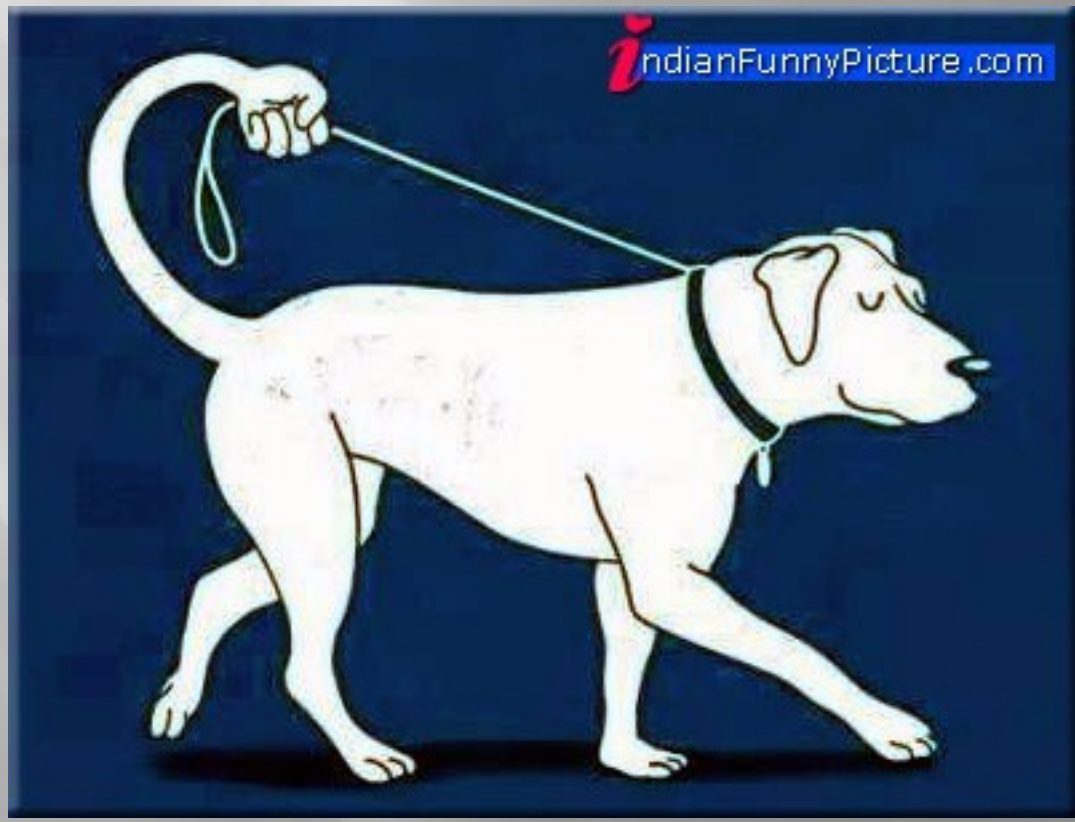


The Principles of Human Struggle

How Self-Control Fails and How It Works



Irrational behaviour cont.

- Expected Utility Theory:

$$E_{\text{expectancy}} \times V_{\text{value}}$$



Irrational behaviour cont.

- Expected Utility Theory:

$$E_{\text{expectancy}} \times V_{\text{value}}$$



Irrational behaviour cont.

▣ Planning Fallacy

Daniel Kahneman



Irrational behaviour cont.

- ▣ **Planning Fallacy** – Kahneman's examples:

Estimate

- ▣ Plan to write a textbook on decision making
- ▣ Estimates of time needed based on available information on resources:
- ▣ 1,5 to 2,5 yrs

Reality

- ▣ Asked a colleague about other teams who attempted the same
- ▣ **Only 40% success rate** (others abandoned the plan)
- ▣ The others **took around 10 yrs**
- ▣ Most teams' resources were better

Irrational behaviour cont.

- ▣ **Planning Fallacy** – Kahneman's examples:

Estimate

- ▣ New Scottish Parliament building – initial estimate **£40 million**
- ▣ Estimates of American homeowners of how much kitchen remodelling would cost: **\$18,658**

Reality

- ▣ Finally completed for **£431 million**
- ▣ Real cost: **\$38,769**

Planning Fallacy

People tend to...

- ▣ Only consider best-case scenarios
- ▣ Disregard “statistics” on actual success rate of previous similar attempts

Why?

- ▣ Because we do not consider unexpected events and random disruptive factors, which are **almost always** present
- ▣ As specific information on them is **unavailable**, we do not factor them in

Availability Heuristic

People tend to...

- ▣ Rely on immediate examples that come to mind when considering a situation / problem = AVAILABILITY HEURISTIC
- ▣ Make decisions based on this immediate information
- ▣ This information is **primed** by context (different cues remind us of different things)
- ▣ The cues may include attributes of the situation, of the present alternatives, of surrounding objects, previous events, inner states, etc.
- ▣ In addition, we are hard-wired to pay more attention to certain pieces of information rather than others (losses, beginnings and endings, unique features, etc.)

Availability heuristic

What the eye doesn't see the heart doesn't ache for.

(Czech proverb)

How our motivation system works

Analogy of three brains

- ▣ **Reptilian brain** – basic reflexes



Analogy of three brains

- ▣ **Reptilian brain** – basic reflexes
- ▣ **Mammalian brain** – emotions



Analogy of three brains

- ▣ **Reptilian brain** – basic reflexes
- ▣ **Mammalian brain** – emotions
- ▣ **Human brain** – reasoning, mental representation, planning – delay of gratification



Mammalian brain

- ▣ I. P. Pavlov
- ▣ Classical conditioning

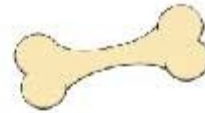


Classical Conditioning

Before conditioning

FOOD
(UCS)

SALIVATION
(UCR)



BELL

NO RESPONSE



During conditioning

BELL +
FOOD
(UCS)

SALIVATION
(UCR)



After conditioning

BELL
(CS)

SALIVATION
(CR)



Classical conditioning

Why is this important to us (humans)?

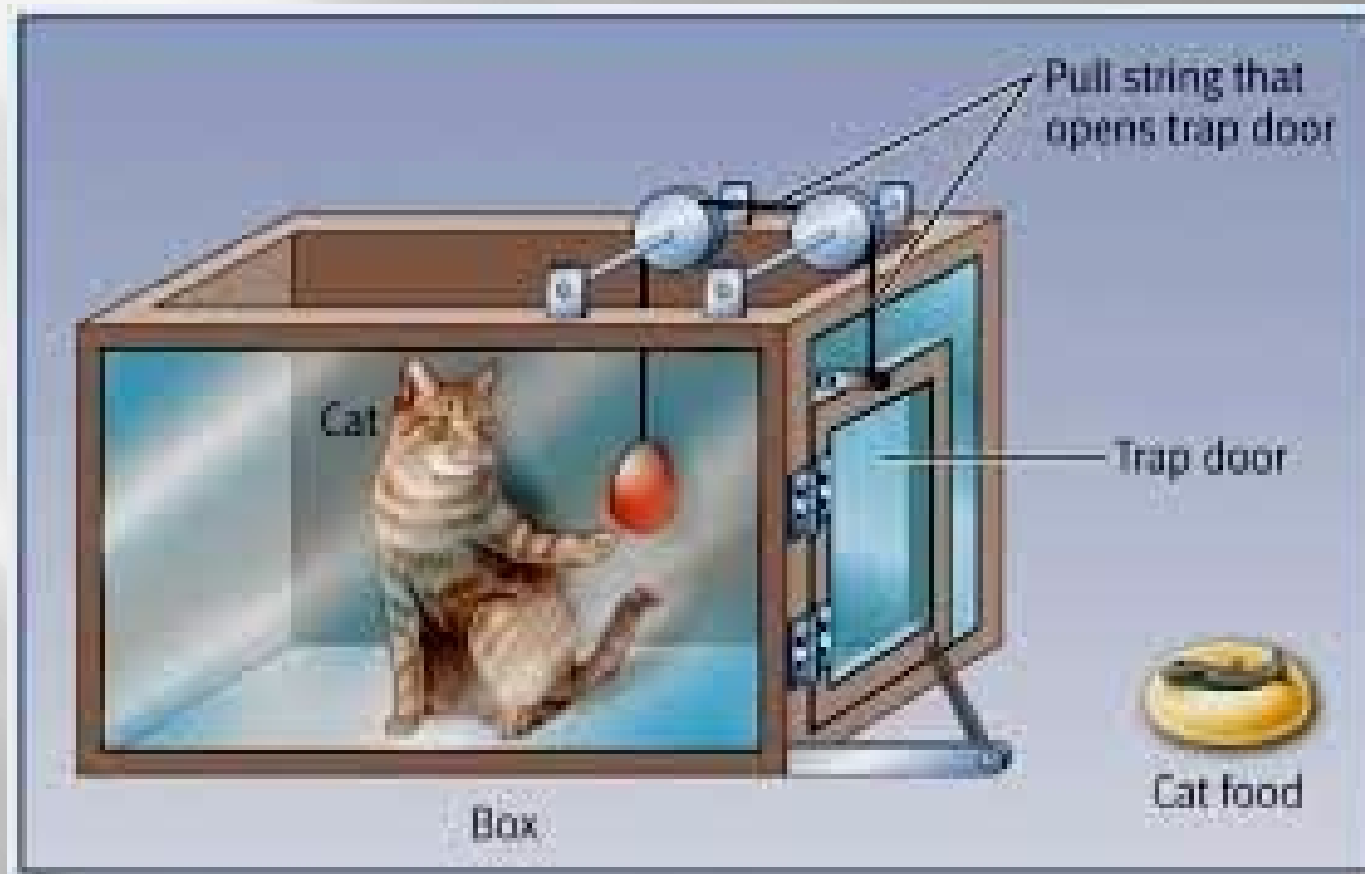
- ▣ Salivation in Pavlov's dogs signals **increased anticipation of reward = increased need**
- ▣ Cues in the environment previously associated with motivational states will become **triggers of those motivational states** in the future regardless of whether the reward/punishment is currently present or not.

Mammalian brain

- ▣ E. L. Thorndike
- ▣ Instrumental learning



Instrumental conditioning



Instrumental conditioning

Why is this important to us (humans)?

- ▣ Objects and situations can trigger **automatic behavioural responses = HABITS**
- ▣ Always intertwined with classical conditioning (a stimulus triggers a **motivational state** as well as a **behavioural response**)

Why is our behaviour not rational?

- ▣ Our decisions and behaviours are dependent on **immediate (here-and-now) cues previously associated with motivational states or hard-wired heuristic systems** rather than global judgment of advantages and disadvantages in different situations
- ▣ While we are capable of making **relatively** more global judgments, **the quality and perceived necessity of these judgments is ALSO influenced by the present context**
- ▣ This is because our capacity of information processing is limited

How to resist temptations?

Emotion regulation

- ▣ J. Gross
- ▣ **PREVENT THOSE EVIL STIMULI FROM ENTERING THE BRAIN AND PRODUCING AUTOMATIC RESPONSES!!!**
- ▣ **How...?**



How to resist temptations?

Emotion regulation

- ▣ Choose situation



How to resist temptations?

Emotion regulation

- ▣ Choose situation
- ▣ **Change situation**



How to resist temptations?

Emotion regulation

- ▣ Choose situation
- ▣ Change situation
- ▣ **Divert attention**



How to resist temptations?

Emotion regulation

- ▣ Choose situation
- ▣ Change situation
- ▣ Divert attention
- ▣ **Change thinking**



How to resist temptations?

Emotion regulation

- ▣ Choose situation
- ▣ Change situation
- ▣ Divert attention
- ▣ Change thinking
- ▣ **Act as if nothing happened**



How to resist temptations?

Emotion regulation – EFFECTIVENESS:




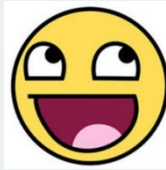

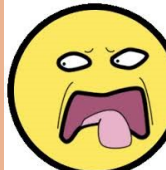
- ▣ **Situation selection**
- ▣ **Situation modification**
- ▣ **Attentional deployment**
- ▣ **Cognitive change**
- ▣ **Response modulation**



Reappraisal v. suppression

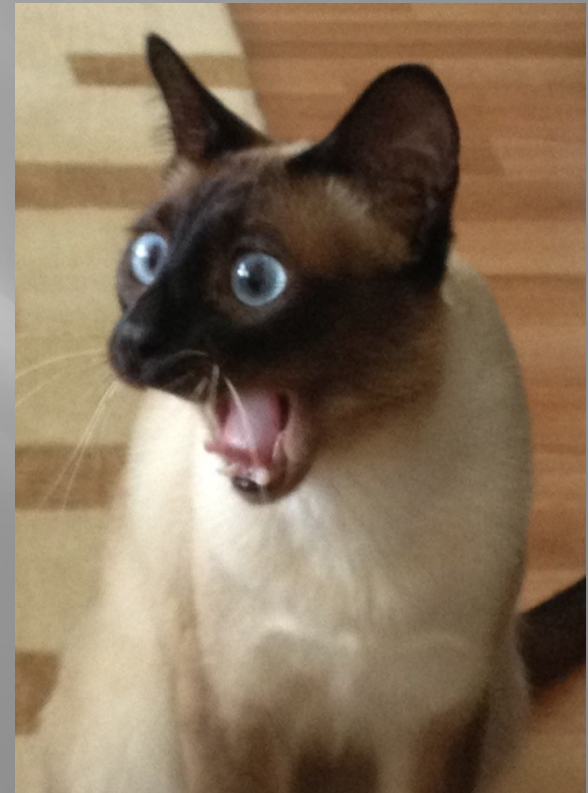
Gross, J. J. (1998). Antecedent-and response-focused emotion regulation: divergent consequences for experience, expression, and physiology. *Journal of personality and social psychology*, 74(1), 224.

Three groups watching a disgusting movie:

	Facial expressions	Physiological reactions
Group 1: No instruction		
Group 2: "Think of the movie in way that you'll feel nothing."		
Group 3: "Behave in a way so that others think you feel nothing."		

Human brain

The fact that we can exercise self-control should not be taken for granted...



How does self-control work?

Is our self-control like a muscle?

- ▣ Ego depletion
- ▣ Roy Baumeister



Ego depletion



Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: is the active self a limited resource? *Journal of personality and social psychology*, 74(5), 1252-1265.



Ego depletion

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: is the active self a limited resource? *Journal of personality and social psychology*, 74(5), 1252-1265.

Three groups:

Instructed to eat:	Group 1	Group 2	Group 3
			No food
Persistence on subsequent unsolvable figure-drawing task	18.9 min.	8.85 min. + more fatigue	20.86 min.

Our self-control is like a muscle

Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle?. *Psychological bulletin*, 126(2), 247.

- ▣ It is a **limited but renewable resource** – it can get depleted
- ▣ It is **common for all types of self-control** (inhibition of automatic reactions)
- ▣ This means that if we use it up for one activity (studying for a test) there won't be enough for another activity (being nice to your boss)

blue

green

red

yellow

Our self-control is like a muscle

Muraven, M., & Baumeister, R. F. (2000). Self-regulation and depletion of limited resources: Does self-control resemble a muscle?. *Psychological bulletin*, 126(2), 247.

GOOD NEWS:

- ▣ It can be restored – rest, motivational reinforcement, good plans/structure
- ▣ It can be used economically when necessary
- ▣ It can be trained
- ▣ **OVERTRAINING IS NOT TRAINING!!!**

Ego depletion - real?

COVER STORY

READ THIS FIRST.

MARCH 6 2016 8:02 PM

Everything Is Crumbling

An influential psychological theory, borne out in hundreds of experiments, may have just been debunked. How can so many scientists have been so wrong?

By Daniel Engber



14.1k



1.3k



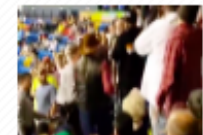
618

Slate

FROM NEW YORK MAGAZINE



11 TV Shows
Fill the
Abbey
Life



Trump
Punch
Says I
Have

Irrationality in science

- ▣ **Confirmation bias („Experimenter Effect“)** – overstate evidence supporting my theory and neglecting evidence against my theory
- ▣ **Congruence bias** – looking for evidence to support my hypothesis rather than test alternative hypothesis
- ▣ **Observer-expectancy effect** – subconscious manipulation of experimental situation in order to achieve the desired effect
- ▣ **Hindsight bias** – modifying or creating hypotheses after results are known, „I knew it all along“ fallacy
- ▣ **Publication bias** – non-significant results are unimportant, hence unpublishable

More cognitive biases...

https://en.wikipedia.org/wiki/List_of_cognitive_biases

Summary

- ▣ **Automatic responses have primacy over deliberate actions**
- ▣ **Automatic responses are often non-conscious and undisputed**
- ▣ **Automatic responses are context-dependent**
- ▣ **Overcoming automatic responses requires exercise of WILL which seems to be based on limited resources**
- ▣ **It is therefore best to avoid triggers of automatic responses rather than trying to suppress the responses**

Additional materials

- ▣ **Before attempting the second quiz, watch the video on the “Stanford marshmallow experiment” available in the interactive syllabus in the IS**
- ▣ **Recommended materials:**
 - Roy Baumeister’s videos on ego depletion (for research examples)
 - James Gross’s video on emotion regulation

The Brittle Core of Humanity



Thank you!