The psychological perspective

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Main topics

1. Introduction. Why care about privacy?
2. Digital profiles
3. The ethical perspective: Fairness, harm & autonomy
4. The economic perspective: Free markets & competition
5. The psychological perspective: Cognition & emotions
6. The economic perspective: business models and gig economy
7. The sociological perspective: Communities & ideologies
8. Role: Users. Curation & Privacy-enhancing tools
9. Role: Experts. Whistleblowing & Collective action
10. Role: Policymakers. GDPR & Single Digital Market

Take away – Course 1

- Why?
  - Privacy is not cake: Tech is downgrading human autonomy
  - Why now? Emerging policies, investigations, NGO collective action
  - Who cares?
- Sensemaking: Four perspectives
  - Ethical | Economic| Psychological | Sociological
- Taking action: Three roles
  - User | Expert | Policy-maker
- Privacy = choice in the new world order
  - 4th Industrial Revolution
  - Digital infrastructures & Platform capitalism
  - Surveillance capitalism

Take away – Course 2

- Illusion of control: Data vs. metadata
- Data flows are floods, not trickles
  - Legal harvesting at scale
  - Exposures & leaks
  - Data & China
- Digital profiles
- So what?
  - We are mined for time and attention
  - We are gently nudged in thought and action
  - We are replaced: automation
- Taking action
  - Critical technology analysis
  - Regulating tech, making tech & using tech

Take away – Course 3

1. Ethical reflection
   - Norms, principles, values
   - Digital relativism
   - Learned helplessness
2. Ethical analysis
   - Highlighting the values at stake: fairness, harm, autonomy
   - Ethical vs. impact analysis: economics, psychology and sociology
3. Examples of ethical analysis
   - Privacy and fairness: platform capitalism
   - Privacy and harm: addiction to smartphones and social media, gig economy
   - Privacy and autonomy: surveillance capitalism, misinformation

Take away – Course 4

1. Free markets as moral justification and fiction
   - How free are digital markets?
   - Unequal distribution of rewards
   - Asymmetric access to information
   - ESG metrics

2. Platform capitalism
   - Unfair competitive advantages, information asymmetry
   - Harm to competitors (companies and individuals)
   - Restricted autonomy for competitors and users

Ethical vs. impact analysis

Ethics \ Science	Economics	Psychology	Sociology
Fairness	Platform capitalism: unfair competitive advantages (information asymmetry) Gig & ghost economies: unfair distribution of rewards	Cognition: unequally enhanced vs. diminished cognition Emotions: unequal burdens of addiction	Algorithmic biases Unequal access to digitalization
Harm	Platform capitalism: harm to competitors Gig & ghost economies: harm to workers	Cognition: Shallow thinking Emotions: Self-harm related to social media consumption; privacy leaks and harassment	Polarization Mistrust in democracy and expertise Decrease in social capital & public goods
Autonomy	Platform capitalism: monopolistic reduction of free choice Surveillance capitalism: nudging through prediction products	Cognition: Dependence on tech for mental operations Emotions: Addiction to social media and digital stimuli	Filter bubbles & misinformation machines: decreased control on information flows

Outline – Course 5

1. Cognition: Augmented vs. diminished?
   - Extended mind & distributed cognition (DCog)
   - Wisdom of the crowds vs. Filter bubbles
   - Ethical issues
     - Fairness: Unequal quality of engagement
     - Harms: Shallow thinking
     - Autonomy: dependence on tech; nudge & dark patterns
2. Emotions
   - Extended emotions & emotional contagion
   - Addiction
     - Nomophobia
     - Variable reinforcement schedules & Hook cycles
   - Ethical issues
     - Harms: harassment, mental health, self-harm
     - Autonomy: addiction & prediction
3. The extended self

1. Cognition

No more secrets

- "The data obtained and analyzed by *The Pillar* conveys mobile app data signals during two 26-week periods, the first in 2018 and the second in 2019 and 2020. The data was obtained from a data vendor and authenticated by an independent data consulting firm contracted by *The Pillar*."

- *"The Pillar* correlated a unique mobile device to Burrill when it was used consistently from 2018 until at least 2020 from the USCCB staff residence and headquarters, from meetings at which Burrill was in attendance, and was also used on numerous occasions at Burrill's family lake house, near the residences of Burrill's family members, and at a Wisconsin apartment in Burrill's hometown, at which Burrill himself has been listed as a resident."

Pillar Investigates: USCCB gen sec Burrill resigns after sexual misconduct allegations

A Pillar Investigation

The Pillar Jul 20 ♡ 207

Monsignor Jeffrey Burrill, former general secretary of the U.S. bishops' conference, announced his resignation Tuesday, after *The Pillar* found evidence the priest engaged in serial sexual misconduct, while he held a critical oversight role in the Catholic Church's response to the recent spate of sexual abuse and misconduct scandals.

Rohingya fleeing Myanmar (Burma) to Bangladesh in 2017, after genocidal attacks

Rohingya minority

- Muslim minority in Burma / Myanmar [Wiki]
- In 2017, more than 750.000 fled to Bangladesh
- Reuters: Genocidal hate fueled by Facebook
- No moderation in Burmese

Hate speech

- In Myanmar, Fb is the Internet, but…
  - In 2015, only two Fb moderators spoke Burmese
  - In 2018, there was no Fb employee in Myanmar
- More than 1000 hate posts identified by Reuters in 2018 investigation:
- “The poisonous posts call the Rohingya or other Muslims dogs, maggots and rapists, suggest they be fed to pigs, and urge they be shot or exterminated. The material also includes crudely pornographic anti-Muslim images.”

Moderation in Arabic

- Multiple dialects
- Failure to moderate algorithmically or with humans
- Erroneous flags – **more than 77% of "terrorist" flags are mistaken!**
- "Scores of Palestinian journalists and activists have had their accounts deleted. Archives of the Syrian civil war have disappeared. And a vast vocabulary of everyday words have become off-limits to speakers of Arabic, Facebook's third-most common language with millions of users worldwide." (Associated Press reporting on Fb Files in WSJ)

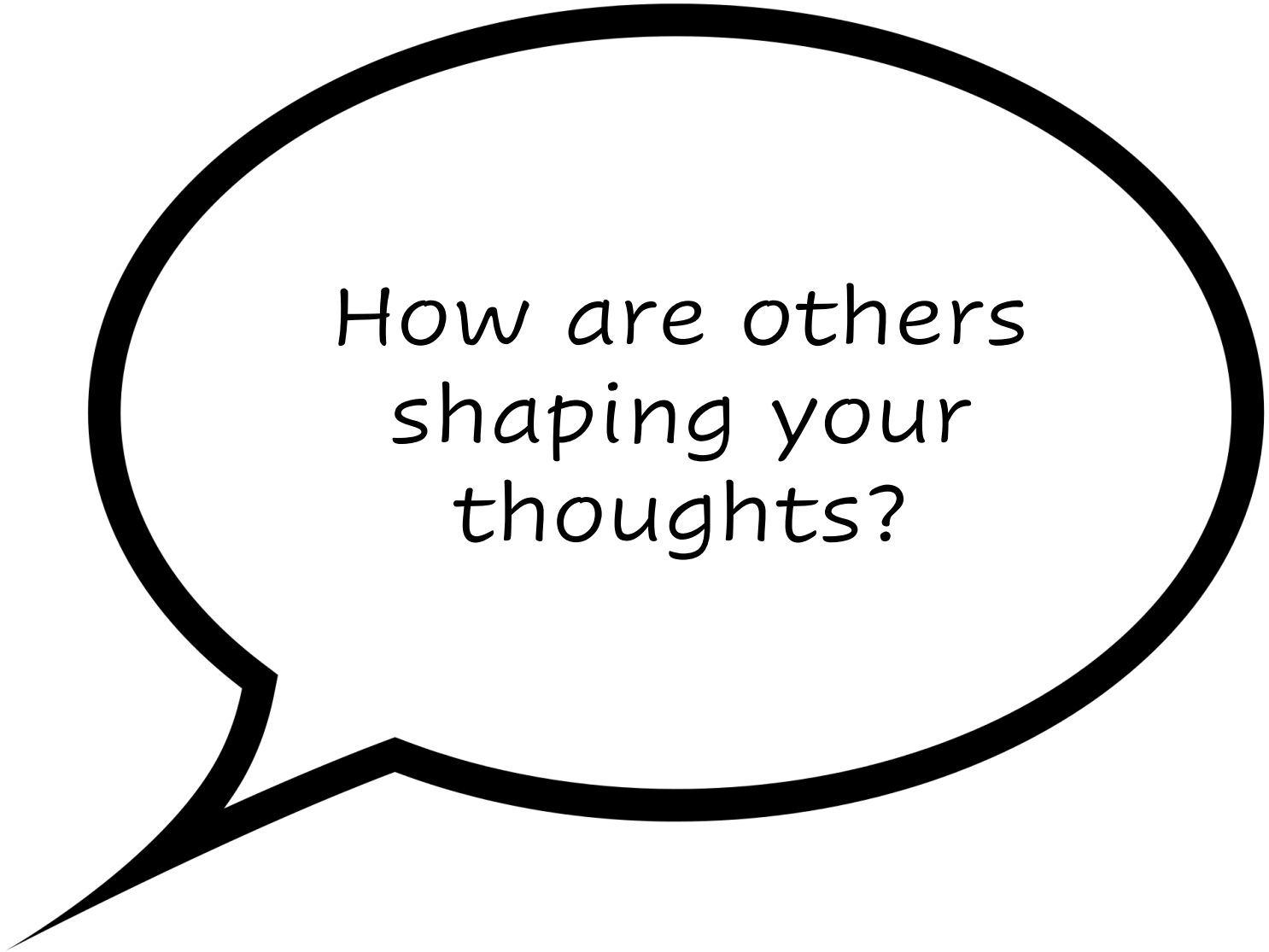
Cognition

- Cognition = process of organizing and using information
  - **acquiring** (perception)
  - **selecting** (attention)
  - **representing** (understanding)
  - **retaining** information (memory)
  - **using** it to guide behavior: reasoning and motor coordination

How is your phone helping you think?

The extended mind

- Andy Clark & David Chalmers (Wiki), "The extended mind" (1998)
- The mind is a coupled system of consciousness & external objects
- Memory, cognition, imagination are extended through:
  - Agendas & calendars
  - Maps
  - Pen & paper notes, paint & canvas
  - Post-its
  - Calculators
  - Computers


How are others shaping your thoughts?

Distributed cognition

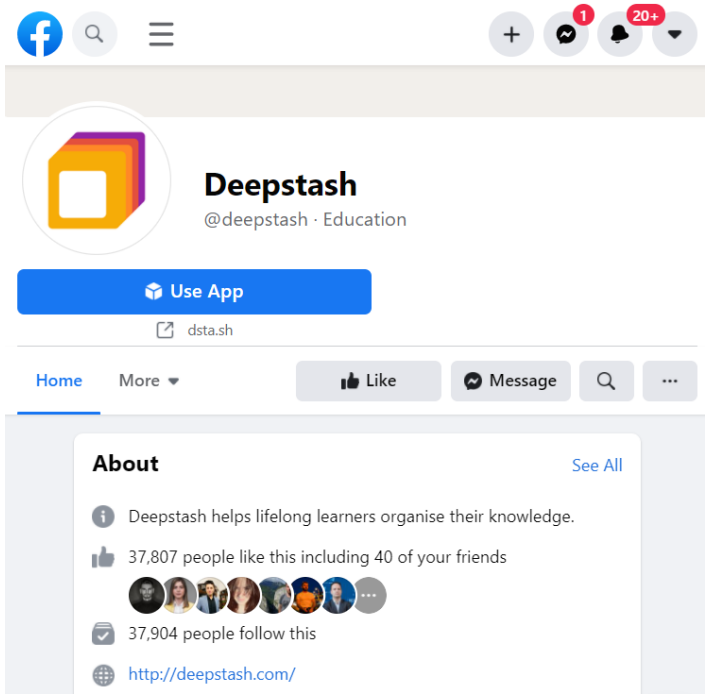
- Edwin Hutchins, 2018, Distributed cognition (Wiki)
  - E. Hutchins, 1995, “Cognition in the wild”
- Cognitive processes are distributed…
  - Environmentally: Among mental and external objects (extended mind)
  - Socially: Among members in a team or group
    - Division of cognitive work
  - In time: past beliefs shape present beliefs

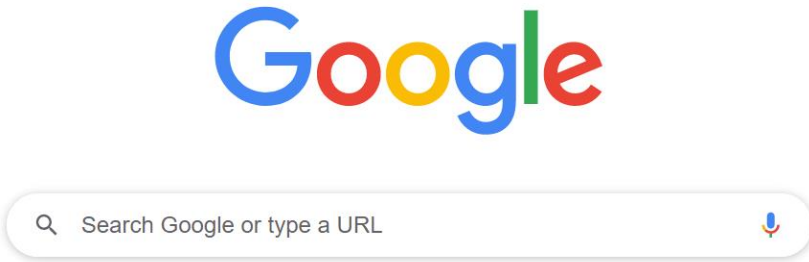
Wisdom of the crowds

- Francis Galton, 1907, Vox populi (Wiki)
  - 800 people participated in a contest to estimate the weight of a slaughtered ox
  - The median guess, 1207 pounds, was accurate within 1% of the true weight (1198 pounds)
- Usefulness
  - Estimating correct answers (if any)
  - Surveying broad spaces
  - Determining relevance
- Massive collaboration
  - Q&A platforms
  - News ranking
  - Wikipedia

How is the Internet shaping our mind?

- Search
- Social media
- Cognitive apps



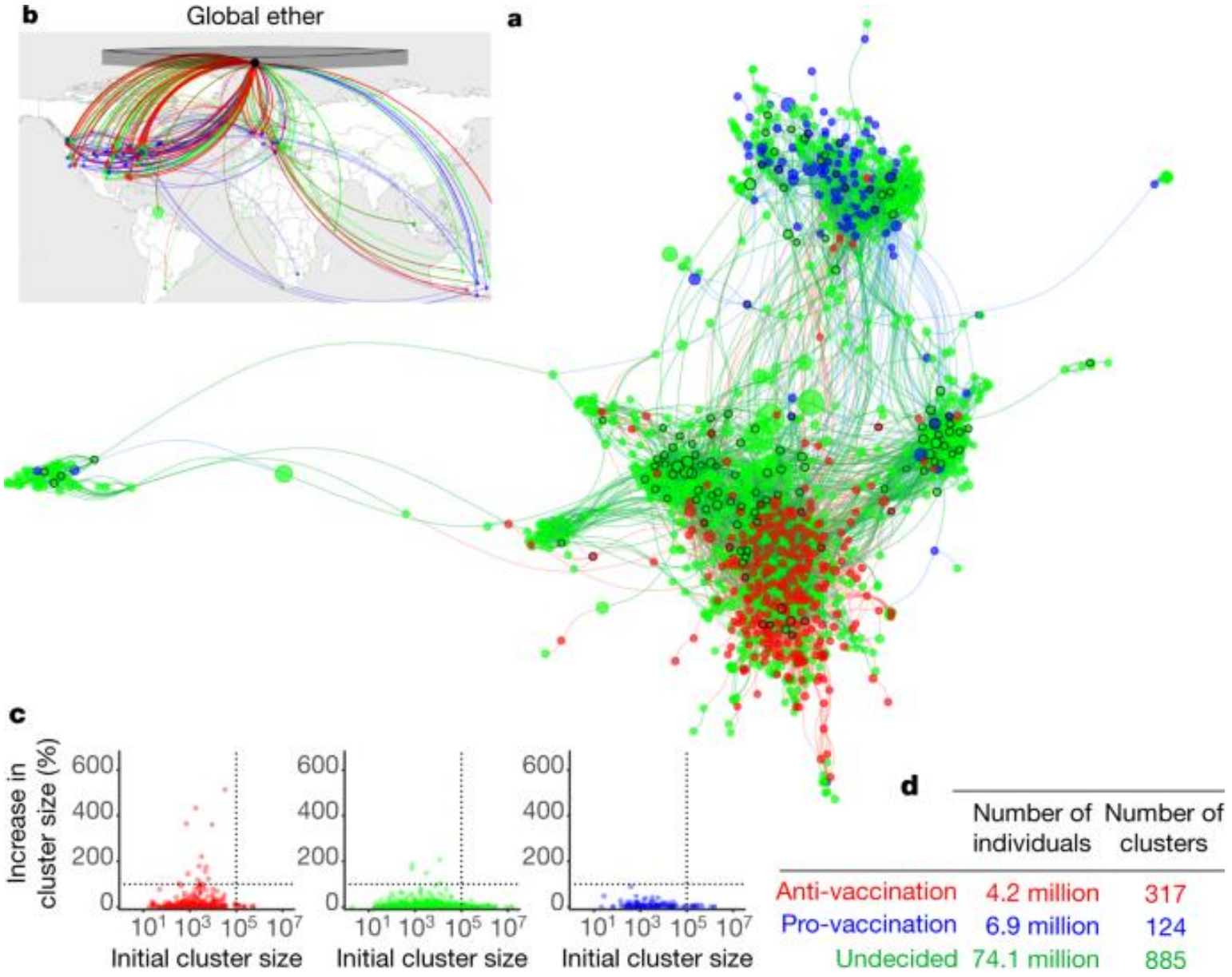


Filter bubbles

- "Echo chambers" in mass media
- Eli Pariser, 2011, Beware online filter bubbles (Wiki)
  - Personalized search
  - Personalized news feeds
  - Personalized recommendations
- Enhanced by communities of thought
  - Like with like

Johnson et al., The online competition between pro- and anti-vaccination views

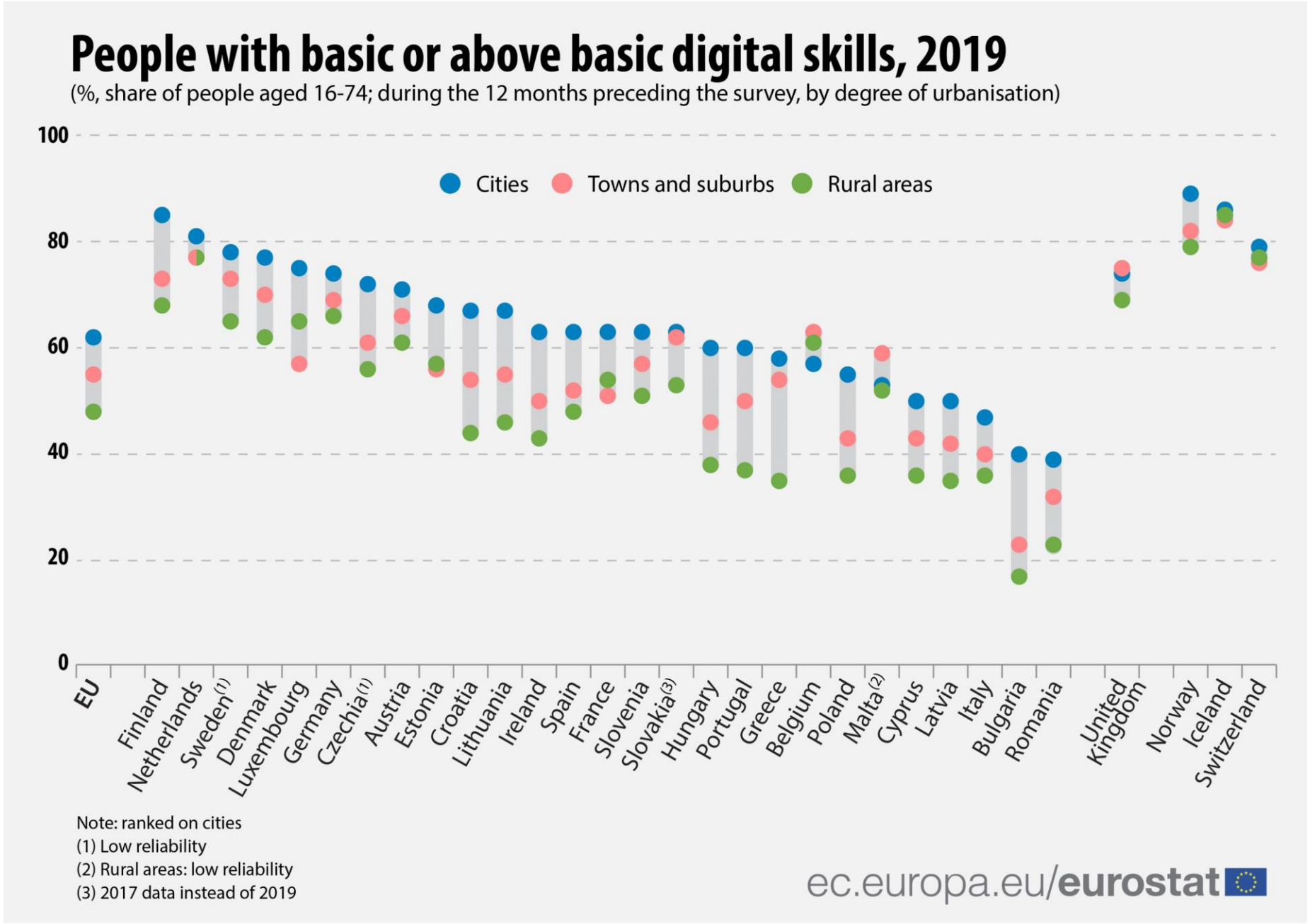
Nature, May 2020



	Number of individuals	Number of clusters
Anti-vaccination	4.2 million	317
Pro-vaccination	6.9 million	124
Undecided	74.1 million	885

Ethical issues: Fairness

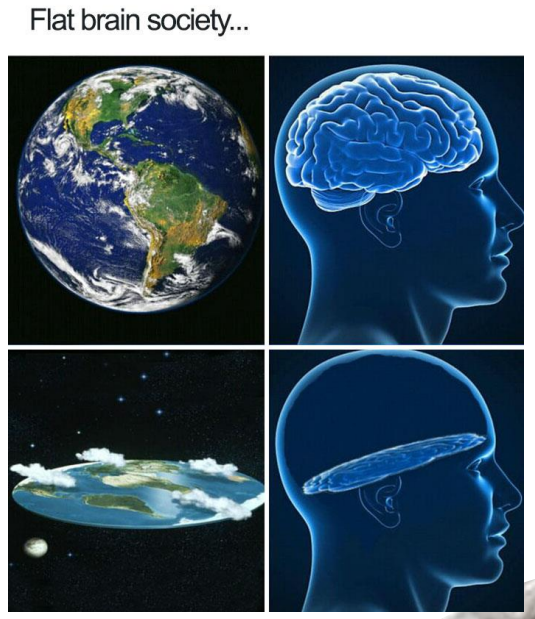
- How much is tech extending our minds?
  - Across social strata
  - Across professions
  - Across generations



Source: [Eurostat]

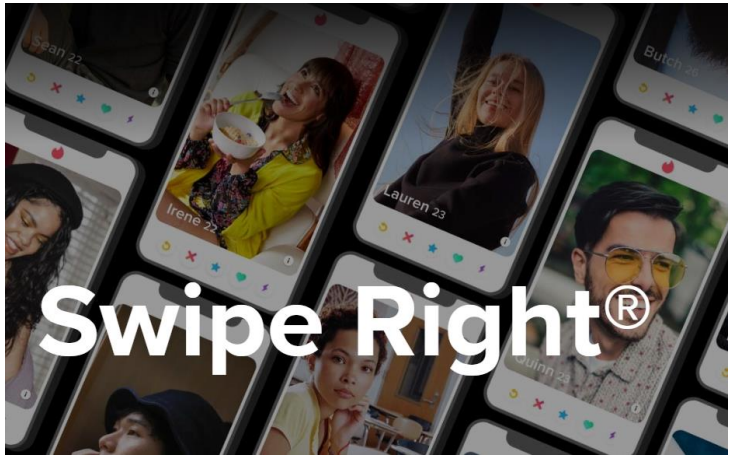
Ethical issues: Harm

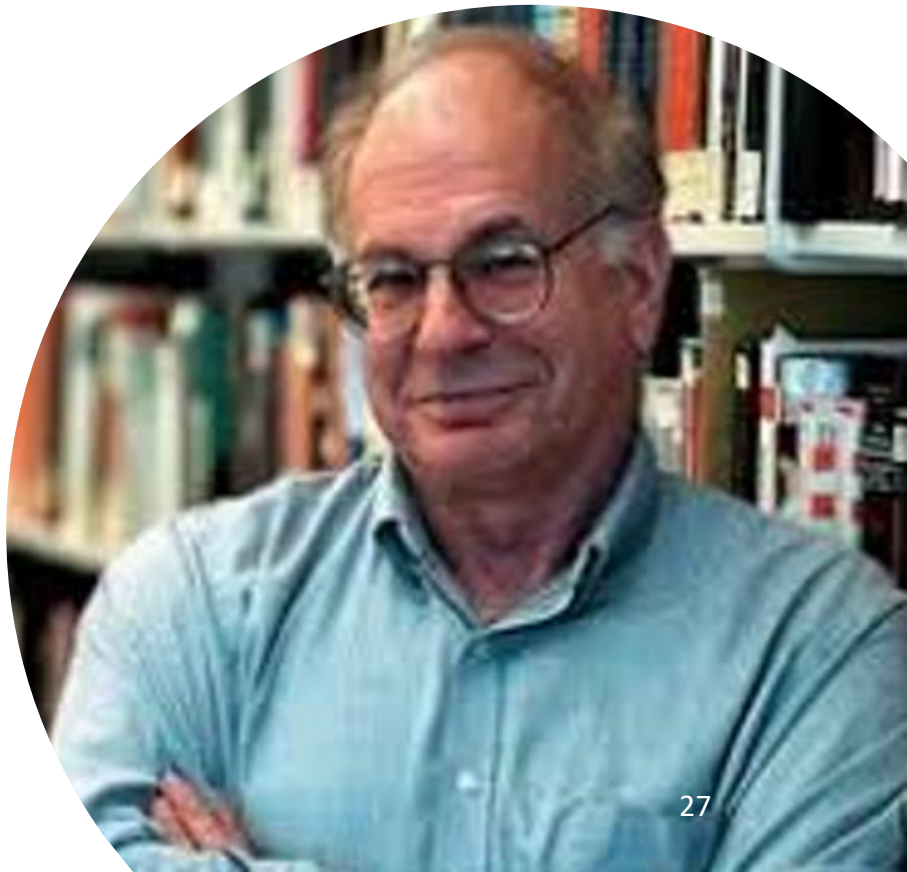
- Journalistic perspective
- Nicholas Carr, 2008, Is Google Making Us Stupid?
  - Reading & Concentration
  - Delegating cognition
  - Neuroplasticity
- Nicholas Carr, 2010, “The Shallows”



Thinking fast and slow

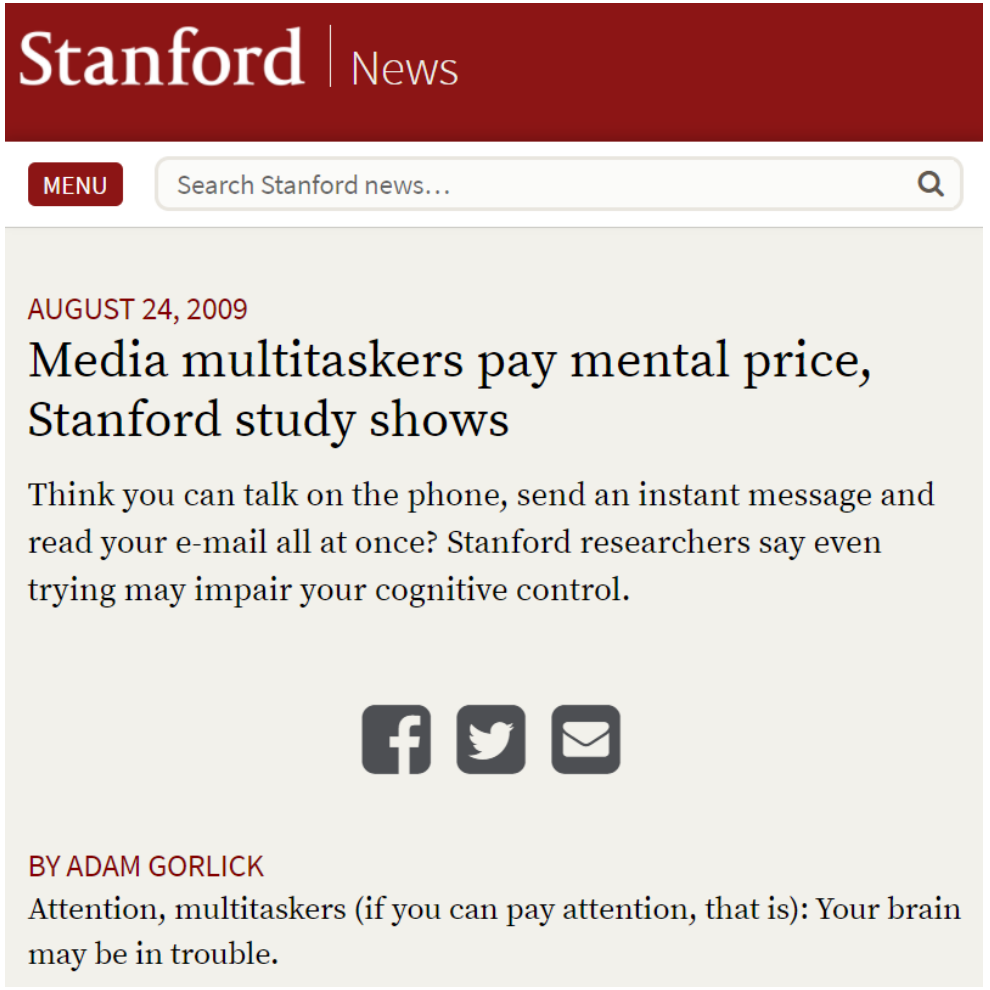
- Psychological perspective
- Daniel Kahneman, 2011, “Thinking fast and slow” (Wiki)
- Biases & heuristics





Interruptions & Multi-tasking

- Most of us are not true multi-taskers
- So-called “multi-taskers” fare worse at concentration & memory (Gorlick 2009)
- Switching tasks is expensive (Brueck 2019)
  - Makes us lose focus & time
  - Stimulates dopamine
  - Enhances flight or fight reactions and stress

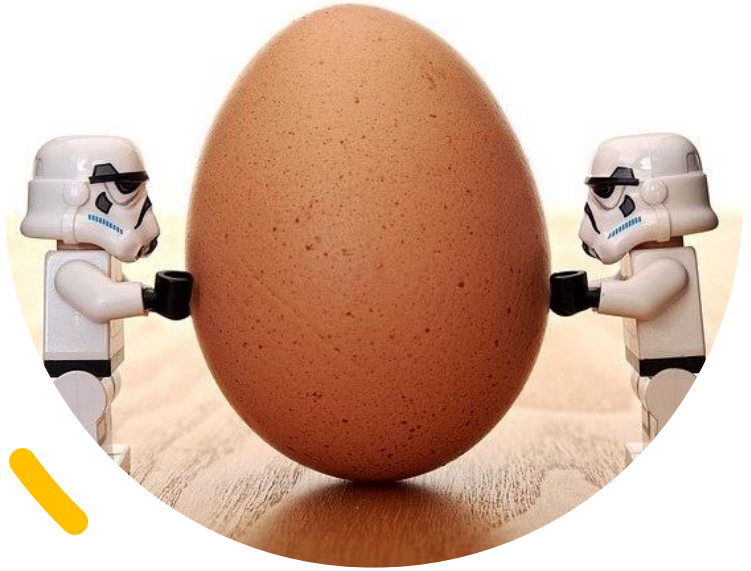


Ethical issues: Autonomy

- Extended mind vs. dependence
  - Text vs voice
  - Reading maps
  - Mental math
- Tech solutionism
  - An app for global peace?
- Dark patterns & nudging

Nudge

- Richard Thaler, winner of the Nobel Prize for Economics (2017)
- Cass Sunstein, legal scholar
- A non-intrusive incentive



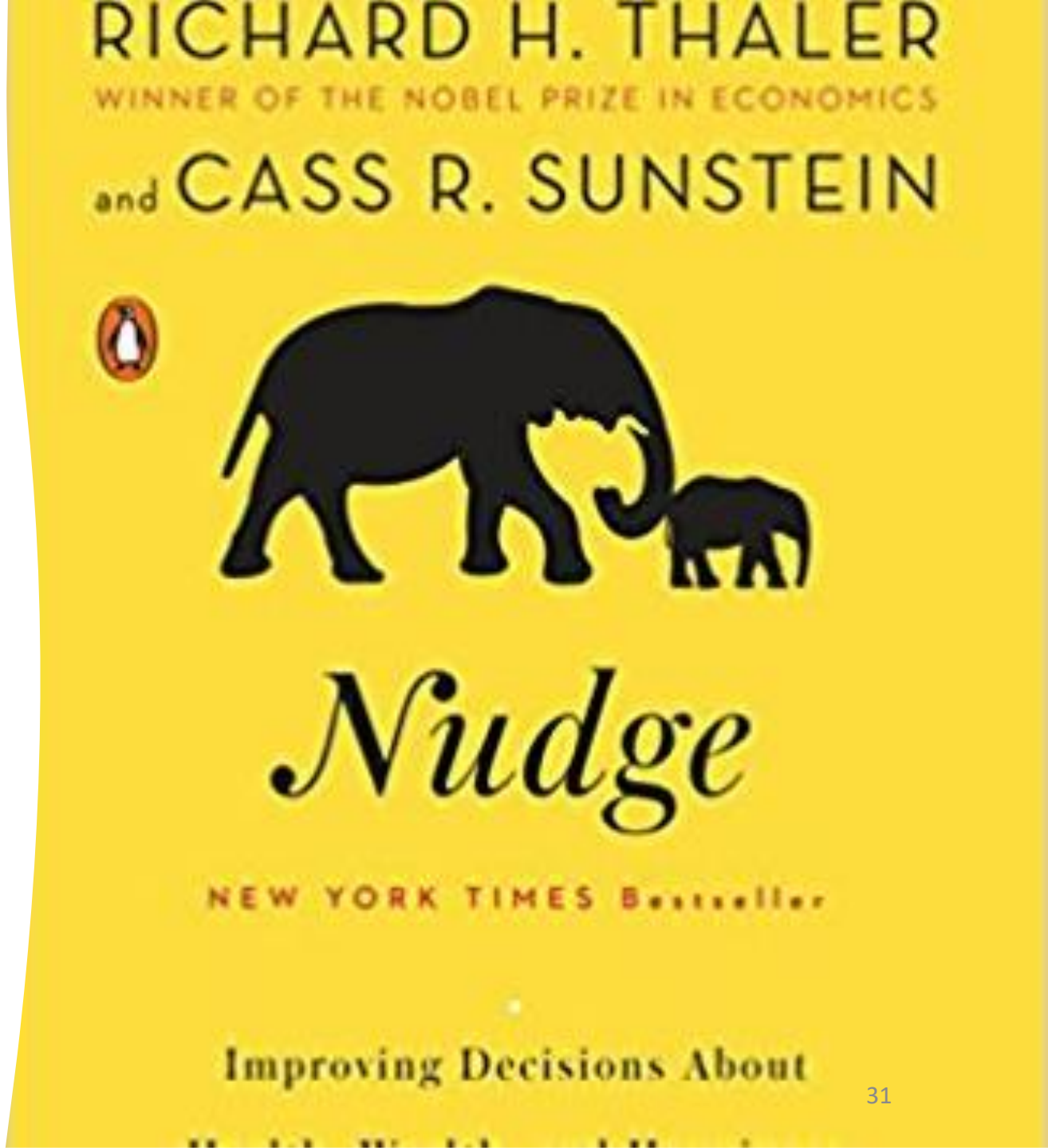
Richard Thaler

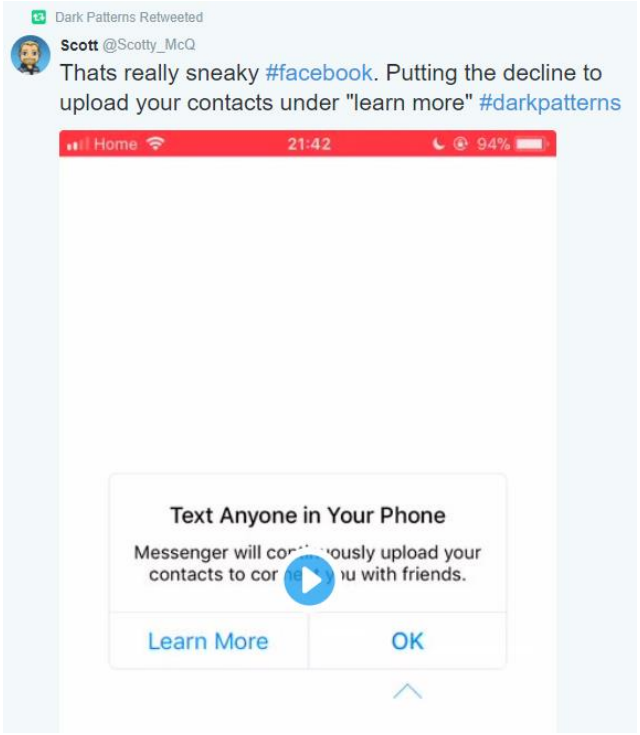
Cass Sunstein

Nudge

- “Any aspect of the **choice architecture** that alters people's behavior in a **predictable** way”
- “Without forbidding any options or significantly changing their economic incentives.
- “The intervention must be **easy and cheap to avoid.**”

(Thaler & Sunstein 2008)





WHAT ARE DARK PATTERNS?

Dark Patterns are tricks used in websites and apps that make you buy or s for things that you didn't mean to. The purpose of this site is to spread aw and to shame companies that use them.

HOW DO DARK PATTERNS WORK?

When you use the web, you don't read every word on every page - you ski and make assumptions. If a company wants to trick you into doing someth they can take advantage of this by making a page look like it is saying one when it is in fact saying another. You can defend yourself by learning abou Patterns on this site.

TYPES OF DARK PATTERN

Bait and Switch ›
You set out to do one thing, but a different, undesirable thing happens instead.

Disguised Ads ›
Adverts that are disguised as other kinds of content or navigation, in order to get you to click on them.

Forced Continuity ›
When your free trial with a service comes to an end and your credit card silently starts getting charged without any warning. In some cases this is made even worse by making it difficult to cancel the membership.

Friend Spam ›
The product asks for your email or social media permissions under the pretence it will be used for a desirable outcome (e.g. finding friends), but then spams all your contacts in a message that claims to be from you.

Hidden Costs ›
You get to the last step of the checkout process, only to discover some unexpected charges have appeared, e.g. delivery charges, tax, etc.

Misdirection ›
The design purposefully focuses your attention on one thing in order to distract you attention from another.

Price Comparison Prevention ›
The retailer makes it hard for you to compare the price of an item with another item, so you cannot make an informed decision.

Privacy Zuckering ›
You are tricked into publicly sharing more information about yourself than you really intended to. Named after Facebook CEO Mark Zuckerberg.

Roach Motel ›
The design makes it very easy for you to get into a certain situation, but then makes it hard for you to get out of it (e.g. a subscription).

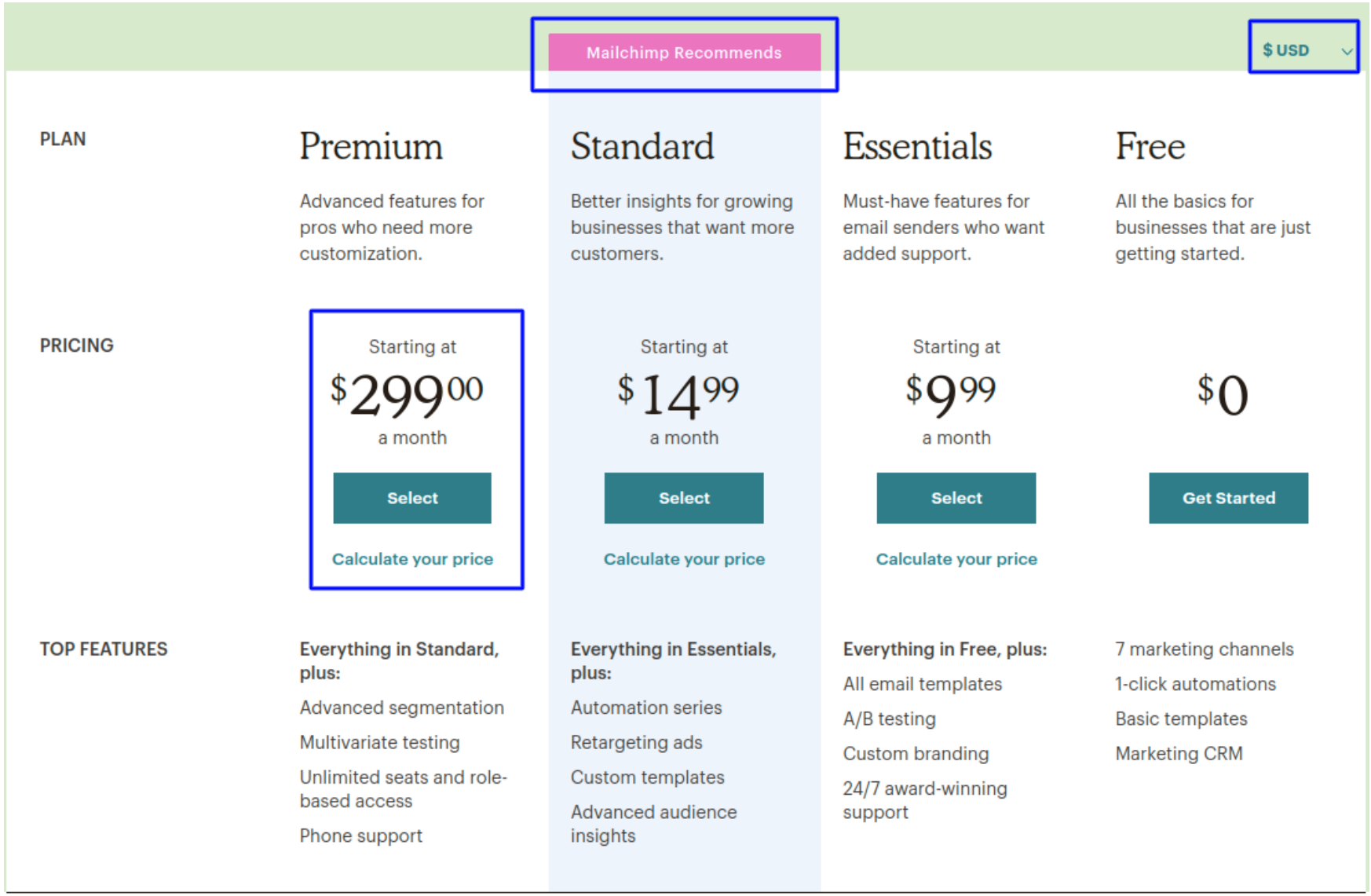
Sneak into Basket ›
You attempt to purchase something, but somewhere in the purchasing journey the site sneaks an additional item into your basket, often through the use of an opt-out radio button or checkbox on a prior page.

Trick Questions ›
You respond to a question, which, when glanced upon quickly appears to ask one thing, but if read carefully, asks another thing entirely.

Anchoring

Prices are not cheap or expensive

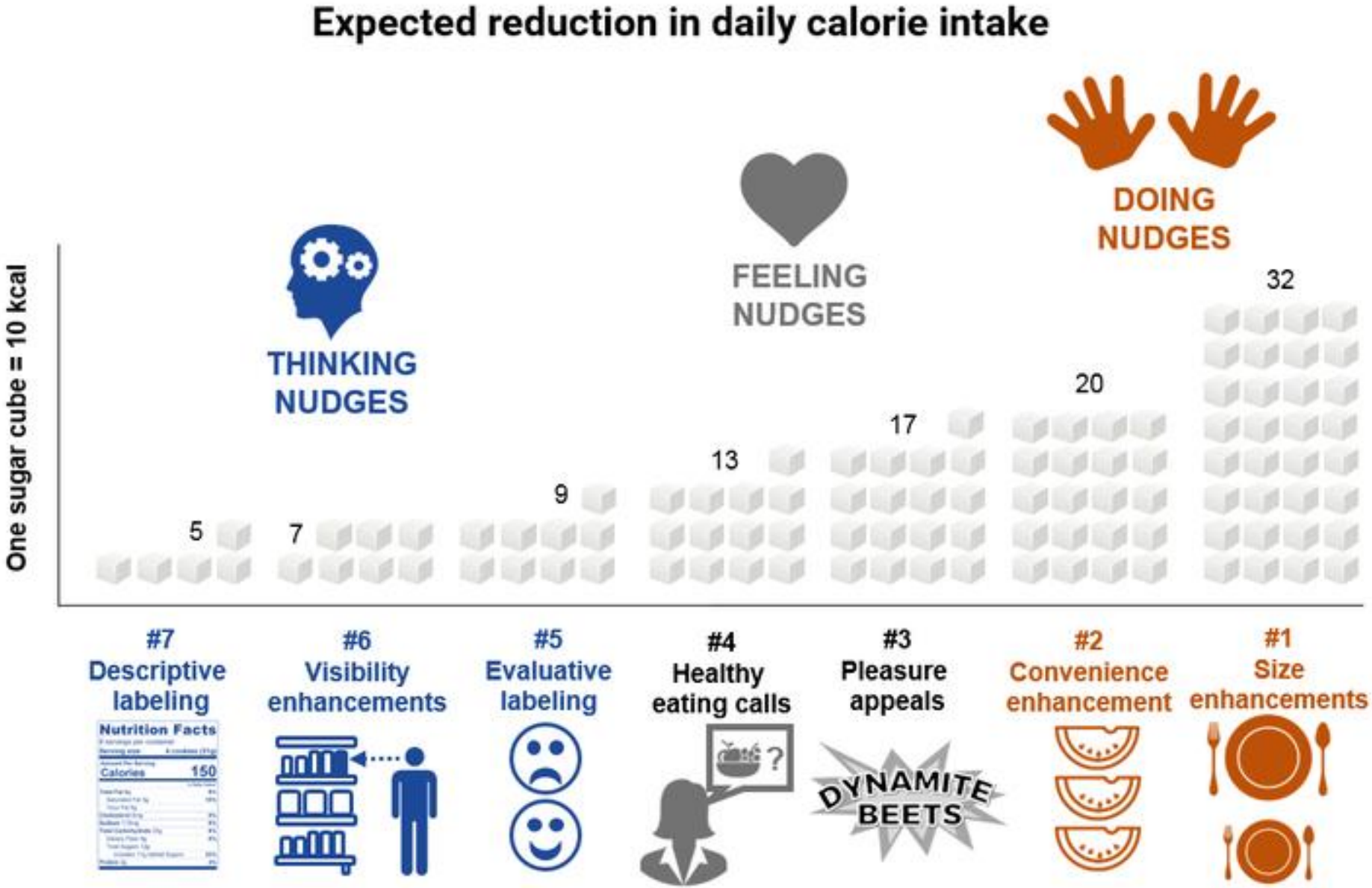
Prices are **relative**



Anchoring tips

- “Highlight the **differences** not the similarities in offerings
- List **highest to lowest** prices from left to right or top to bottom
- Create a middle-of-the-road, ***best deal*** offering
- The cheapest offering should be **decent** but not overly attractive”

([Bradley Gauthier])



[Chandon & Cadario](), in The Conversation

Digital tools & Internet as cognitive enhancement

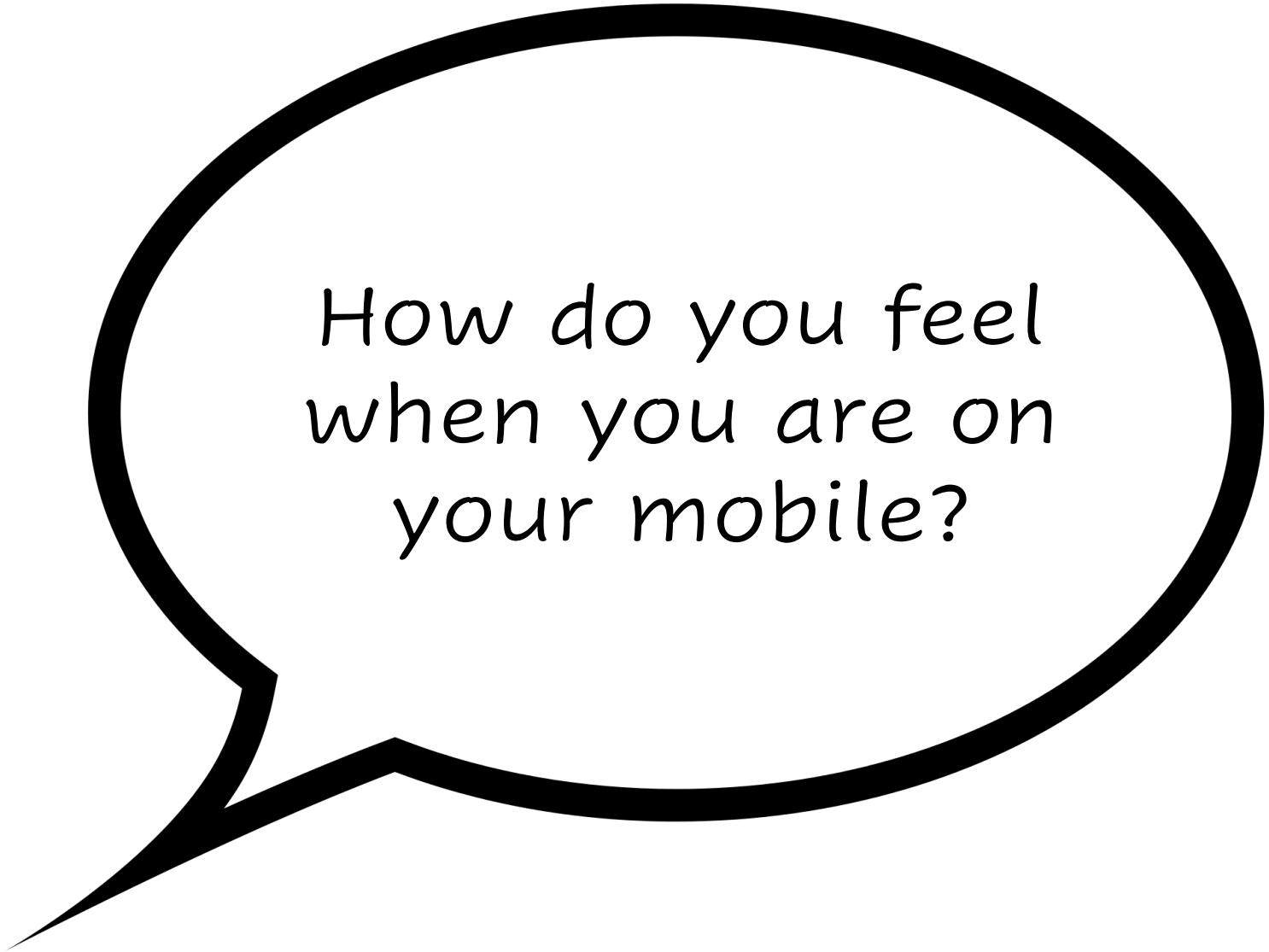
Pros

- Extended perception
- Extended computation
- Extended memory
  - Search
- Distributed thinking in collectives, wikis, groups
  - Wisdom of the crowds

Cons

- Unequal availability
- Shallow thinking
  - Cognitive overload
  - Misinformation
  - Filter bubbles
  - Echo chambers
- Nudging & dark patterns

2. Emotions


How do you feel when you are on your mobile?

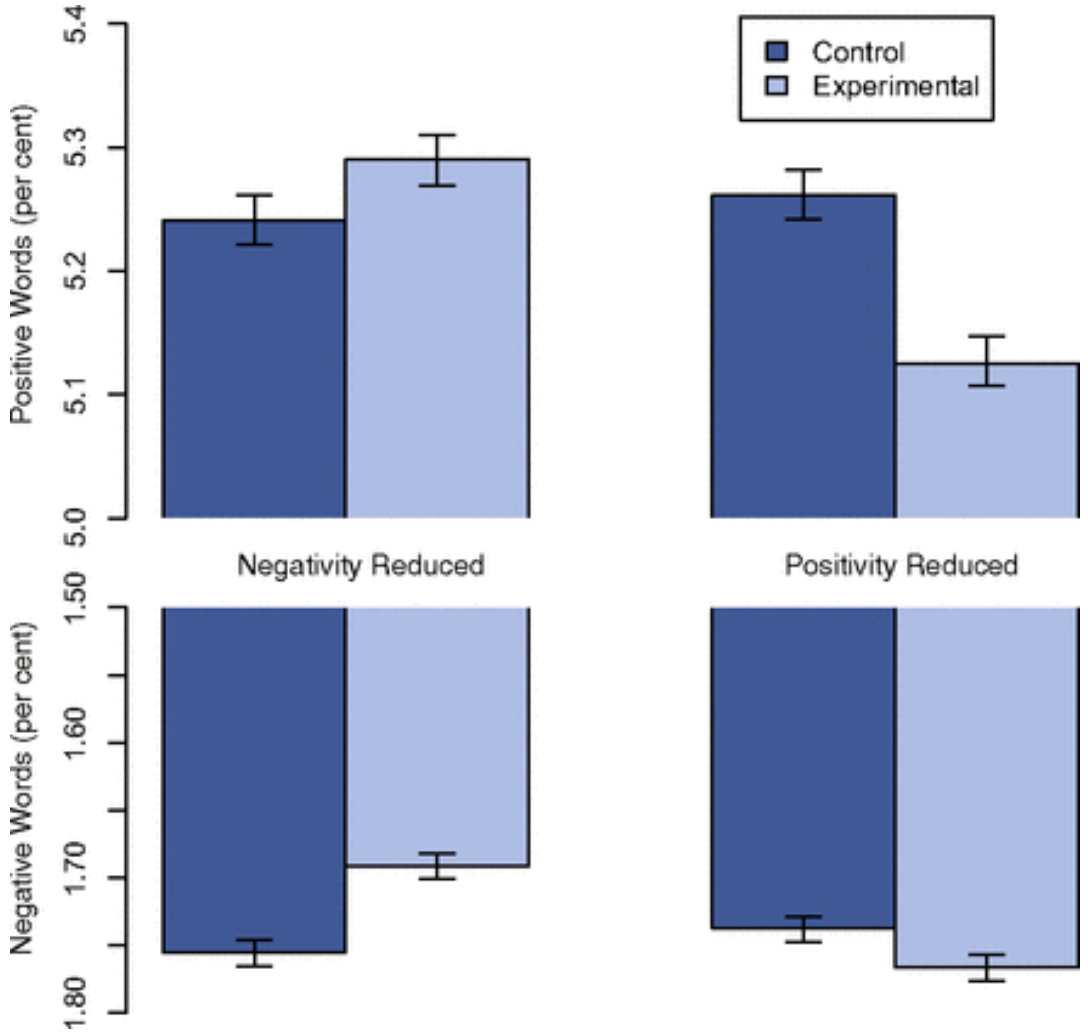
The Facebook Files

- Internal documents leaked by Frances Haugen to Wall Street Journal
- Internal research shows how Instagram affects teens' mental health:
  - "**14% of boys** in the U.S. said Instagram made them feel worse about themselves" (CNBC)
  - "We [Instagram] make body image issues worse for **one in three** teen girls" (The Guardian)
    - "Among teens who reported suicidal thoughts, 13% of British users and 6% of American users traced the desire to kill themselves to Instagram"

The extended emotions

- Emotional contagion
- The infamous Facebook experiment
  - Feed manipulation
  - No user consent

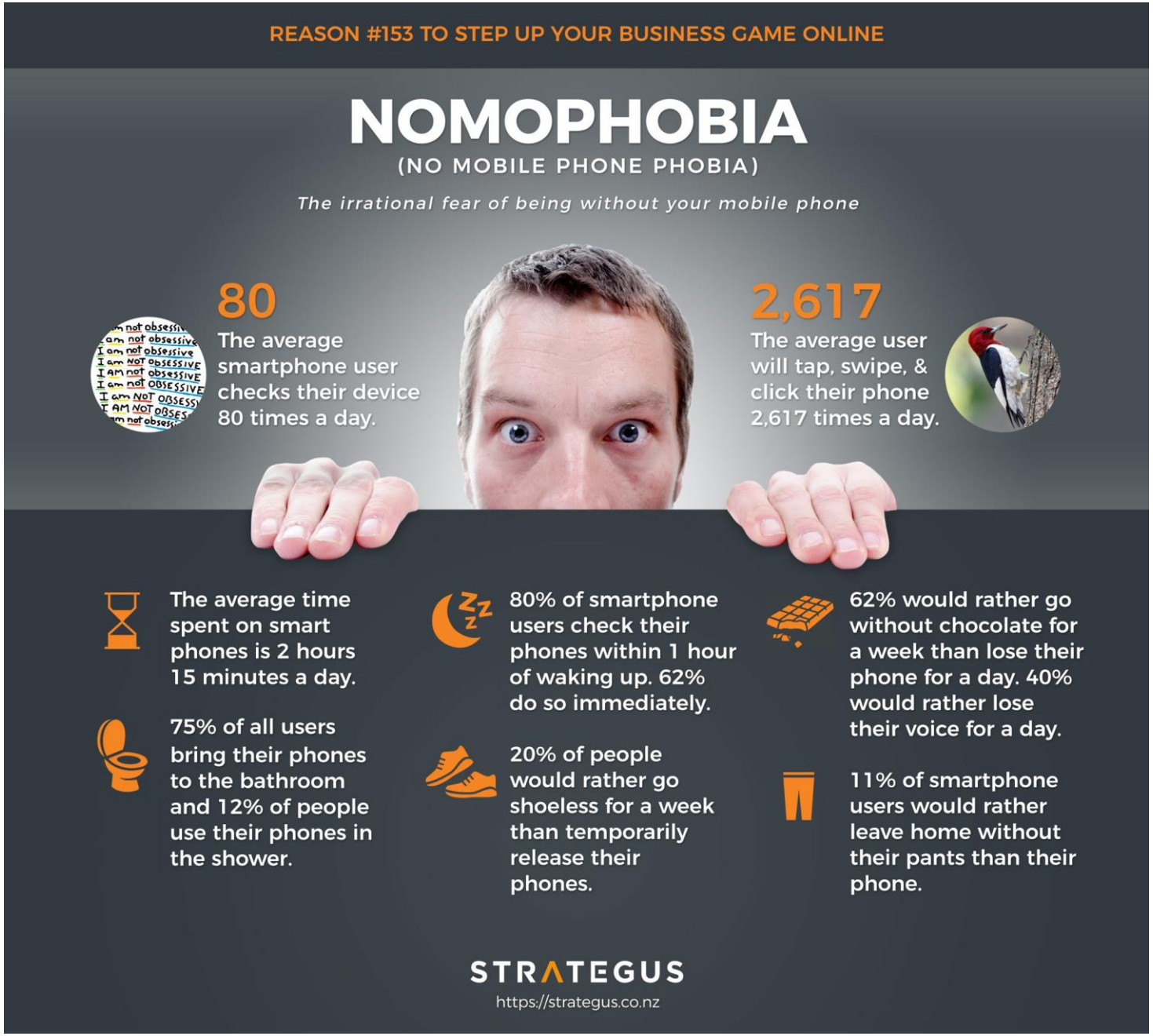
"We show, via a massive (*N* = 689,003) experiment on Facebook, that emotional states can be transferred to others via emotional contagion, leading people to experience the same emotions without their awareness."



Ethical issues

- Autonomy
  - Addiction
  - Prediction
    - “Google moments” & Monetizable despair
    - A/B testing: manipulation & discrimination, vs. consent
- Harm
  - Online harassment
  - Mental health issues & self-harm

Autonomy: Addiction



Addiction: Notifications and hormones

- Nomophobia: phone separation anxiety (Wiki)
- “Platforms like Facebook, Snapchat, and Instagram leverage the very same neural circuitry used by slot machines and cocaine” (Haynes 2018)

Source

Addiction: variable reinforcement schedules

Continuous reinforcement schedule
Fast learning, quick change

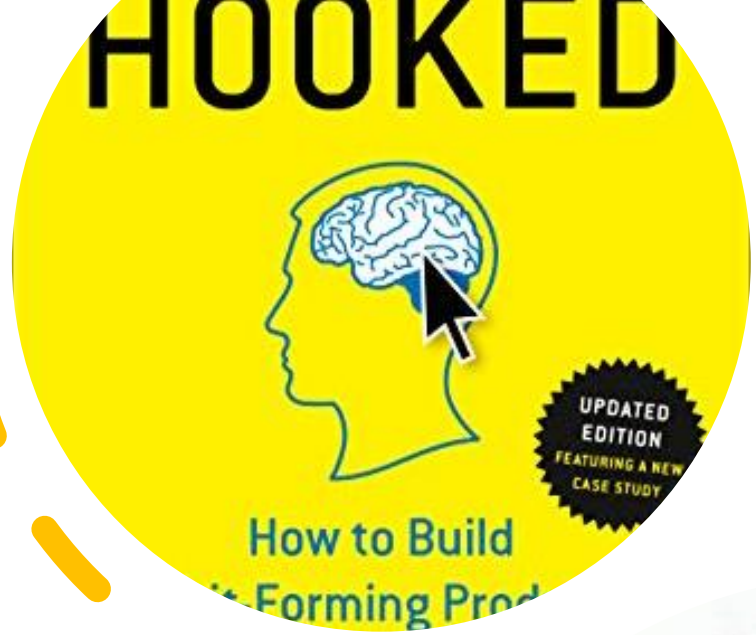
Variable reinforcement schedule
Slower learning, persistent attempts (Lim, 2020)

Facebook is a "beautiful slot machine"

- Variable rewards
- Animations similar to slot machines
- "Chasing" the big win (in likes shares etc) despite losses

(Chris Illuk, 2017)

Addiction: Hook cycle



- Nir Eyal, 2013. Hooked. How to build habit-forming products
- Cycle of habit forming
  1. Trigger
     - External
     - Internal
  2. Simple action
     - Eliminate complications
  3. Variable reward
  4. Small investment
     - The IKEA effect

See: "Hooked" by Nir Eyal – Book Summary

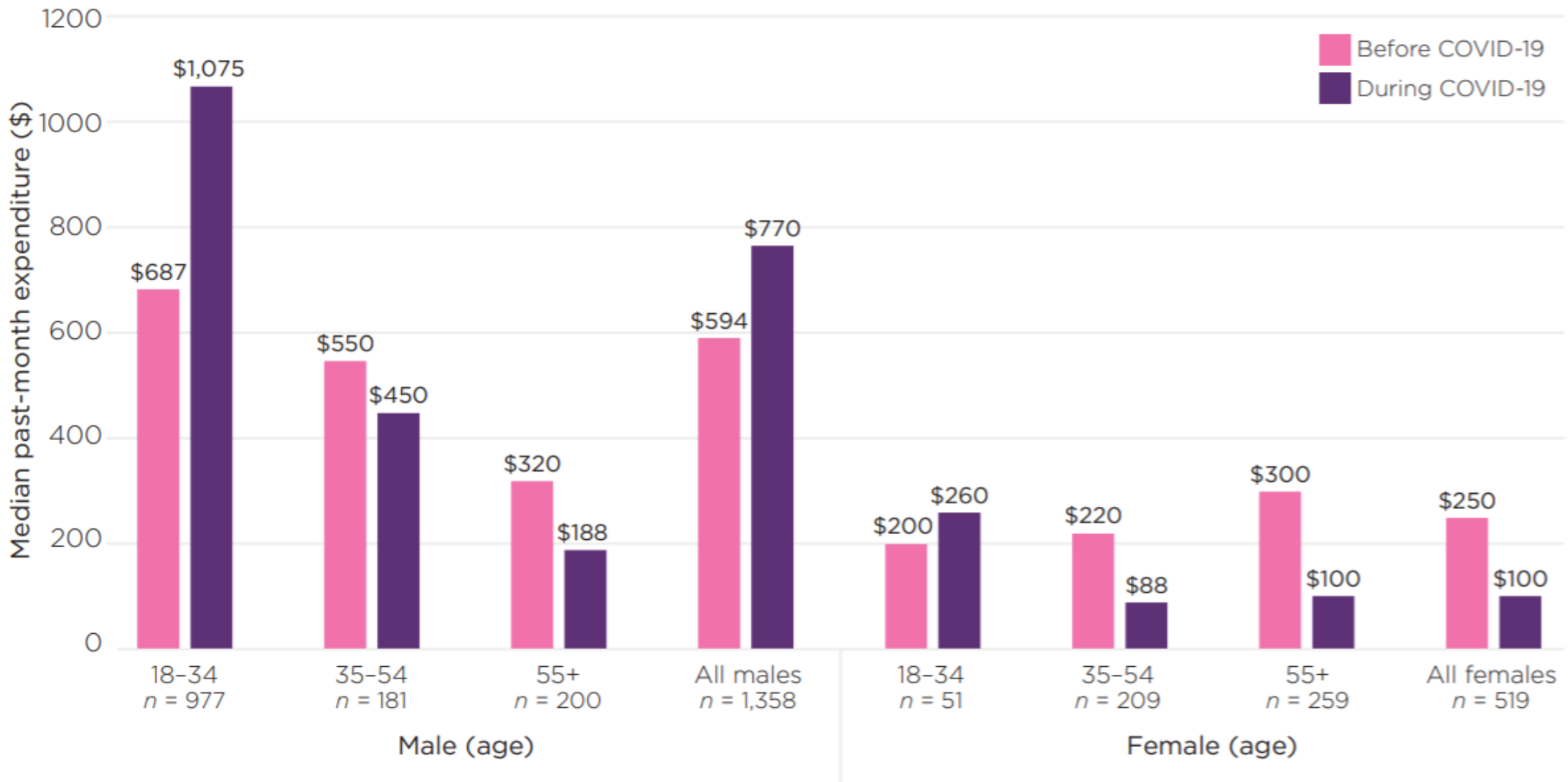
Pervasive gambling – so what?

- Gambling in Australia – a case study
  - Australia has 20% of the world's poker machines, known colloquially as the "pokies“
  - Annual spending cca AUD 1300 (EUR 800)
  - 200.000 + heavy problem gamblers
  - 400.000 + problem gamblers
  - Ripple effects on family, work

BBC 2017

Source

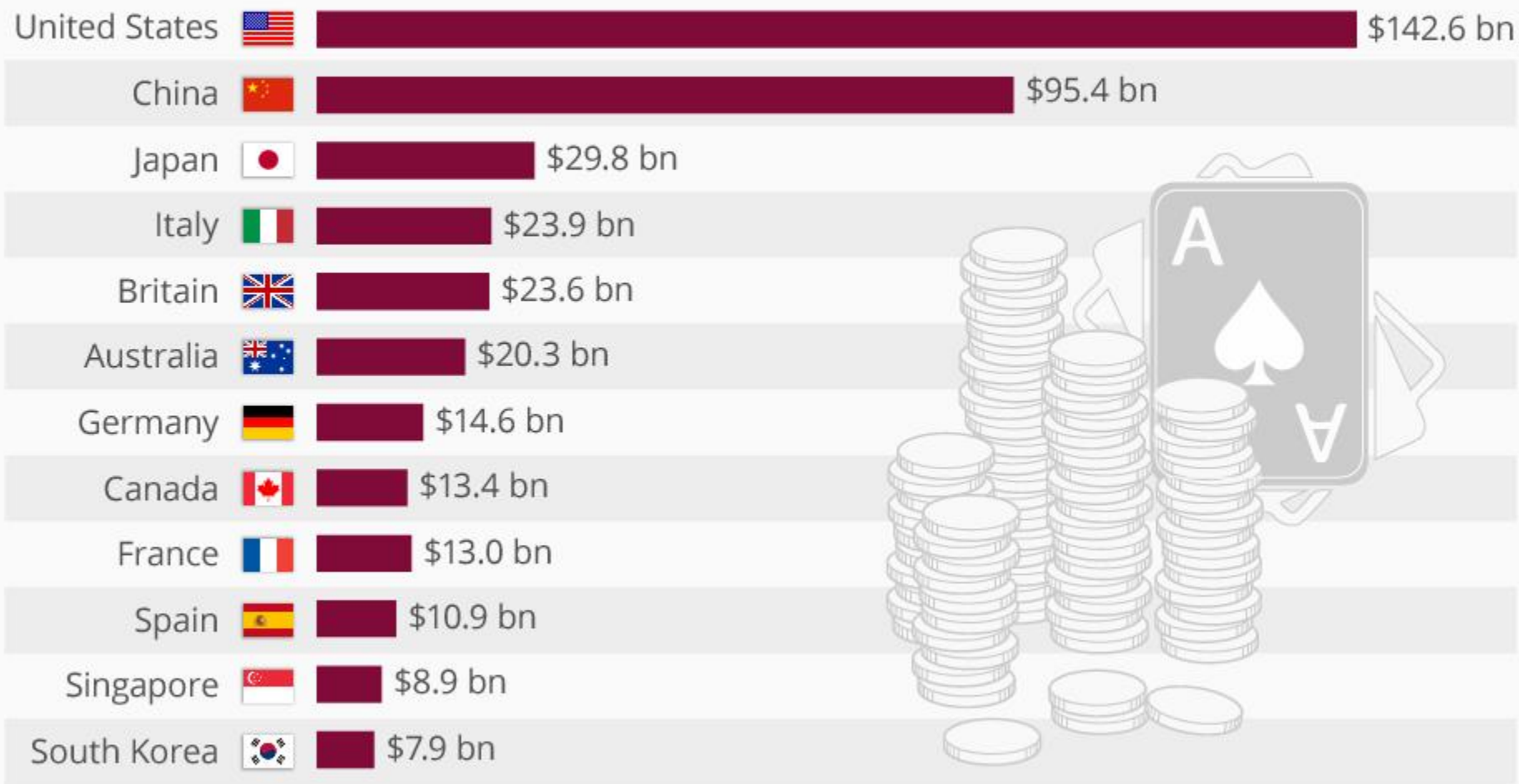
Figure 3: Median past-month expenditure ($) before and during COVID-19



Survey of Australian gamblers during COVID-19

The Countries With The Biggest Annual Gambling Losses

Largest gambling losses by country in 2014 (in billion U.S. dollars)

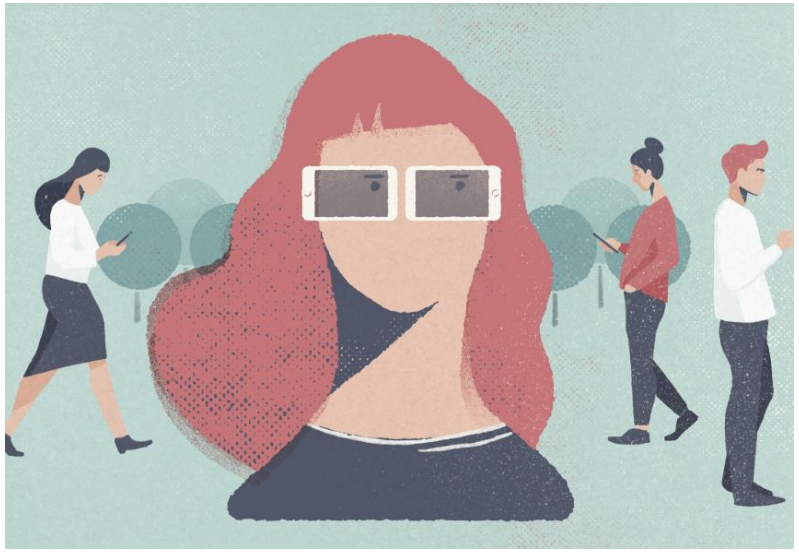


@StatistaCharts

Sources: The Economist, H2 Gambling Capital, Thomson Reuters

statista

Autonomy: Prediction



How Google Marketers Exploit Your Discomfort

We're trained to serve ads in your moments of quiet desperation

Patrick Berlinquette Follow

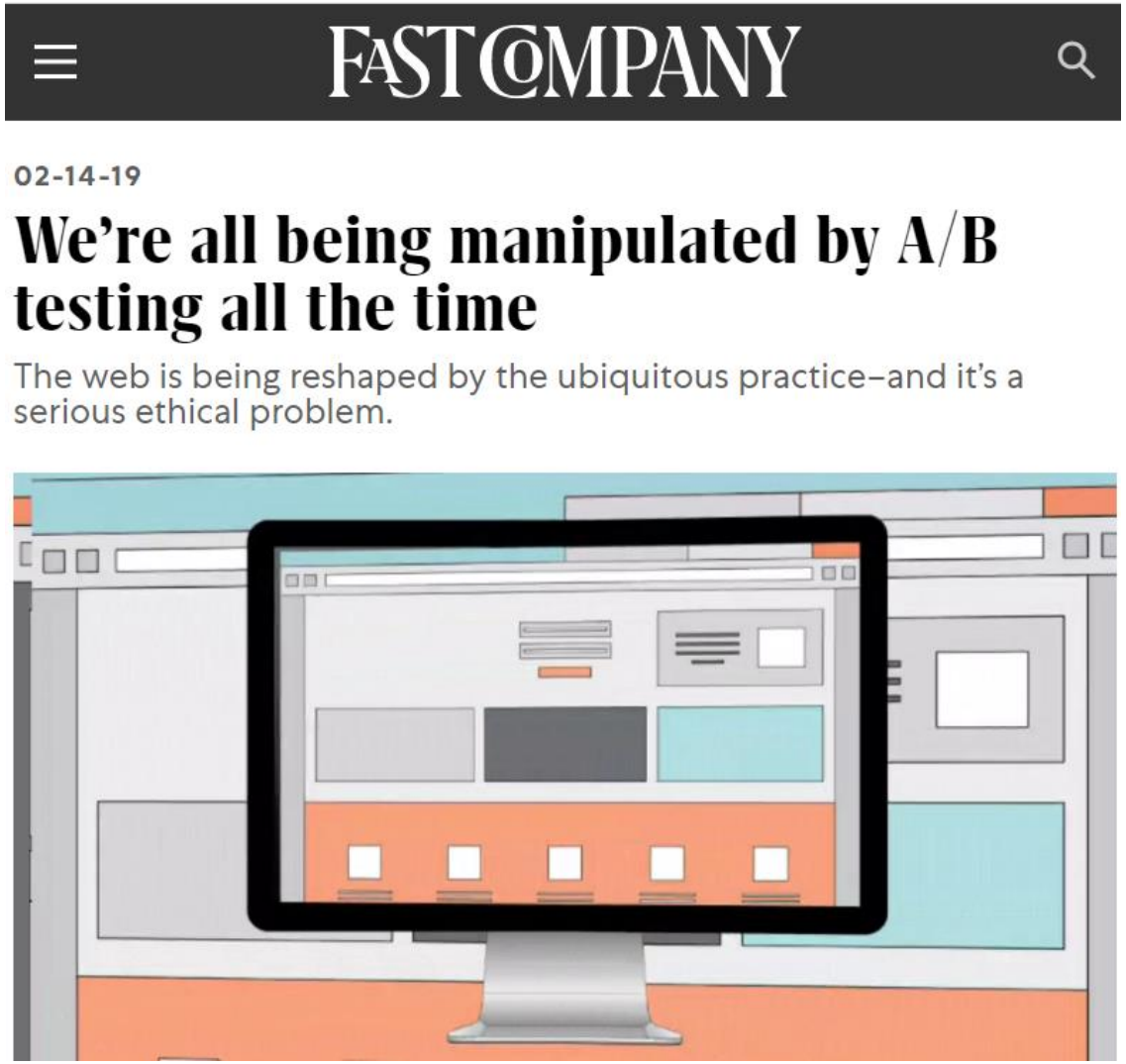
Dec 13, 2018 · 7 min read ★

Today, three out of four smartphone owners turn to Google first to address their immediate needs. As a result, Google marketers like me must survive on our ability to play on your impatience and impulsiveness when you're using a mobile device. We must be there to serve you an ad in your "micro-moment," the second you decide to use your phone to alleviate the discomfort of not having "it" now—whether "it" is a last-minute sale, directions to a soon-closing store, information about a fast-filling class, or anything else.

Medium
Dec 13, 2018

Prediction: A/B testing

- Companies run constant A/B tests to optimize design, pricing etc (FastCompany 2019)
- “leveraging the worst impulses” Issues:
  - No user consent for being part of experiments
  - Bias: gendered & racialized content, pricing
  - Sensationalizing headlines & polarization

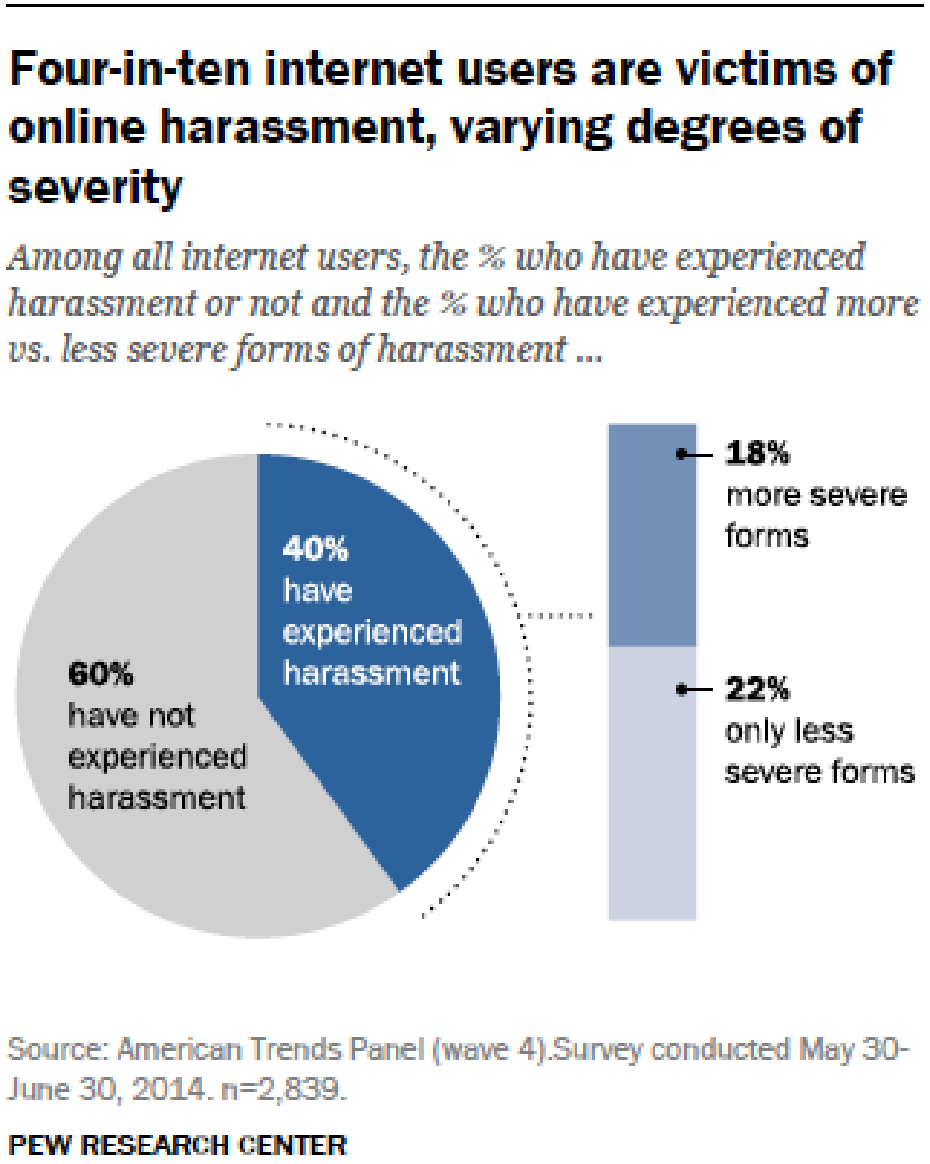


Optimizely, 2010

Optimizely, 2010

Harm: Harassment

- Two levels
  - Name-calling, embarrassment
  - Physical threats, long term harassment, stalking, sexual harassment (Pew Research Center, 2014)

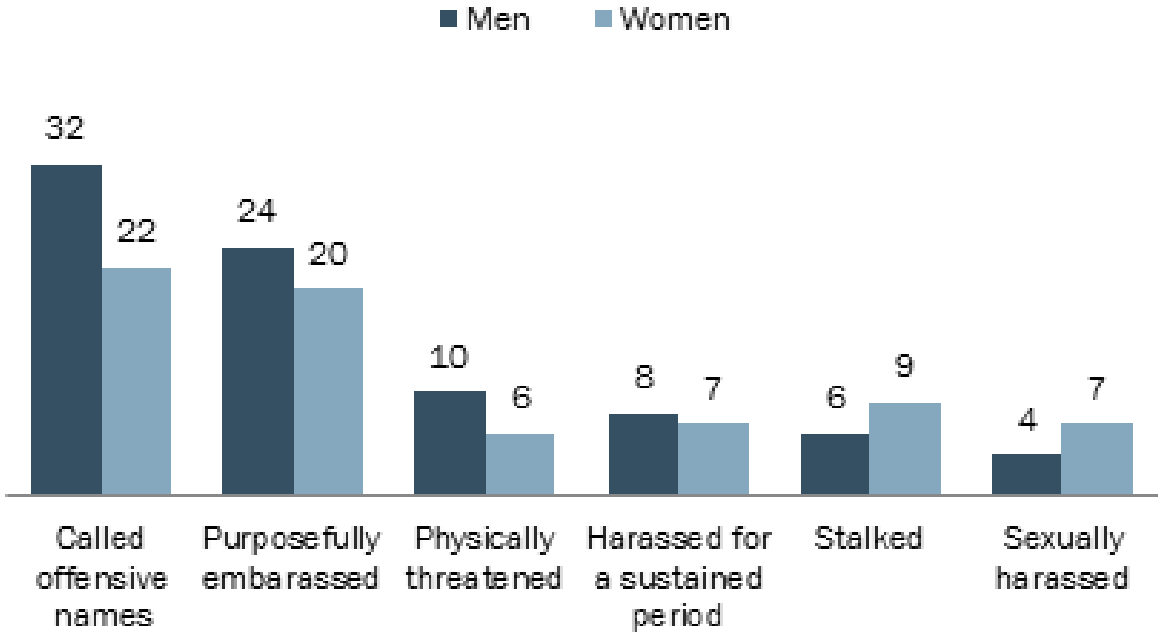


2014

Harassment by gender

Men and women experience different varieties of online harassment

Among all internet users, the % who have experienced each of the following elements of online harassment, by gender…



Source: American Trends Panel (wave 4).Survey conducted May 30-June 30, 2014. n=2,839.

PEW RESEARCH CENTER

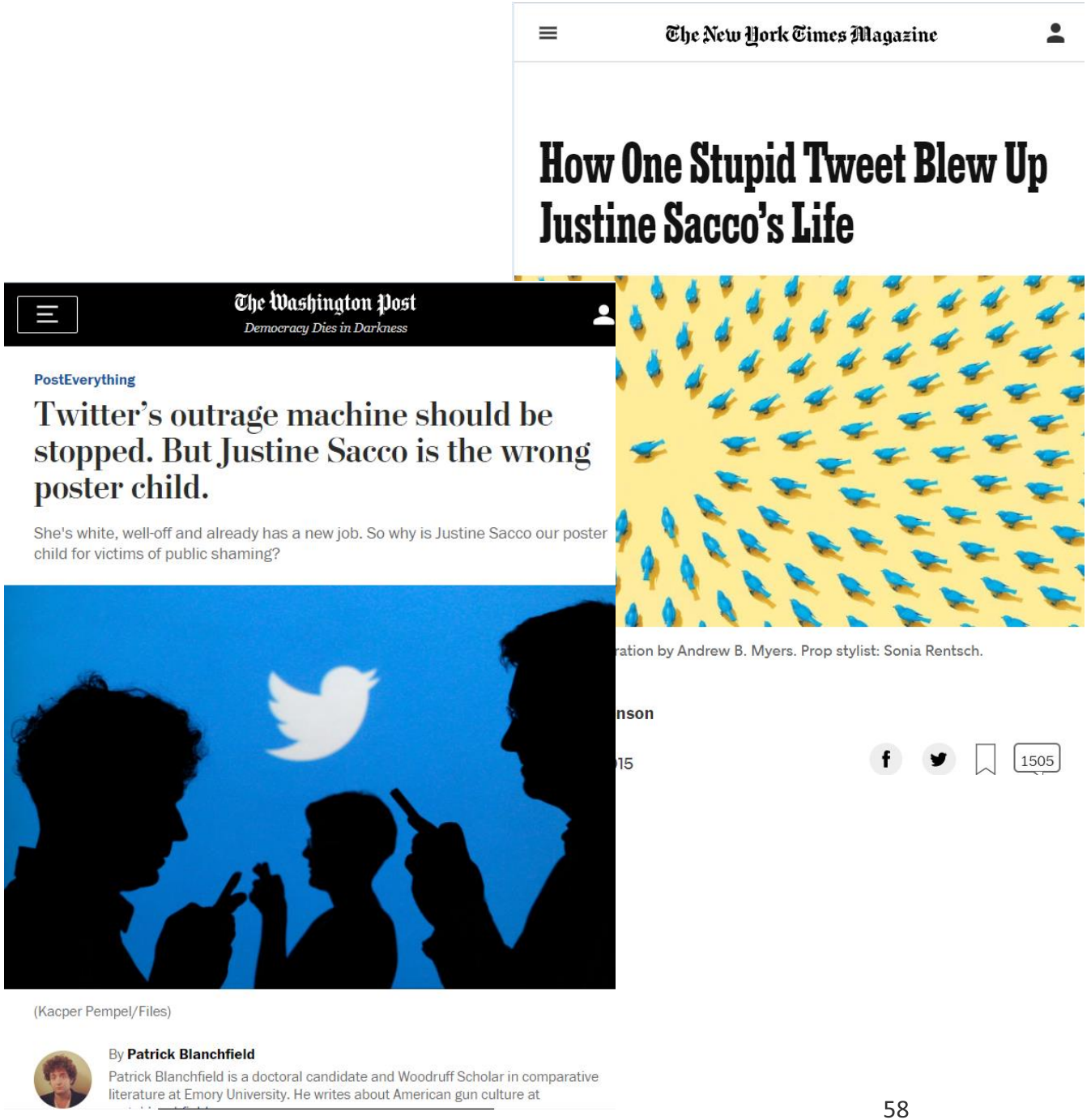
Harassment: a lexicon

- Concern trolling & Sealioning
- Hacking & Doxing
- Cyberbullying
- Cyber-mob attacks (Dogpiling / Outrage mobs)
- Cyberstalking
- Deepfake
- Online Sexual Harassment
- Revenge porn
- Online impersonation

Source: PEN America

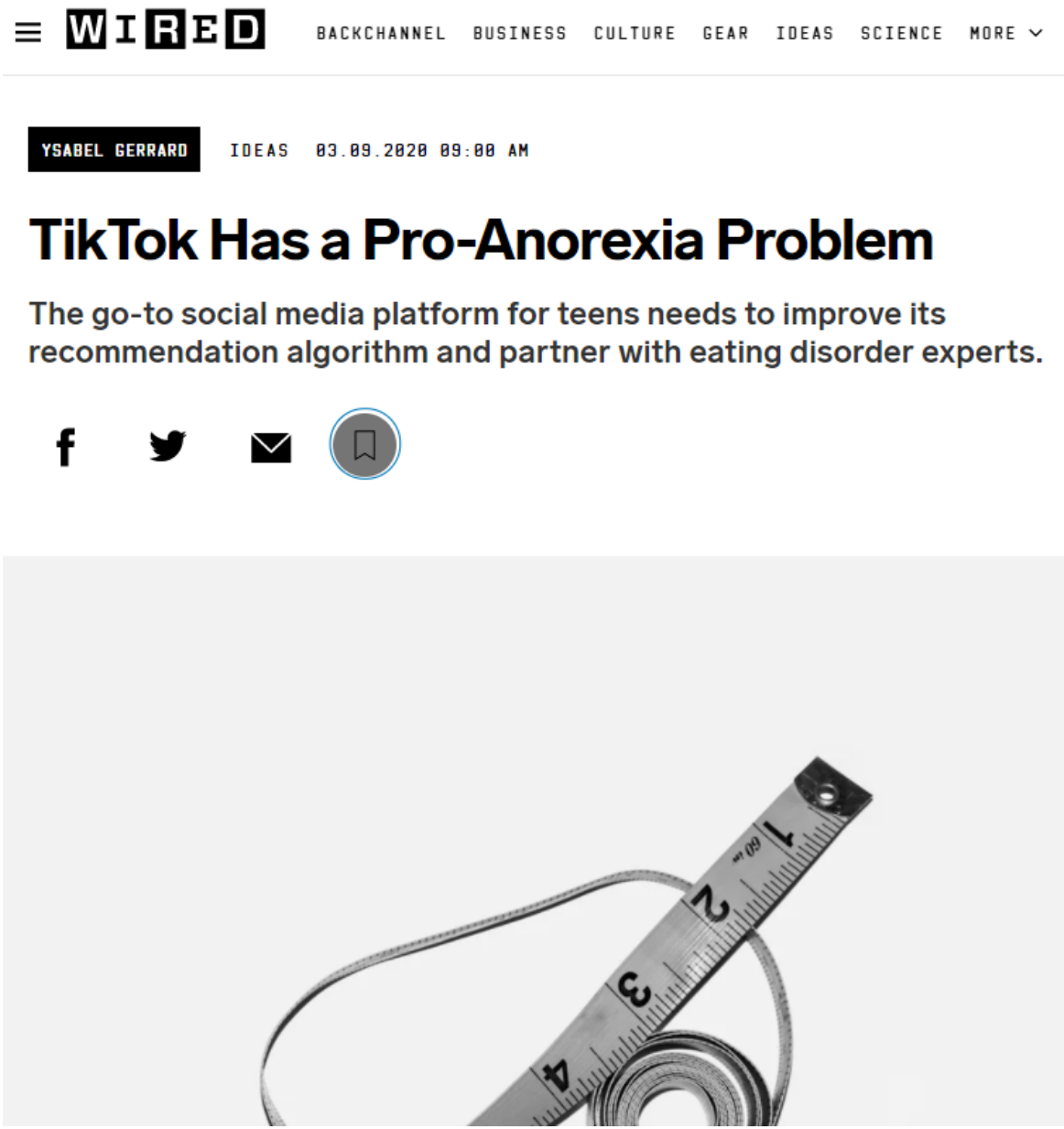
Harassment: Twitter outrage storm

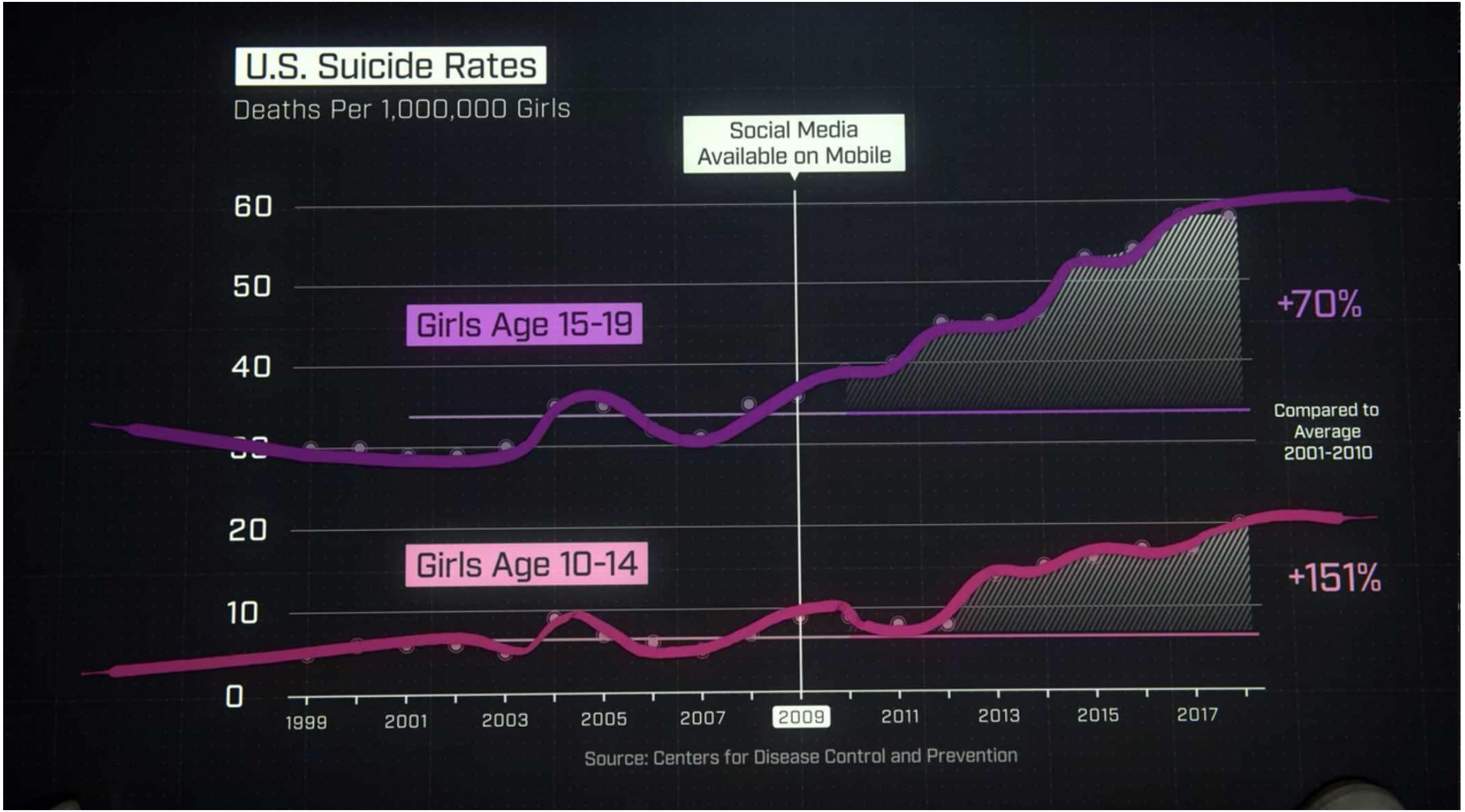
- Tech empowerment for harm: reach, impact
- Isolation of reaction from human source
  - Low empathy
  - Accumulation of outrage



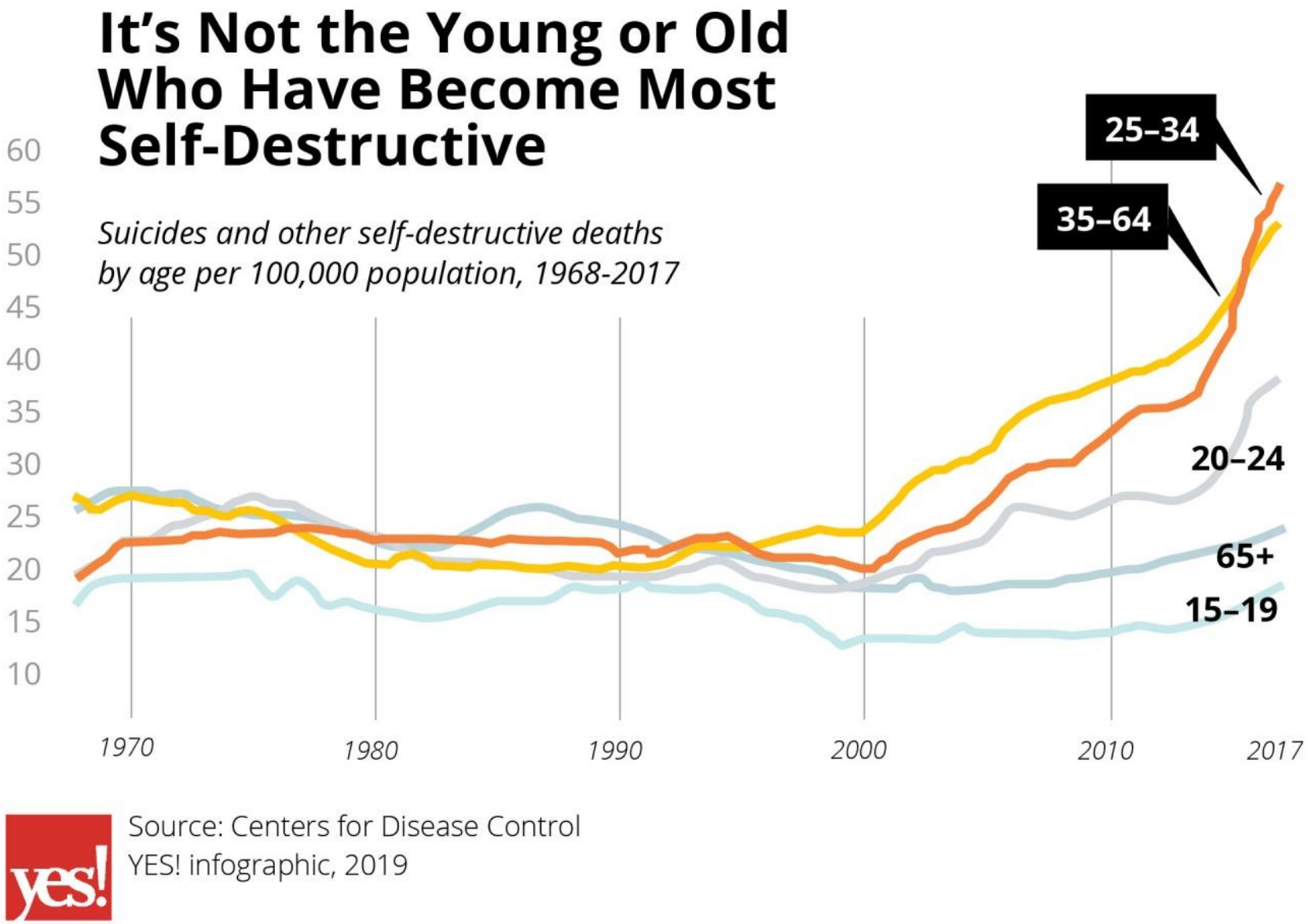
Harm: Self-harm

- Influence of addiction and harassment (Wiki)
- Empowerment for harm
  - Pro-ana and Pro-mia content
  - Pro-suicide content
  - Tips of self-harm

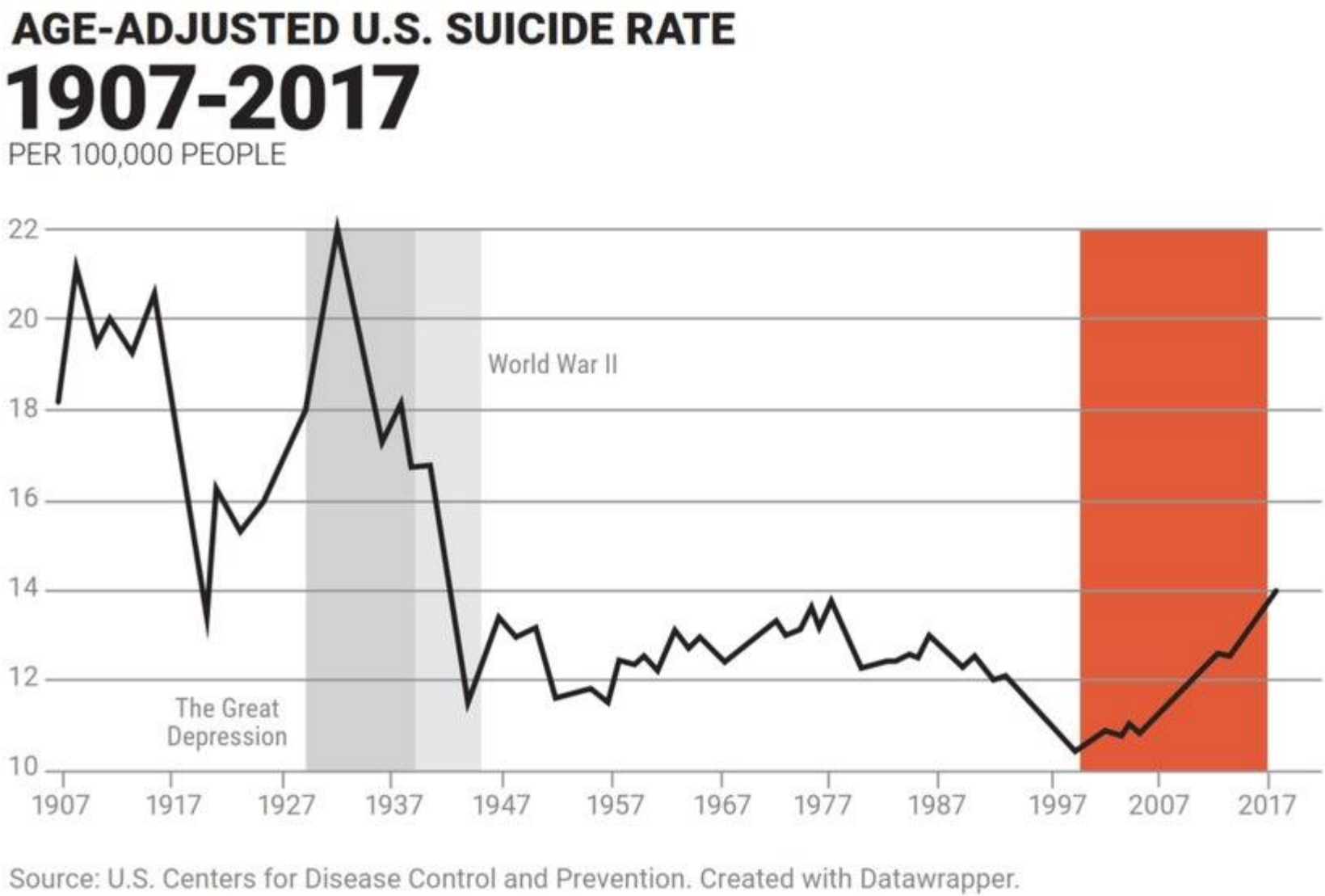


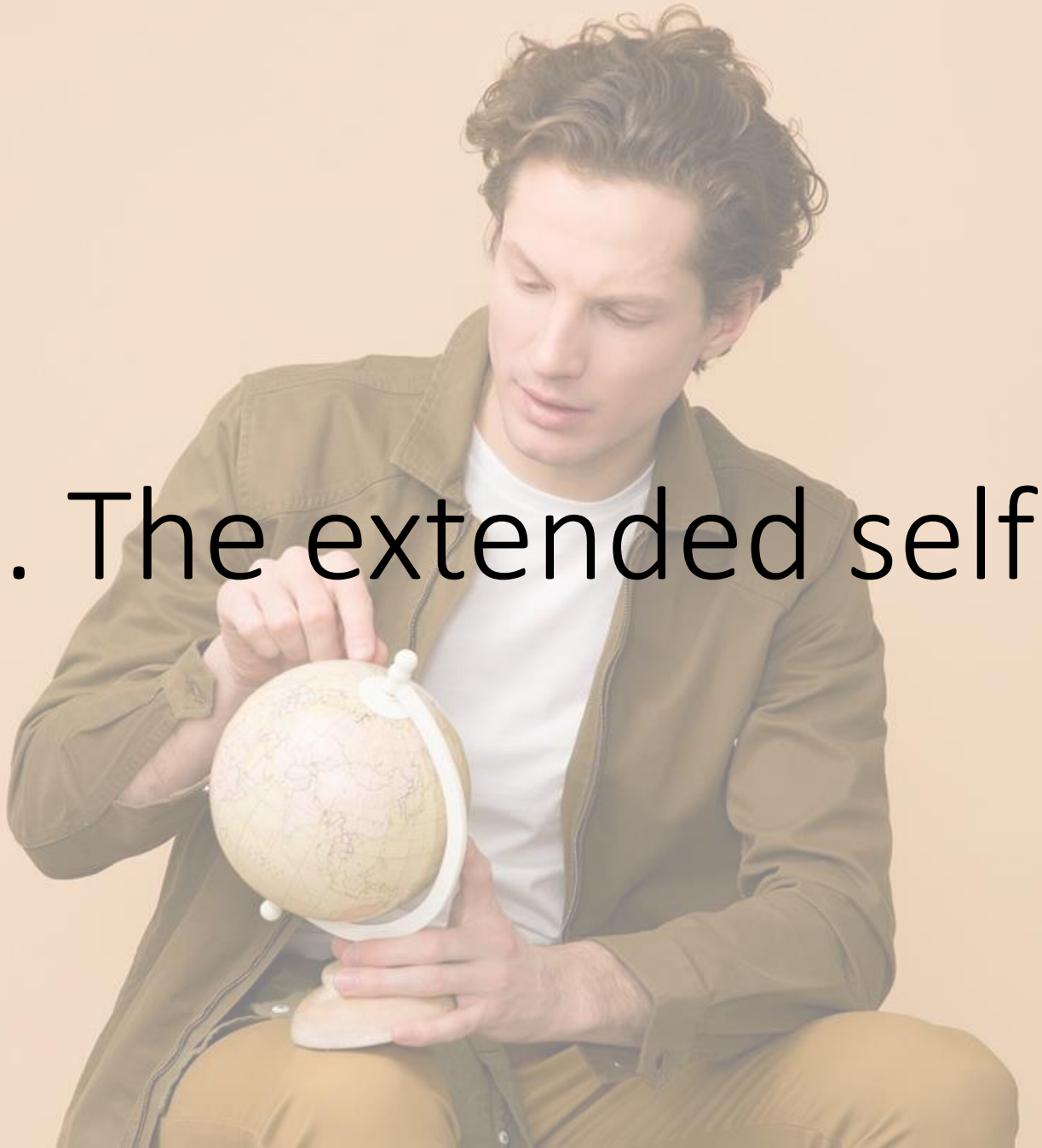


[Jonathan Heidt in The Social Dilemma, Netflix]

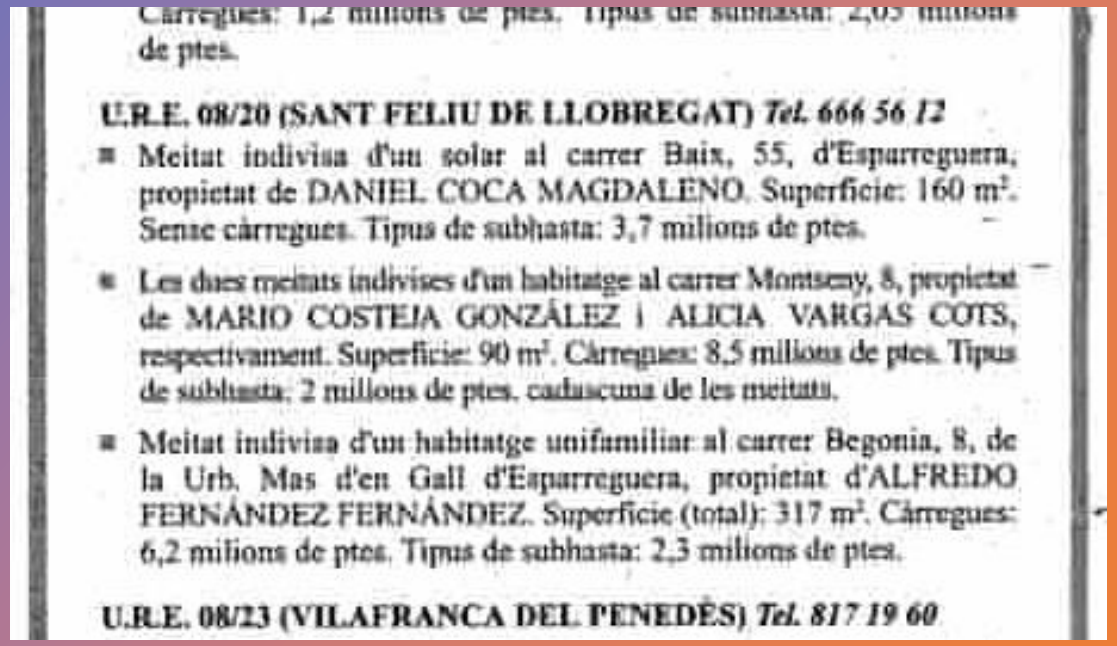


YES Magazine, 2019


AGE-ADJUSTED U.S. SUICIDE RATE
1907-2017
PER 100,000 PEOPLE
22
20
18
16
14
12
10
World War II
The Great Depression
1907
1917
1927
1937
1947
1957
1967
1977
1987
1997
2007
2017
Source: U.S. Centers for Disease Control and Prevention. Created with Datawrapper.



3. The extended self



de ptes.

U.R.E. 08/20 (SANT FELIU DE LLOBREGAT) *Tel. 666 56 12*

- Meitat indivisa d'un solar al carrer Baix, 55, d'Esparreguera, propietat de DANIEL COCA MAGDALENO. Superficie: 160 m². Sense càrregues. Tipus de subhasta: 3,7 milions de ptes.
- Les dues meitats indivises d'un habitatge al carrer Montseny, 8, propietat de MARIO COSTEJA GONZÁLEZ i ALICIA VARGAS COTS, respectivament. Superficie: 90 m². Càrregues: 8,5 milions de ptes. Tipus de subhasta: 2 milions de ptes. cadascuna de les meitats.
- Meitat indivisa d'un habitatge unifamiliar al carrer Begonia, 8, de la Urb. Mas d'en Gall d'Esparreguera, propietat d'ALFREDO FERNÁNDEZ FERNÁNDEZ. Superficie (total): 317 m². Càrregues: 6,2 milions de ptes. Tipus de subhasta: 2,3 milions de ptes.

U.R.E. 08/23 (VILAFRANCA DEL PENEDÈS) *Tel. 817 19 60*

Right to be forgotten?

- Our past selves are forever available for others
- How can we curate them?
- Mr. Mario Costeja González sued Google in 2012 [Wiki]
  - To remove links to past announcements of forced auctions of his properties
- This trial established a conditional right to remove information that is “inadequate, irrelevant or excessive“
  - Not necessarily inaccurate or fake
  - Not necessarily prejudicial or negative

Self as performance

- Erving Goffman, sociologist
- We constantly perform our self in front of audiences
- Our self is shaped through a series of performances
  - Audience: others and ourselves
  - We adjust the performance in time
  - We use props

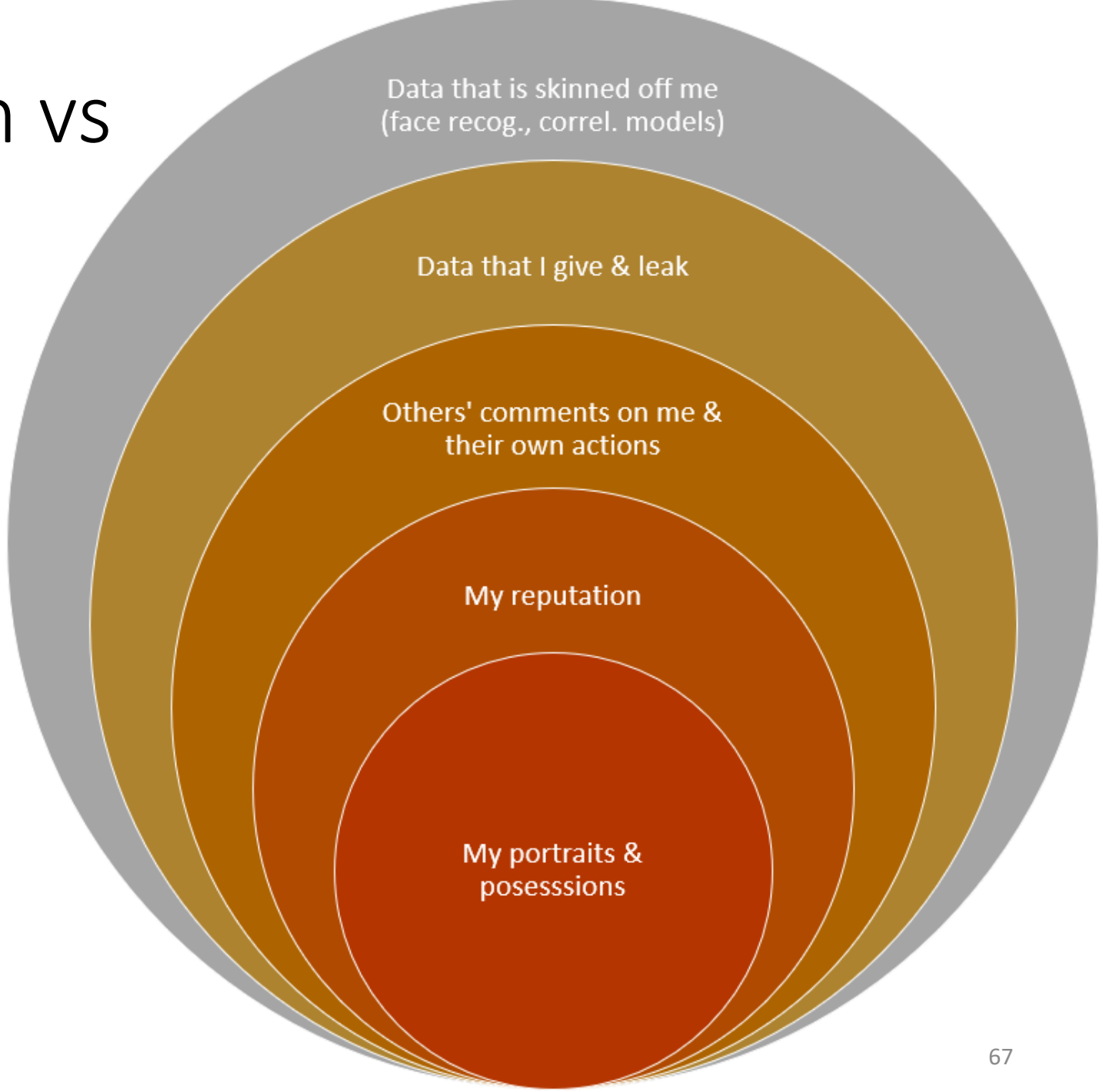
Erving Goffman

The self is social, material, informational

- Selves are extended
- Tech: extending skill surface
- Tech: extending vulnerability surface
- Being vs. having: my possessions are part of my self
  - “Skins”
  - True in real and digital life
- Digital tech shapes our extended self-performance

Giving information vs giving off

- I give and I give off information
  - Degrees of control
  - Degrees of authenticity
  - Degrees of predictability?
- Our Big Data captures thoughts, objects, activities
- Correlation without causality: the key to prediction?



Medium
Jan. 3, 2019

Sign in Get started

A Vision of the Dark Future of Advertising

Companies will know more about you than you can even imagine

Jamie Bartlett Follow
Jan 3 · 6 min read ★

People do things, feel things, think things, and buy things for reasons they don't understand.

Top highlight

The driving force behind this is a simple but powerful point: People do things, feel things, think things, and buy things for reasons they don't understand. Who knows what correlations will be thrown up? I have no idea, and neither will anyone else. All that matters is that these correlations exist. There is no truth anymore, the experts will say, only inputs and outputs.

Some theoretical examples:

- People aged 30 and 35 who eat eggs on Thursday and have a below average heart rate are more likely to be adrenaline junkies who enjoy…
- People who watched YouTube videos between 7 and 9 a.m. as teenagers and travel by public transit are more likely to be traditionalists and…

Take away – Course 5

1. Cognition: Augmented vs. diminished?
   - Extended mind & distributed cognition (DCog)
   - Wisdom of the crowds vs. Filter bubbles
   - Ethical issues
     - Fairness: Unequal quality of engagement
     - Harms: Shallow thinking
     - Autonomy: dependence on tech; nudge & dark patterns
2. Emotions
   - Extended emotions & emotional contagion
   - Addiction
     - Nomophobia
     - Variable reinforcement schedules & Hook cycles
   - Ethical issues
     - Harms: harassment, mental health, self-harm
     - Autonomy: addiction & prediction
3. The extended self

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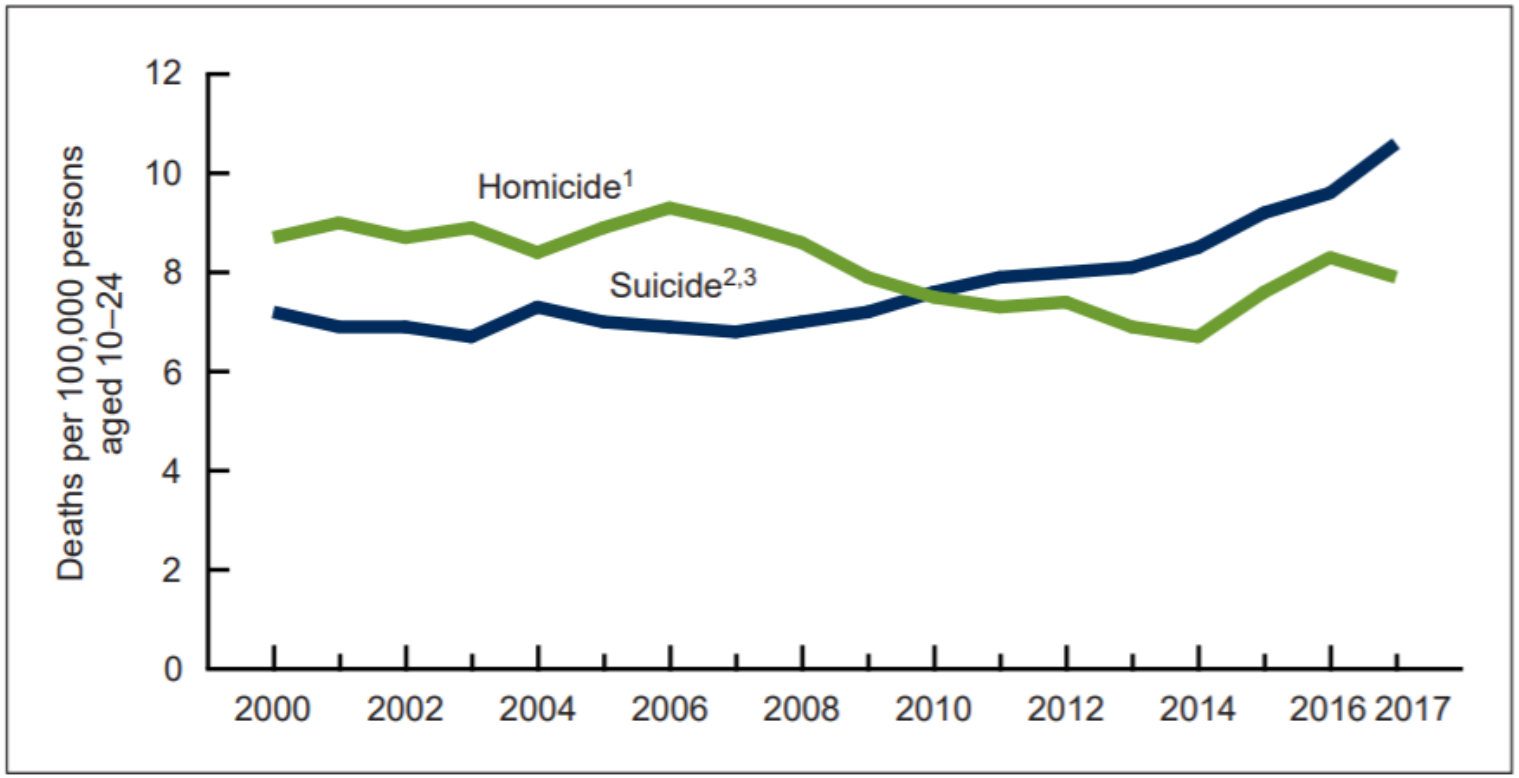
Self-harm: teen & young people's suicide epidemic (US) – constant rise since 2007

Figure 1. Suicide and homicide death rates among persons aged 10–24: United States, 2000–2017



[1]Stable trend from 2000 to 2007; significant decreasing trend from 2007 to 2014; significant increasing trend from 2014 to 2017, $p < 0.05$.
[2]Stable trend from 2000 to 2007; significant increasing trend from 2007 to 2017 with different rates of change over time, $p < 0.05$.

CDC 2019