

# Why Do We Gamble?

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## **Seeking Excitement**

Gambling provides a thrill for many, triggering excitement through the risk and possibility of winning money.

## **Social and Advertising Influence**

Social interactions and advertisements often encourage people to gamble, increasing anticipation and participation.

## **Coping and Curiosity**

Some gamble to escape stress, while others are motivated by curiosity or the chance to test their luck and skills.



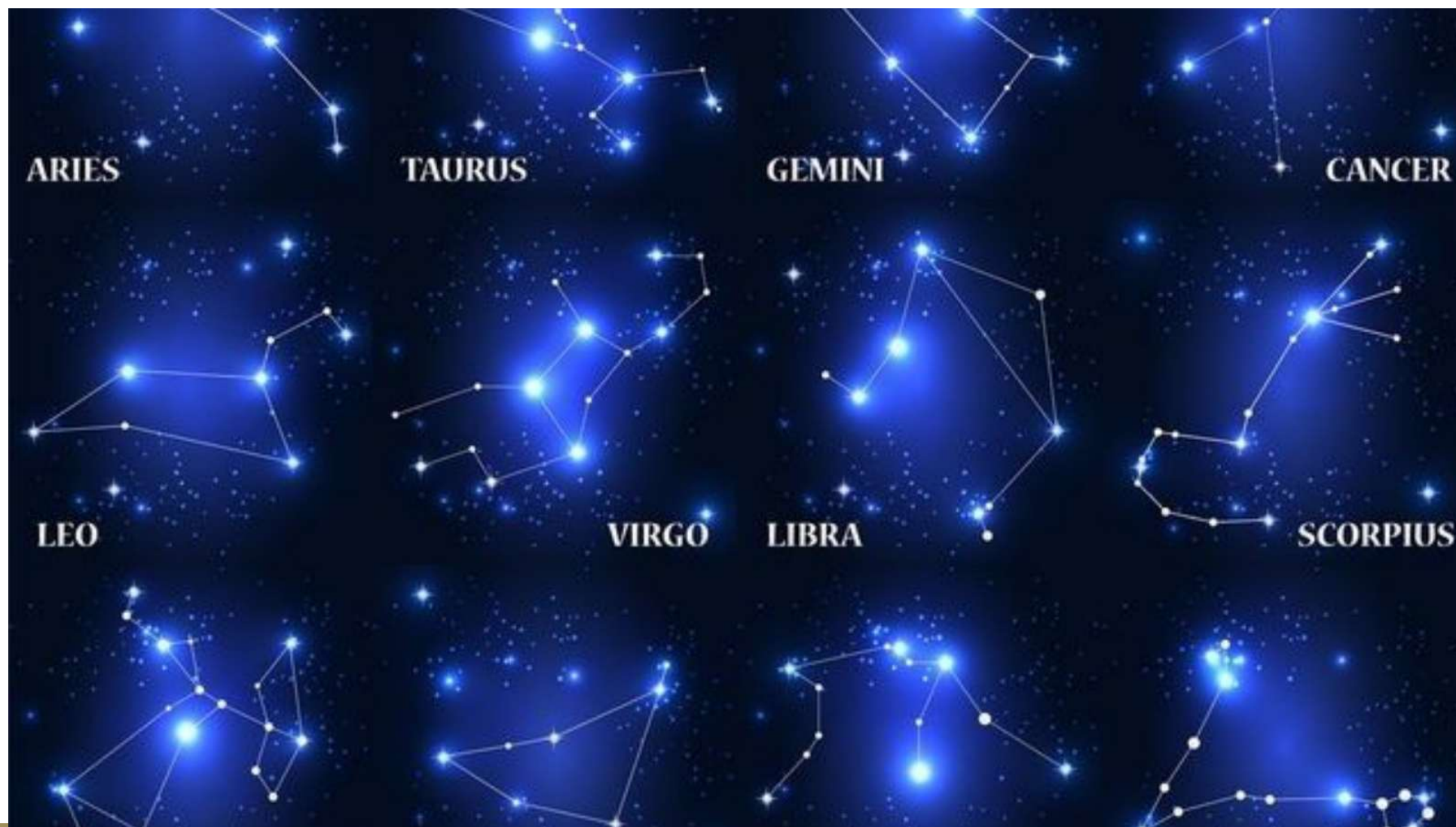
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WORLD LOTTERY ASSOCIATION

# Witch trials



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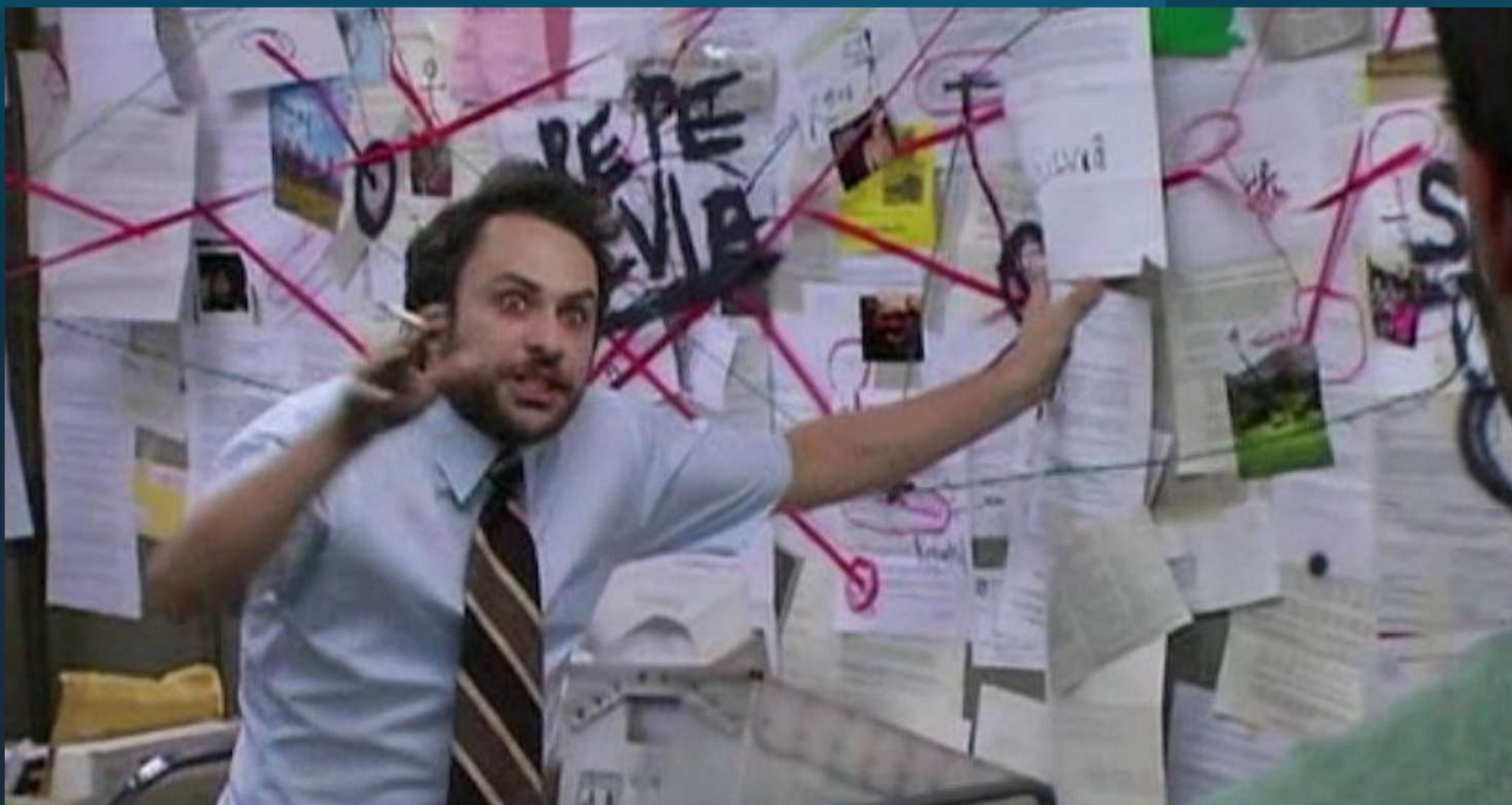
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## LAST 100 OUTCOMES

|    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|
| 1  | 16 | 7  | 00 | 01 | 15 | 10 | 9  | 2  |
| 2  | 3  | 16 | 35 | 4  | 12 | 2  | 38 | 19 |
| 13 | 15 | 11 | 12 | 18 | 15 | 14 | 16 | 15 |
| 5  | 4  | 28 | 6  | 27 | 23 | 9  | 21 | 16 |
| 29 | 62 | 24 | 82 | 25 | 86 | 16 | 27 | 22 |
| 7  | 8  | 7  | 7  | 11 | 26 | 6  | 7  | 38 |
| 08 | 6  | 00 | 78 | 76 | 9  | 33 | 14 | 6  |
| 21 | 12 | 13 | 31 | 33 | 39 | 8  | 32 | 19 |
| 6  | 3  | 9  | 28 | 24 | 15 | 28 | 39 | 35 |
| 7  | 8  | 28 | 29 | 25 | 28 | 31 | 32 | 9  |
| 6  | 8  | 28 | 25 | 36 | 27 | 38 | 36 | 31 |
| 3  | 15 | 20 | 67 | 9  | 85 | 63 | 1  | 86 |
| 17 | 15 | 19 | 25 | 26 | 37 | 6  | 63 | 5  |
| 6  | 11 | 22 | 83 | 88 | 88 | 27 | 63 | 83 |

### TOTAL

57 42

3 0

11 40

20 15

31 6

22 1

♥ EVEN 47

♥ ODD 53

♥ RED 57

♥ BLACK 42

♥ 1-18 49

♥ 19-36 50

22 9 10 11 20 15 14 6 37 35 0



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# TaiSai

(Open Cover)

大小 (开放式)

Version 6

\$ **10**

Minimum

Big / Small: \$50

NO SMOKING  
NO VAPING

BIG/SMALL ROAD  
大小路

OVER LAST 100 GAMES

DICE COUNT

| 1   | 2   | 3   | 4   | 5   | 6   |
|-----|-----|-----|-----|-----|-----|
| 14% | 13% | 15% | 22% | 16% | 20% |

DOMINO COMBINATION

| HOT |     | COLD |     |
|-----|-----|------|-----|
| 1-2 | 3-4 | 5-6  | 7-8 |

|     |   |    |
|-----|---|----|
| 134 | 小 | 8  |
| 136 | 小 | 10 |
| 145 | 小 | 10 |
| 554 | 大 | 14 |
| 445 | 大 | 13 |
| 135 | 小 | 9  |
| 115 | 小 | 7  |
| 443 | 大 | 11 |
| 246 | 大 | 12 |
| 235 | 小 | 10 |
| 553 | 大 | 13 |



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# Monte Carlo Roulette event (1913)



## 📌 What happened?

In **August 1913**, at the Monte Carlo Casino, an extraordinary sequ

- The roulette wheel landed on **black 26 times in a row**
- This is an extremely rare event (probability  $\approx 1$  in 66.6 million)
- Crowds gathered and began betting heavily on **red**, believing

## 🧠 The key psychological mistake

Players fell victim to the **Gambler's Fallacy**:

- They assumed: *"After so many blacks, red must come next"*



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# Misbeliefs of Gamblers

## — Cognitive Biases in Gambling —

### Gambler's Fallacy

*"After so many black, red must be next!"*



Belief that past outcomes affect future results.

### Illusion of Control

*"I can influence the roll!"*



Overestimating one's ability to control random events.

### Hot Hand

*"I'm on a winning streak!"*



Belief that wins will continue due to a 'streak'.

### Near Miss Belief

*"I was so close to winning!"*



Overvaluing almost winning as "nearly hitting the jackpot."

## — The Reality: —

*Outcomes are always random  
and unpredictable!*



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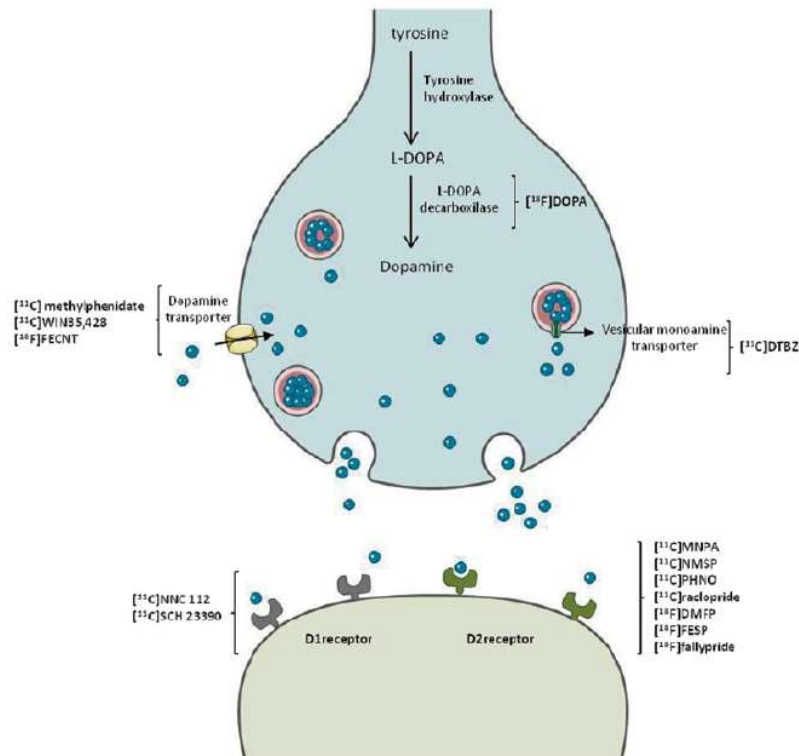
Did you know that the first Matrix was designed to be a perfect human world? Where none suffered, where everyone would be happy. It was a disaster. No one would accept the program. Entire crops were lost.



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# Dopamine, the molecule of more



Dopamine in the brain is responsible for „wanting“ and not as often assumed „liking“

Dopamine influences

- Risk taking
- Delay discounting
- Sensitivity to reward vs punishment
- Check your phone
- Place another bet
- Pursue a goal
- Go for the cookie



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## Within our reach

The brain prioritizes and processes information that is close to our body and within immediate reach.

## Out of reach, requires effort

The brain represents goals and rewards that are far away and require planning, motivation and sustained effort.

### WITHIN REACH

#### Peripersonal processing

Focus on nearby objects, actions and immediate needs.

#### Extraperpersonal processing

Focus on distant goals, planning, imagination and future rewards.

### OUT OF REACH



Our brain continuously balances what is close and immediately relevant (peripersonal) with what is distant but meaningful (extraperpersonal).

### REQUIRES EFFORT



GOAL



PLAN



ACTION



REWARD



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Maximizing resources that will be available  
to us in the future; the pursuit of better things



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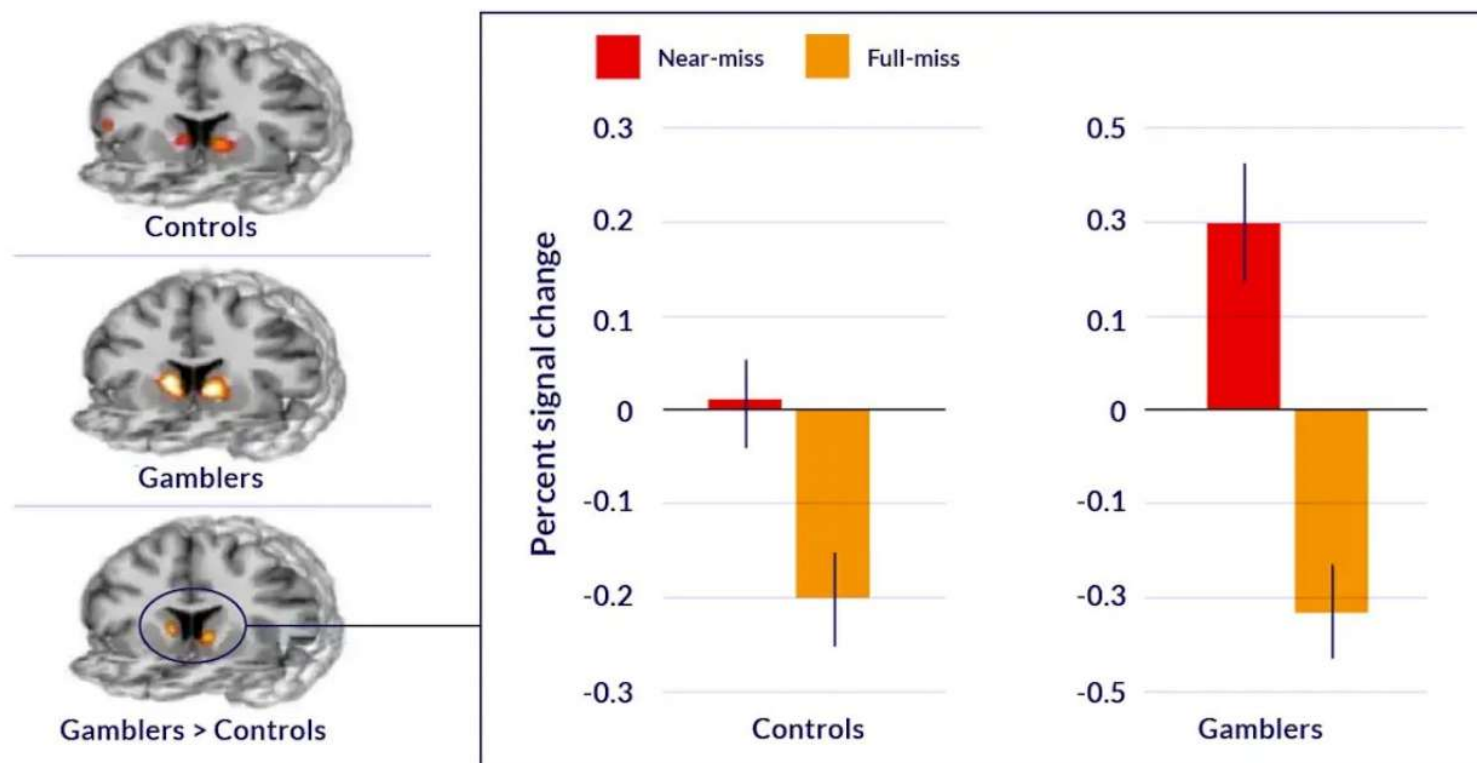
## High Variability Intermittent Reinforcement Leads to High Behavioral Persistence



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## Problem gamblers show more brain response to near misses



Source: Sescousse et al., 2016

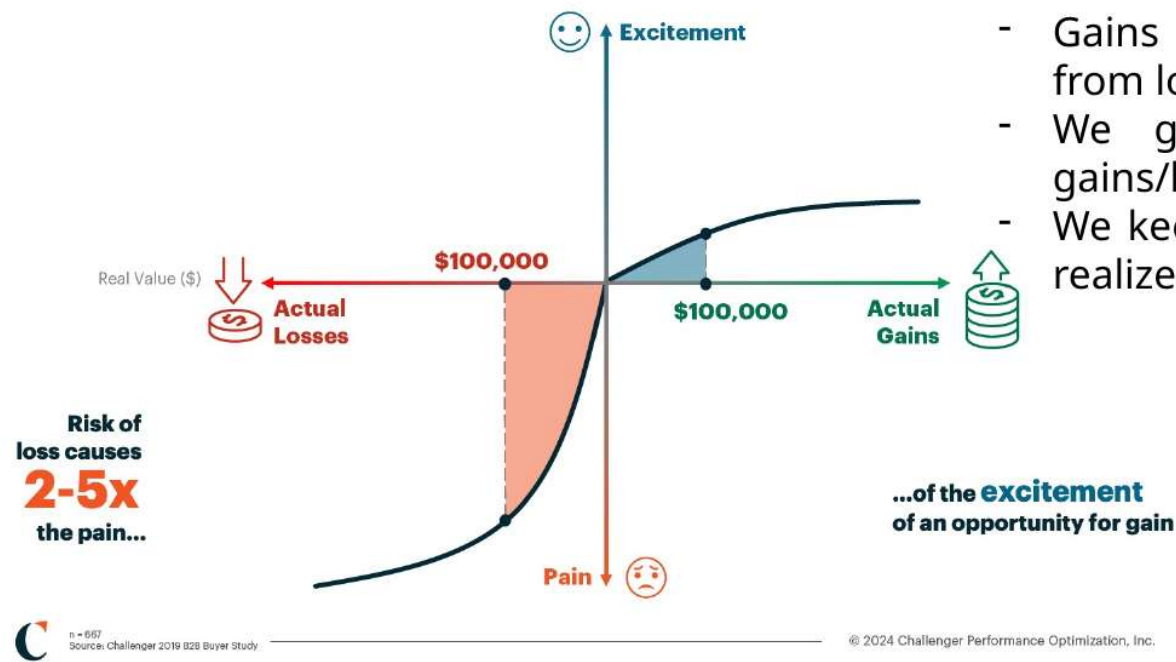


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# Prospect Theory

What can a Nobel prize in economics teach us about why buyers avoid difficult purchase decisions?



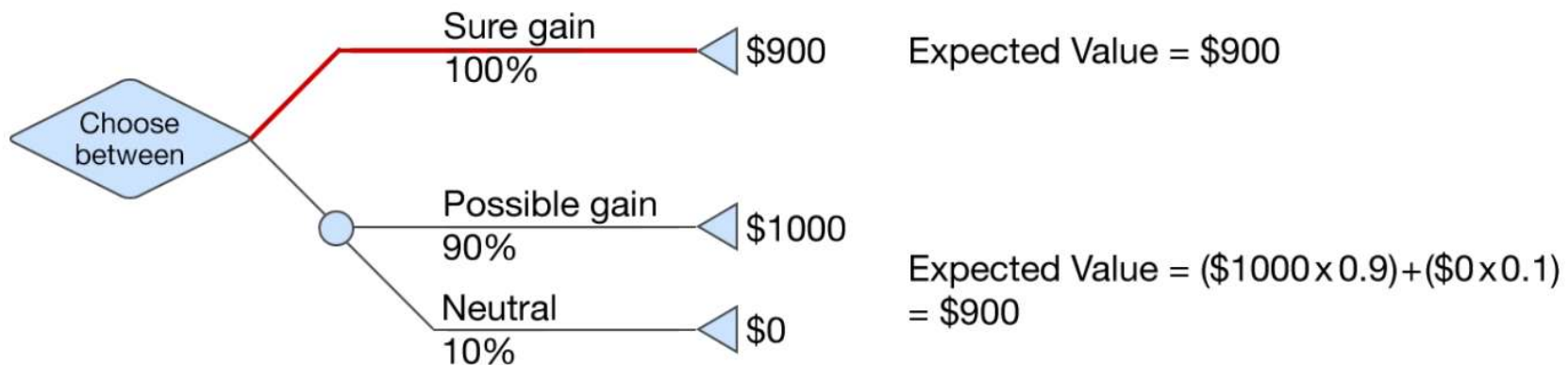
Prospect theory can explain decision making under uncertainty.

- Gains are less exciting than the pain from losses
- We get used to a the level of gains/losses
- We keep losing because it is painful to realize a large loss



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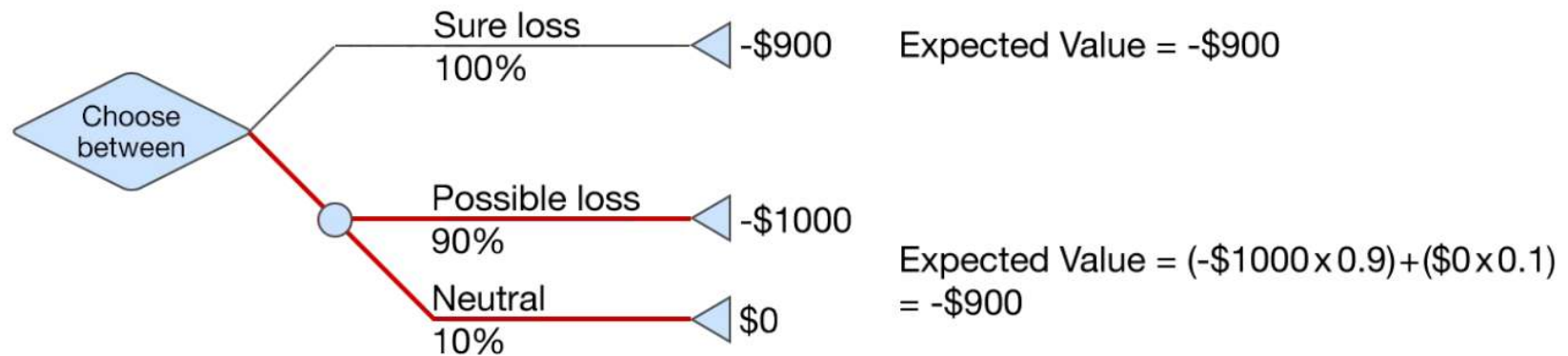


When dealing with gains, people are risk averse and will choose the sure gain (denoted by the red line) over a riskier prospect, even though with the risk there is a possibility of gaining a larger reward. Note also that the overall expected value (or outcome) of each choice is equal.



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Losses are treated in the opposite manner as gains. When aiming to avoid a loss, people become risk seeking and take the gamble over a sure loss in the hope of paying nothing. Again, both options have equal expected values.



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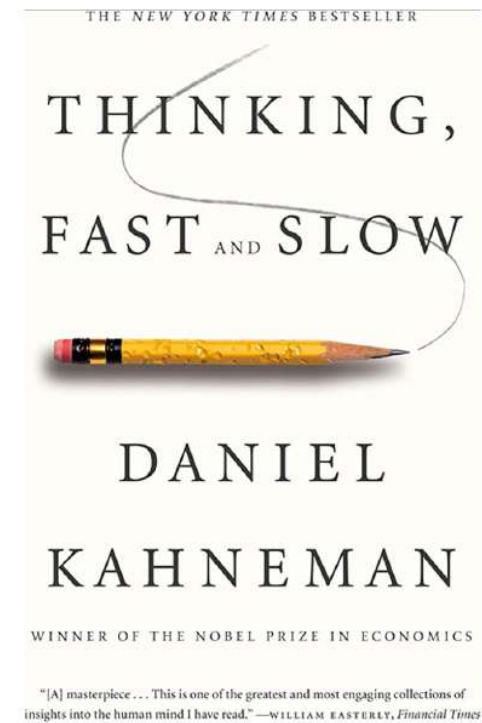
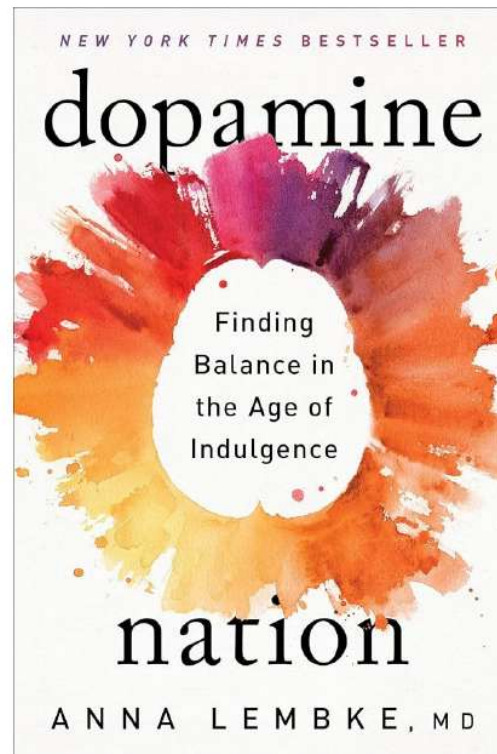
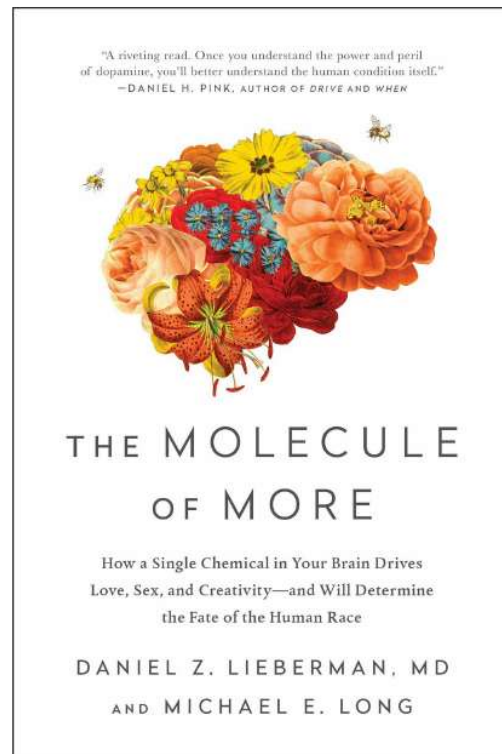
# Summary

- We have an inherent desire to find patterns, even where there are none
- Many cognitive misbeliefs are driven by our pattern recognition
- Dopamine is responsible for liking
- Dopamine can also become numb over time
- Losses hurt more than the excitement of gains
- Chasing losses might happen because we do not want to realize losing



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## Addiction: An Hour With Auer

### The Gambling Files Presents

★ 0,0 (0) · MENTALE GESUNDHEIT **E**

Gambling addiction expert Dr Michael Auer co-hosts this unique podcast where we discuss addiction in a holistic way with experts from around the world.

► **Neueste Folge**



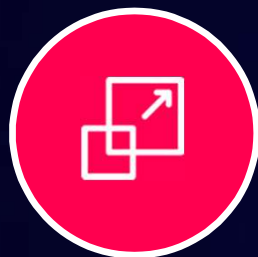
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