss studies used healthy volunteers, students or novice players[6, 7, 44], the dopamine imaging studies scanned a few dozen people at most[14, 15], and the withdrawal figures come from people in treatment who reported their own symptoms[22]. The uncertainty finding in Section 3 was made in monkeys[13]. The research on suicide and on financial harm shows strong associations but can't by itself show that gambling caused each outcome[81, 84]. Some of the methods described in this paper, such as urge surfing and implementation intentions, were tested mainly in other habits[78, 80], and we use them for the mechanism they describe and say so where we cite them. The evidence on self-exclusion comes mostly from people who chose to enroll, without comparison groups[74].

Other approaches have stronger trial evidence than ours. Cognitive behavioral therapy for gambling has been tested in randomized trials[87, 88], and naltrexone reduced urges and gambling in a placebo-controlled trial[89]. Our method has not been tested in a randomized or controlled trial, its outcomes have not been assessed independently, and it has not been published in a peer-reviewed journal. The research supports the reasoning behind each element. It doesn't show that the combination works, or how much each element contributes. The figures in Table 5 are our evidence for the combination, with the limits stated above. A controlled evaluation would need independent outcome assessment, ideally with financial records, a comparison condition and follow-up beyond six months. We would welcome one.

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The definition, stated once more

97% success rate: clients who ran the program and stayed off the habit through the program plus 6 months of aftercare. Tracked through client follow-up, across all habits. Not a clinical trial, with no randomization and no control group.

Section 17

When should you get help straight away, and what is this program not?

In brief

Get help straight away if you're thinking about harming yourself, if debt has become unmanageable, or if you've started gambling after beginning a medicine for Parkinson's disease or restless legs. The program is not therapy, medical treatment, financial advice or a crisis service.

Get help straight away if you have thoughts of harming yourself or ending your life, whatever the size of the debt. Gambling disorder is linked to a much higher risk of suicide (Section 12)[83]. Contact emergency services or a crisis line: in the US, call or text 988; in the UK and Ireland, Samaritans on 116 123; in India, Tele-MANAS on 14416. If your debts are more than you can manage, get free, non-profit debt advice before you agree anything with a lender or borrow more. If you started gambling after beginning a medicine for Parkinson's disease or restless legs, tell your doctor, and don't stop or change the medicine on your own[27]. If you also drink heavily every day, or take benzodiazepines or other prescription drugs, stopping those suddenly can be dangerous, so plan any change with a doctor.

Safety note

If you're thinking about harming yourself, contact emergency services or a crisis line now: 988 in the US, Samaritans on 116 123 in the UK and Ireland, Tele-MANAS on 14416 in India. For gambling, 1-800-MY-RESET in the US and the National Gambling Helpline on 0808 8020 133 in Great Britain are free. For debt, use a free, non-profit debt advice service. Don't stop a Parkinson's or restless legs medicine, or heavy daily drinking, without a doctor.

Phalanx Labs is a behavior and performance engineering firm. The Behavior Control System is a structured method for changing behavior. It is not therapy, clinical care, medical treatment or financial advice, and it does not diagnose or treat any medical or psychiatric condition. Our team doesn't act as the client's doctor, therapist or financial adviser, and the program doesn't replace any of them. Where the diagnostic suggests a medical, psychiatric or financial risk, we tell the person to get that help first.

Some of the program's physical practices carry ordinary risks of their own. Cold and heat exposure and starting a training program aren't suitable for everyone, and people with heart conditions, high blood pressure or other medical conditions should check with their doctor first. The program gives general information about supplements and tells clients to consult a doctor before taking any; it does not prescribe or recommend medication or supplements.

The program is also not designed for every situation. It is not a crisis service. It isn't suitable as the only support for someone with a serious mental health condition, someone at risk of harming themselves or others, or someone whose finances need urgent professional help. The diagnostic exists partly to identify these situations, and when we can't help, we say so and suggest the person seek appropriate care.

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