

Nudging Sustainability





DAN THWAITES

CO-FOUNDER,

CAPUCHIN BEHAVIOURAL SCIENCE



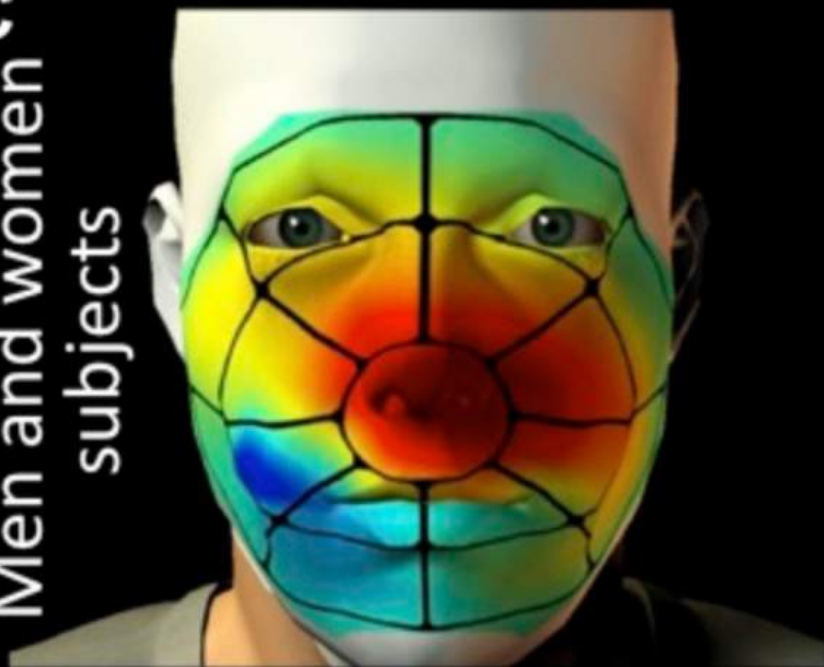
NewScientist



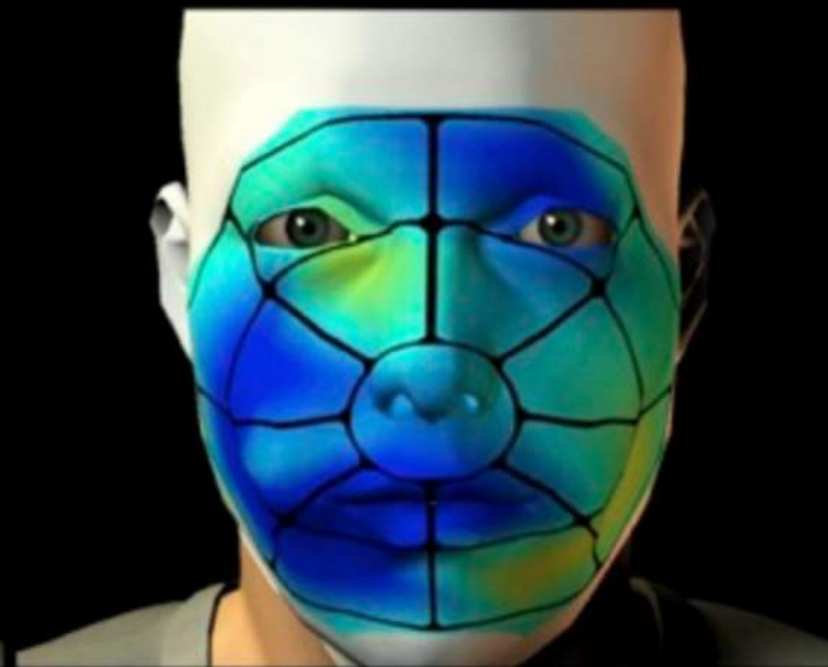
Some volunteers then shook hands...



Men and women
subjects

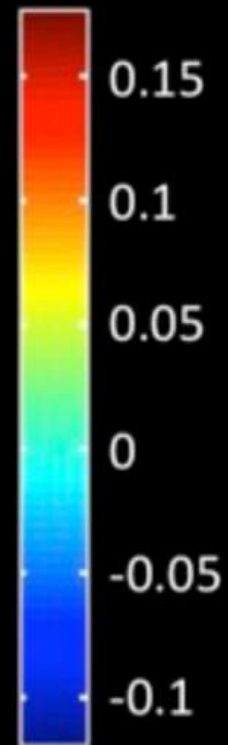


Handshake



No handshake

Fraction of cohort
post-greet change





Practically apply
psychology and data
for hard, commercial results



SCIENTIFIC THINKING FOR IRRATIONAL MINDS



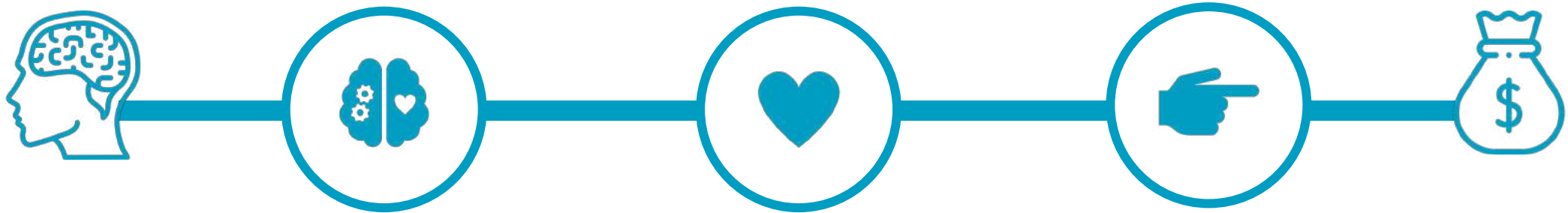
Make a more direct, scientific link
between minds and money.



To find opportunities that might otherwise be missed.
And show how to address them.



APPLY PSYCHOLOGY AND DATA TO GET HARD COMMERCIAL RESULTS



Reveal the hidden
psychology of how your
audiences really think

Be more persuasive,
based on how their
mental processes work

Develop nudges based
on their psychological
traits to shift behaviour



PREVIOUS QUESTIONS



How do you persuade **different psychological groups of people** to change their buying behaviour?



How do use **price psychology** to increase conversion and justify **premium pricing**?



How do you **prime and persuade** people across channels, moods and modes?



How do you drive **alternative behaviours into mainstream** markets?



How can you persuade businesses to commit to an **alternative to the default technology** offering?



How to **profile senior decision makers** in business? And how do you influence them based on their **psychological makeup**?



How do you build trust with and persuade **professional, expert buyers**?



How can you persuade **people on the front line of businesses** to change their behaviour?



How do people respond **in difficult times**? How can you apply psychology to predict and influence their behaviour?

CAPUCHIN.CC
/BLOG



Practical Behavioural Nudges



The Science of Attention



Psychological Profiles



The Psychology of Money





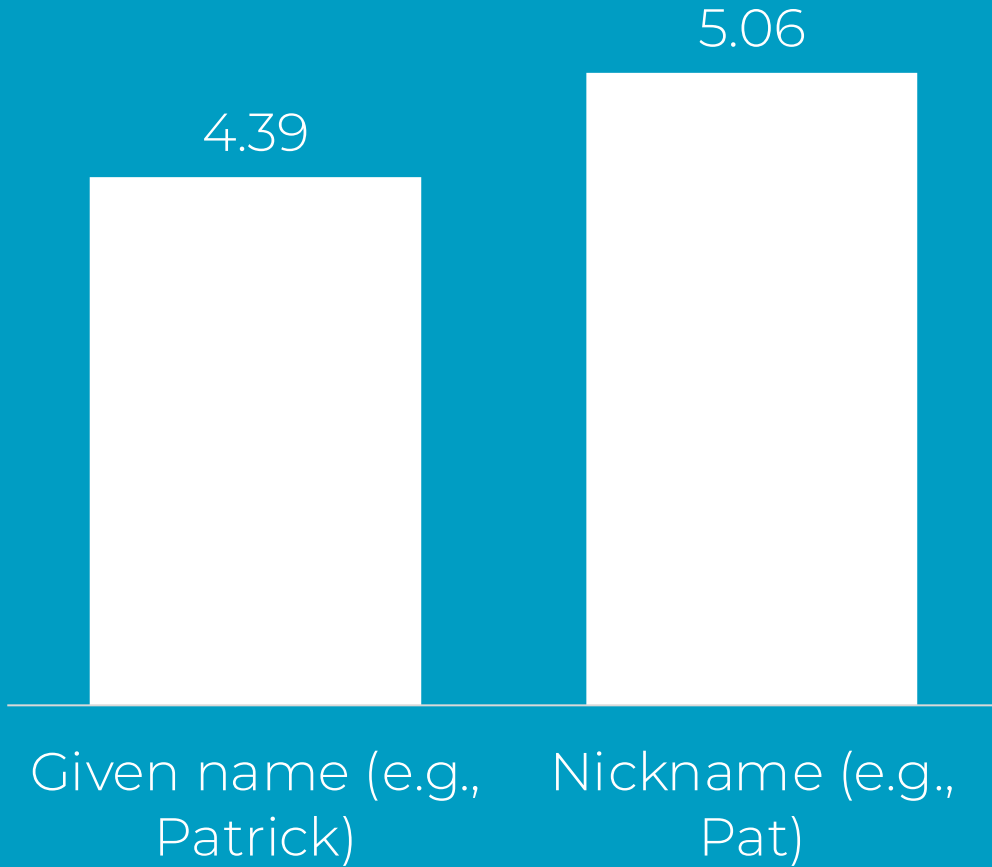
PATRICK FAGAN

CO-FOUNDER,

CAPUCHIN BEHAVIOURAL SCIENCE



Rating of Cheerfulness



Rated as more intelligent,
industrious and honest





Meet Christina.

She loves to run around the campus - but one day, she tripped on a soda can and injured her leg. Now she can't run around anymore.

Please recycle.



Michigan State University anti-littering campaign



Meet Christina.

She loves to run around the campus - but one day, she got caught on a soda can and injured her leg. Now she can't run around anymore.

Please recycle.

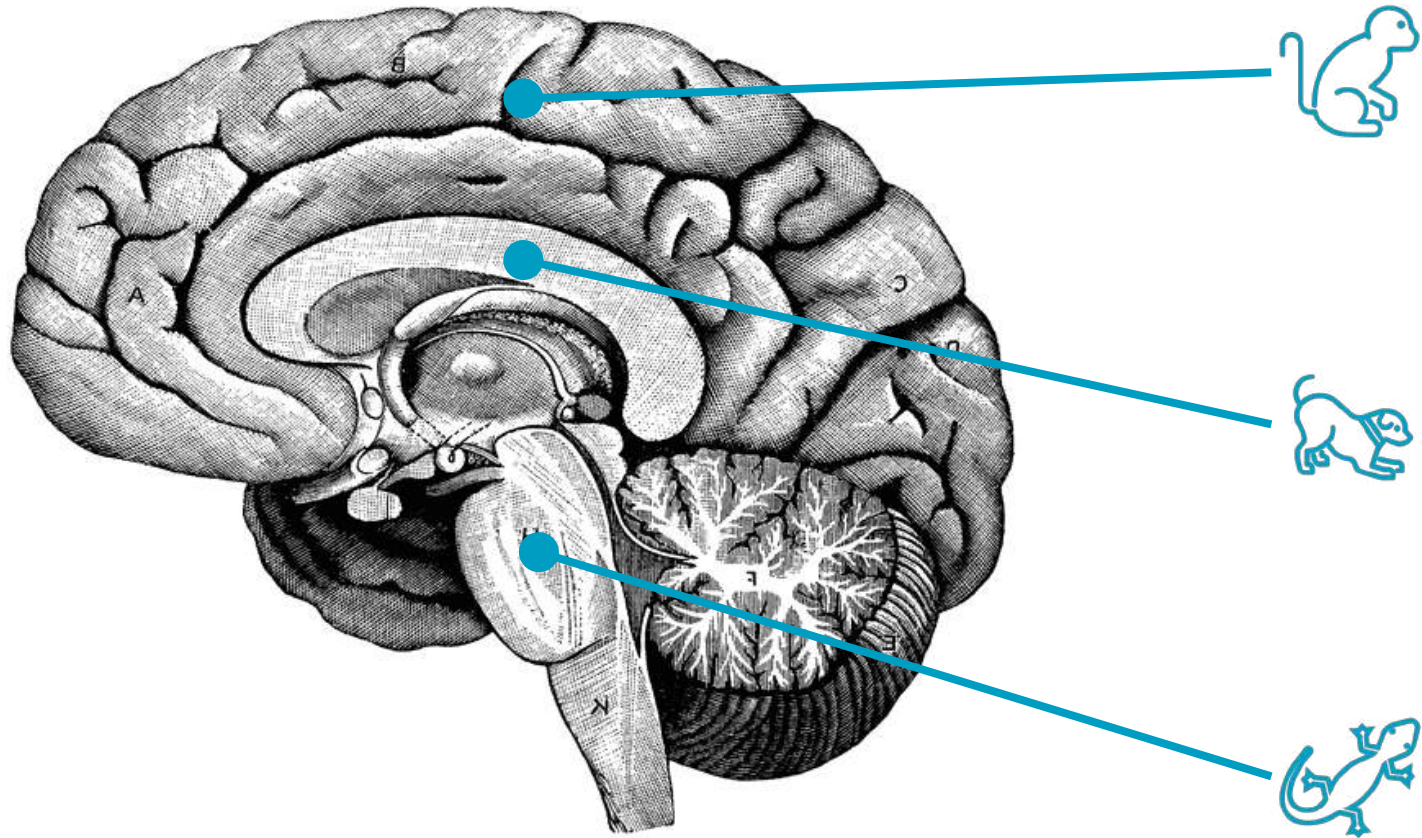


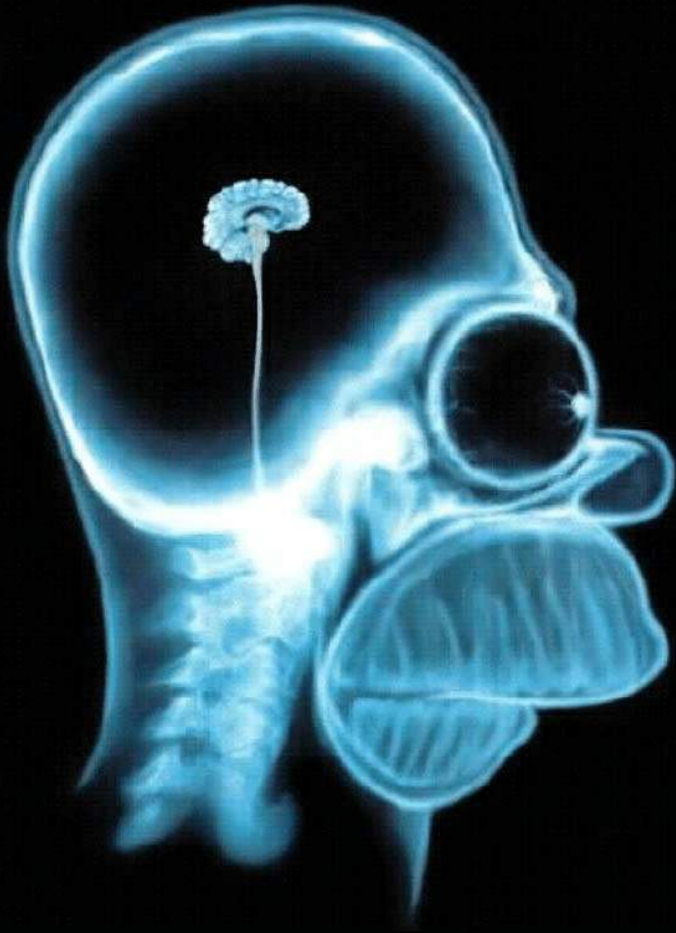
Michigan State University anti-littering campaign

**Littering intentions
decreased by 45%**



THE TRIUNE BRAIN THEORY





0.0004%



Chose Cake

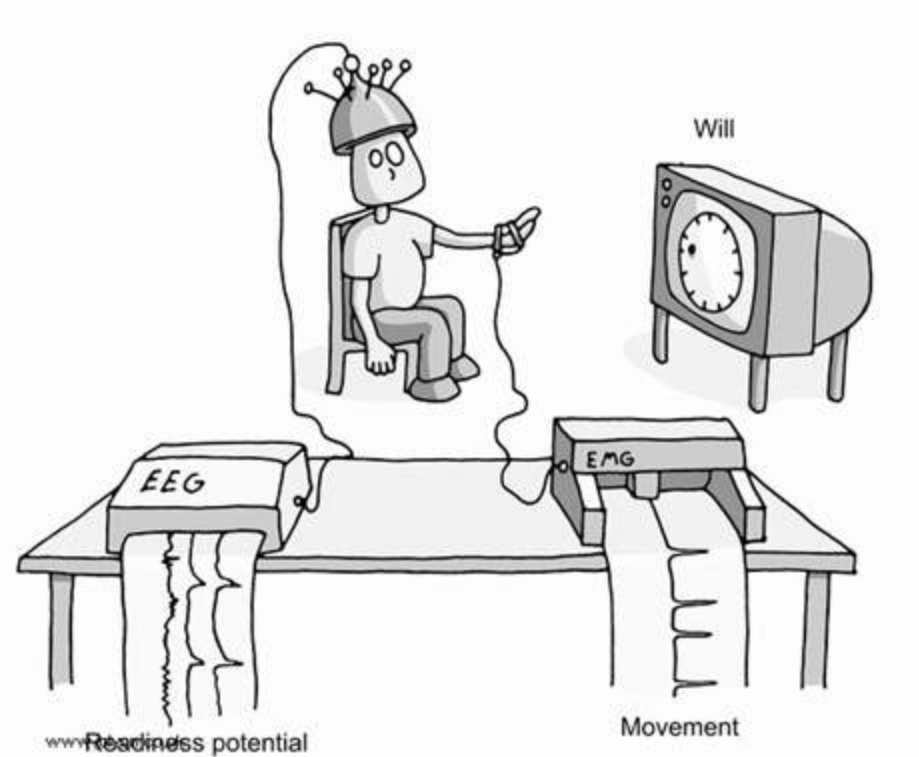


Chose Fruit

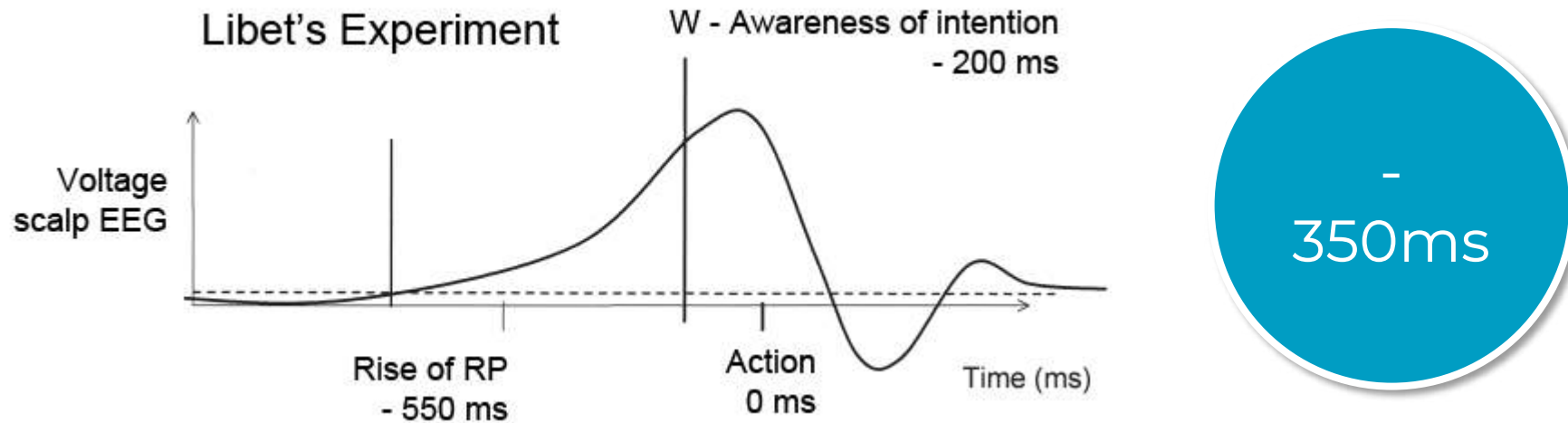
2-digit #
(e.g., 62)

7-digit #
(e.g., 4811505)





Approximately how long after a person decides to do something does the brain begin doing it?



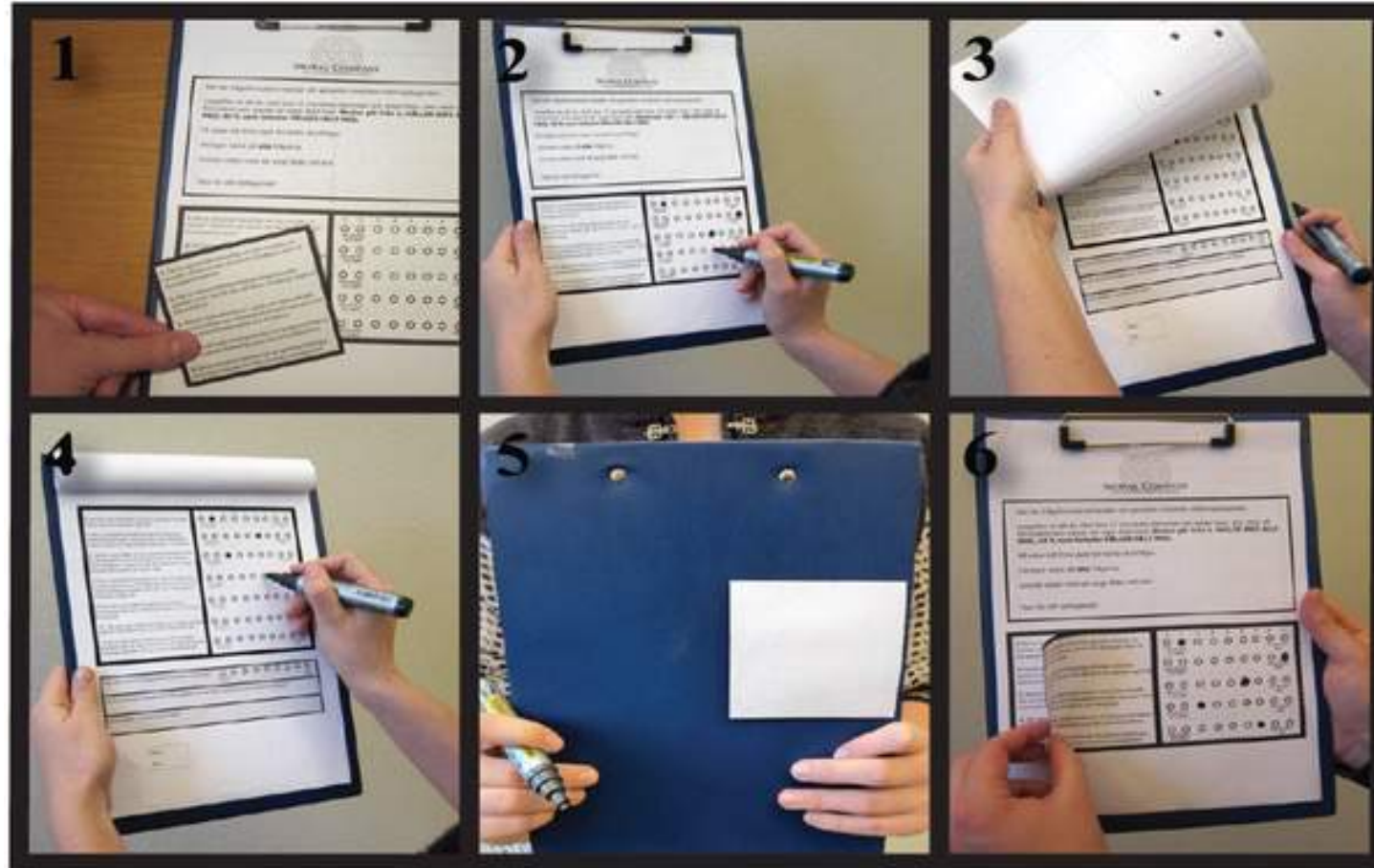
People begin the action 350ms *before* they 'decide' to do it: perhaps we mistake post-rationalisation for intention!





The human brain is like a monkey brain with a cortical ‘press secretary’ who is glib at concocting explanations for behaviour, and who privileges deliberative explanations over cruder ones.





53%

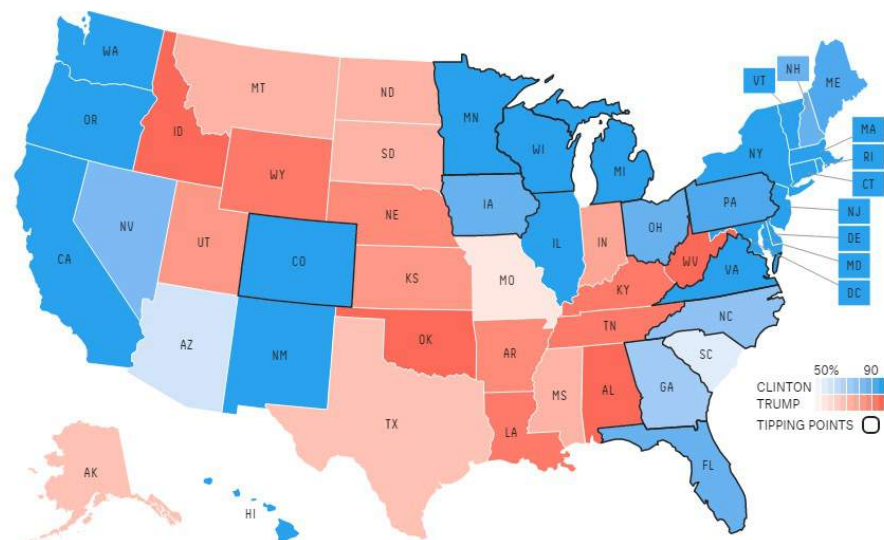
Argued in favour of the argument
contrasting that which they selected!



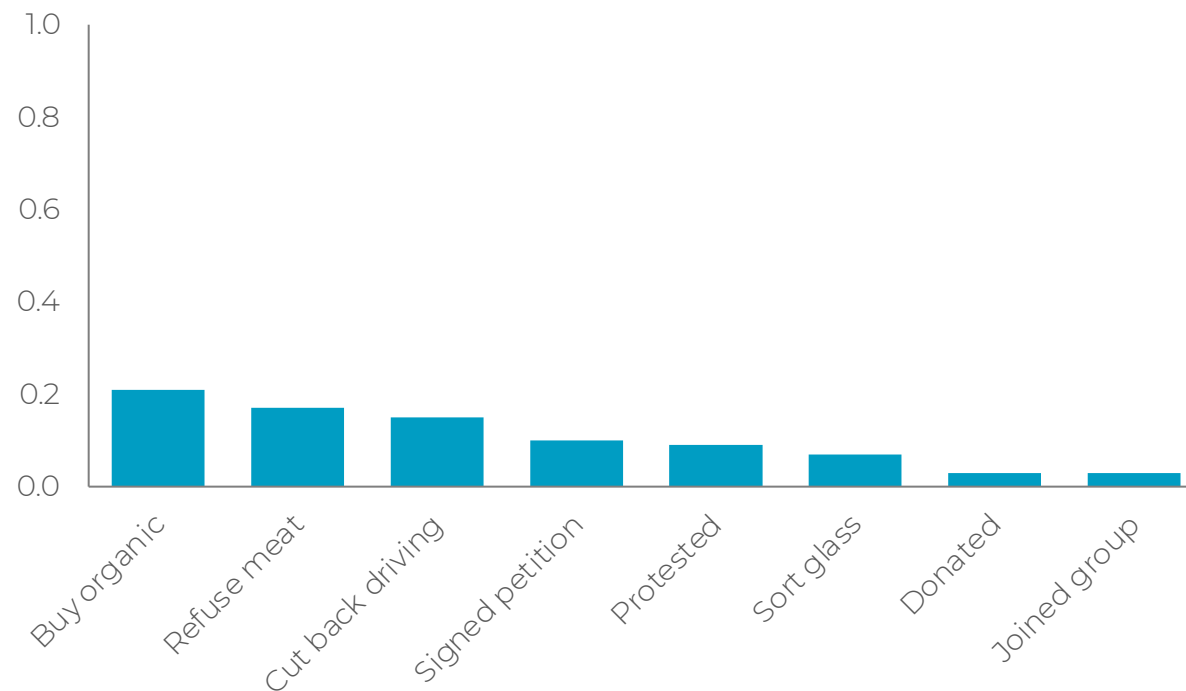
SO HOW USEFUL ARE ATTITUDES?

Who would win the presidency today?

Chance of winning



Correlation with Stated Environmental Concern



“...attitudes seldom explain more than 10% of the variance in behaviour.”



GO FOR BEHAVIOURS INSTEAD!

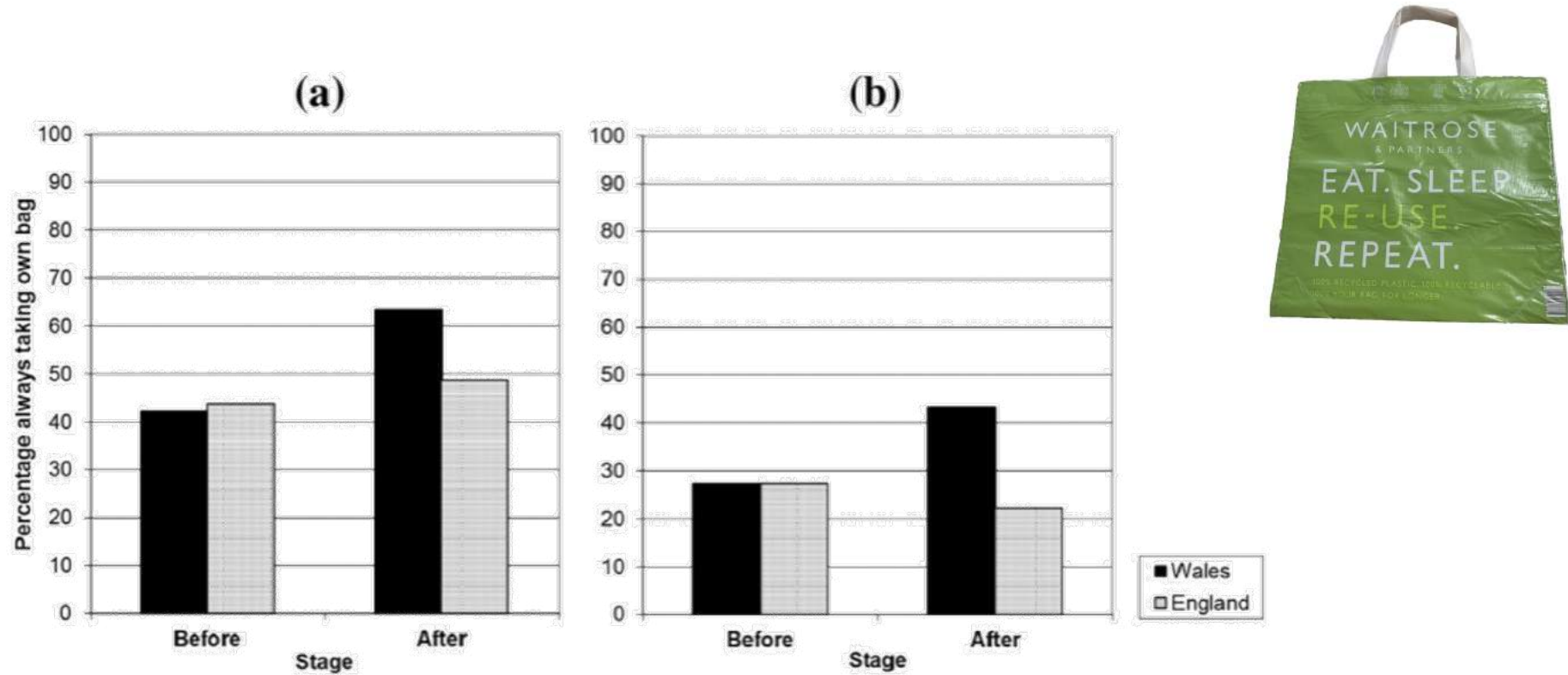


Fig. 2. Percentage always taking their own bag/s to (a) the supermarket and (b) other shops in Wales and England before and after the introduction of the carrier bag charge.





Hotel restaurants reduced food waste by up to 22%



HEURISTICS



HEURISTICS

Commitment
Make people feel invested so they are more likely to follow through



You have reached the top



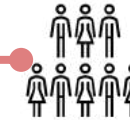
Ego
Motivate behaviour by tapping into the need for social status

Scarcity
Make the resource feel scarce so people feel an urgency to obtain it



of the queue and are a

priority for getting a free



Social Proof
Make the behaviour seem popular so people assume it must be good

NHS COVID-19 vaccine.

Authority
Use a credible or liked messenger so people accept the message



Please book yours now at



Reciprocity
Make people feel indebted so they are more likely to comply

[https://www.nhs.uk/covid-](https://www.nhs.uk/covid-vaccination)

[vaccination](https://www.nhs.uk/covid-vaccination) or by calling

119.



NUDGING

“ A nudge, as we will use the term, is 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.

”



MAKE IT SOCIAL

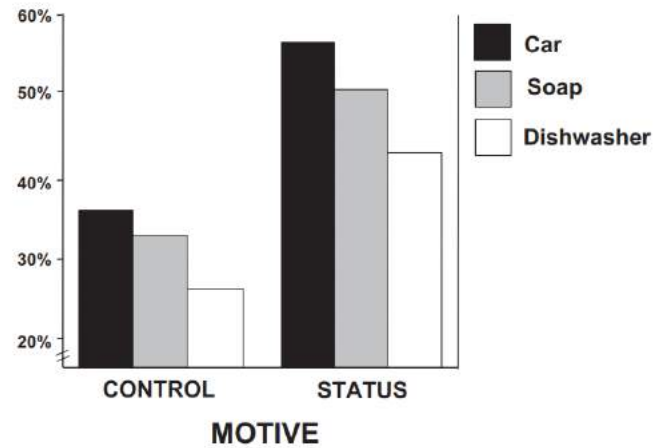


Figure 1. Percentage of people choosing proenvironmental “green” products over more luxurious nongreen counterpart products as a function of active motive (Study 1).

In the story, participants imagine graduating from college, looking for a job, and deciding to go work for a large company because it offers the greatest chance of moving up. The story describes the person’s first day on the job, focusing on the high-status features of the workplace such as the upscale lobby and nice furniture.

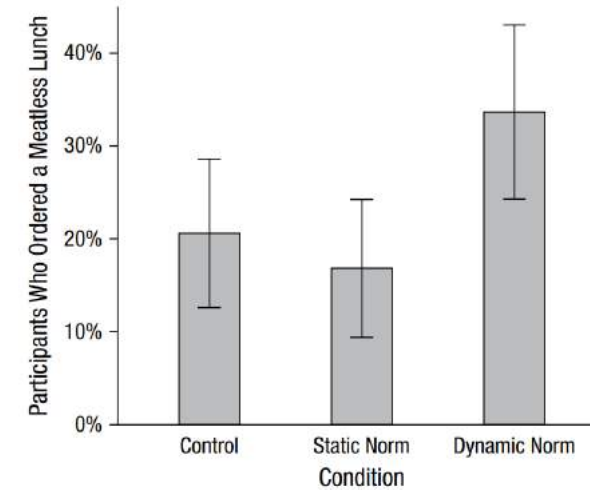
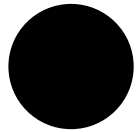


Fig. 3. Results from Experiment 4: the percentage of patrons who ordered a lunch without meat in each condition. Error bars represent 95% confidence intervals.

Some people are starting to limit how much meat they eat. This is true both nationally and here at Stanford. Specifically, recent research has shown that, over the last 5 years, 30% of Americans have started to make an effort to limit their meat consumption. That means that, in recent years, 3 in 10 people have changed their behavior and begun to eat less meat than they otherwise would.



MAKE IT ACTUAL (REAL, CONCRETE)



\$11.67



\$19.49

PAST

We've
helped
hundreds...

\$14.46
donated

PRESENT

We're
helping
hundreds...

\$19.03
donated

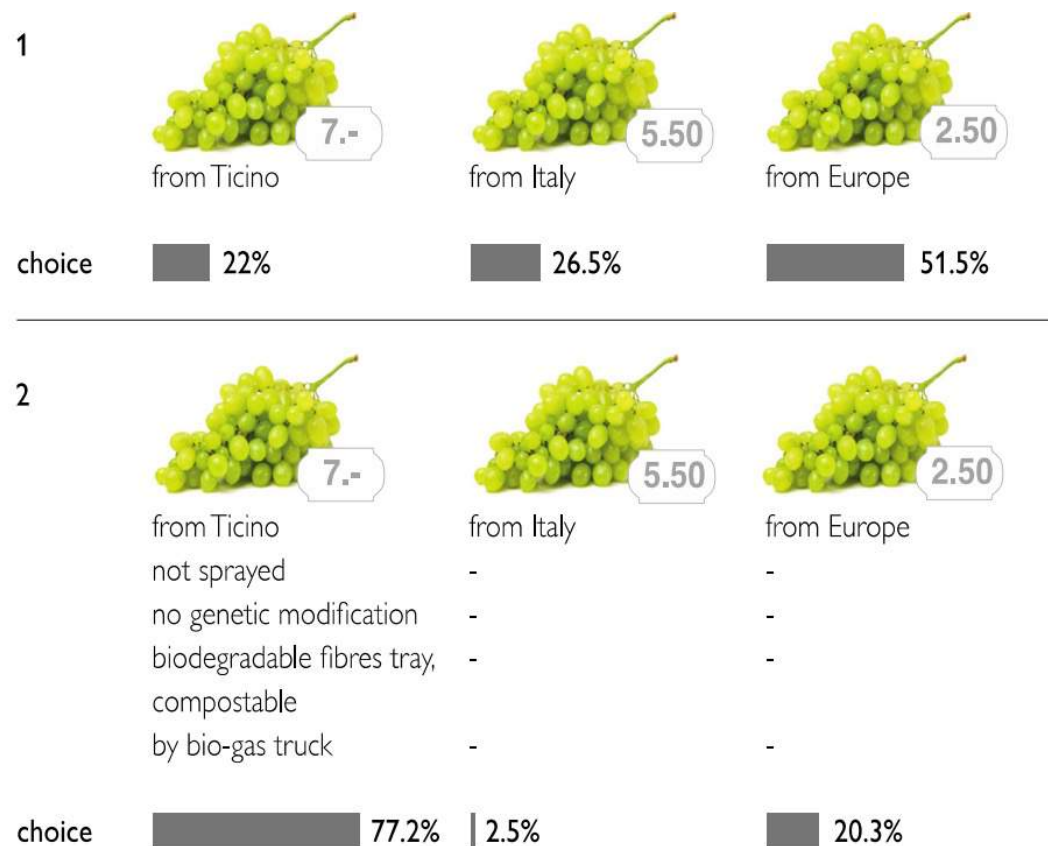
FUTURE

We
will help
hundreds...

\$14.15
donated



MAKE IT VALUABLE



“Feed them facts”

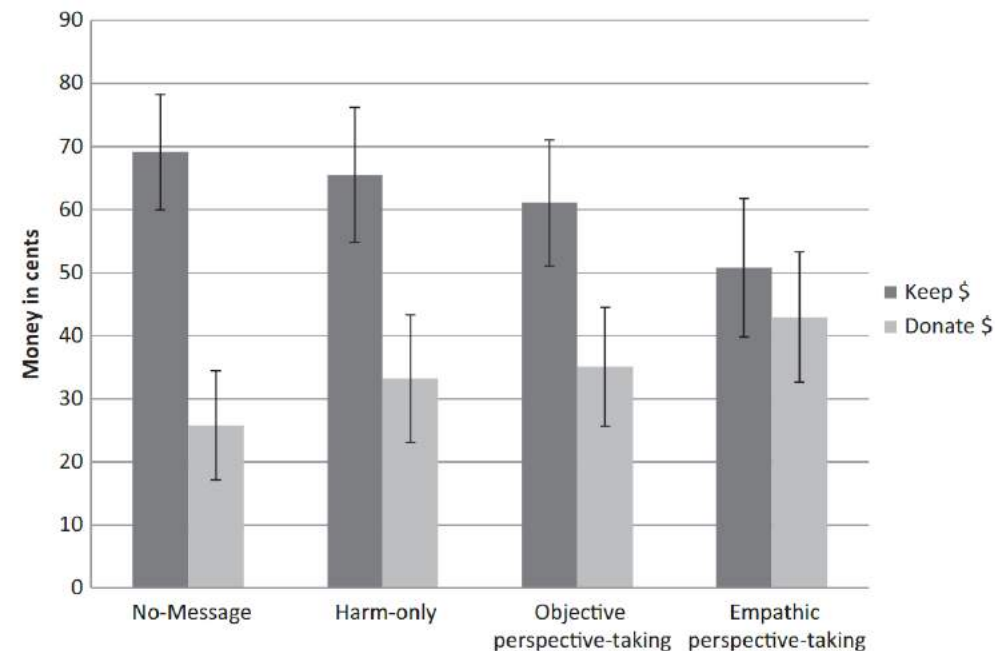


Figure 1. Mean and 95% confidence intervals for the amount of money kept and donated by condition.

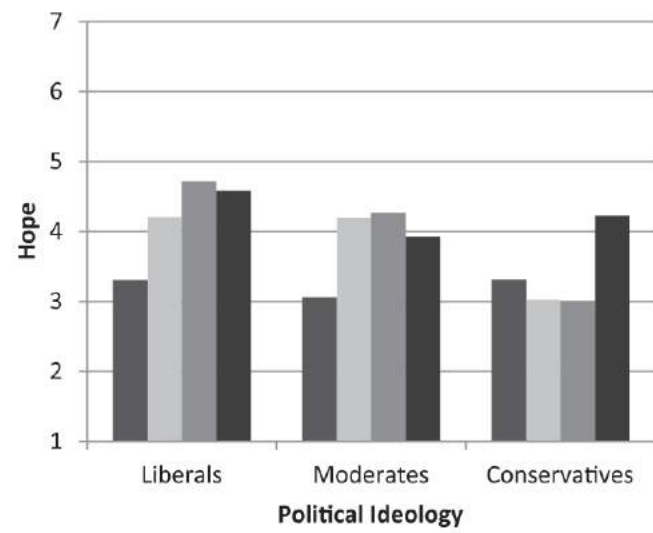
In order to have respondents take the same perspective on the image, we are asking respondents to take the perspective of the animals in the picture. While you are viewing this image, try to imagine how the animal feels about what has happened, how climate change has affected their lives. Try to feel the full impact of what the animal has been through and how it feels.



MAKE IT EASY

| Name | Unit | Cell Number |
|-----------------------|---------------------------------|--------------------------------|
| <input type="radio"/> | Circle your Choice | W/C |
| | Healthy Choice | |
| Week 4 | Lunch Meal | Tea Meal |
| SUN | 1 Vegetable Samosa | 1 Cheese and pickle Baguette |
| | 2 Halal Chicken | 2 Steak slice |
| | 3 Sliced Turkey | 3 Ham cheese Sandwich |
| | 4 Pork Pie | 4 Chicken Noodles |
| | 5 Beetroot and Sweetcorn Salad | |
| | A Chocolate Cake | |
| MON | B Yoghurt | |
| | 1 Egg Mayo Stottie | 1 Spanish Potatoes |
| | 2 Halal Chicken Mayo Wrap | 2 Halal Sweet and Sour Chicken |
| | 3 Beef and Onion Sandwich | 3 Pepperoni Style Pizza |
| | 4 Vegetable Noodles | 4 Traditional Pasty |
| | 5 Corned Beef Salad | 5 Ham Salad |
| TUE | A Angel Delight | |
| | B Fruit | |
| | 1 Cream Cheese Stottie | 1 Vegetable Spring Roll |
| | 2 Peanut Butter and Jam Stottie | 2 Halal Chicken Jalfrezi |
| | 3 Ham and Tomato Baguette | 3 Braised Sausages and Onions |
| | 4 Curry Noodles | 4 Pasta Bolognaise |
| 5 Coleslaw Salad | 5 Chicken Sweetcorn Salad | |
| | A Rice Pudding | |
| | B Yoghurt | |

+11%



- No efficacy
- Internal efficacy
- External efficacy
- Response efficacy

| Condition | Headline | Manipulated efficacy text |
|---------------------|---|---|
| No efficacy control | Severe impacts of climate change on the horizon, according to new report | N/A |
| Internal efficacy | Many Americans are finding it easy to weigh in on proposed EPA climate change plan | Already, many Americans are taking advantage of the public comment period. "It's easy enough to submit a comment on the EPA website, send an e-mail, or write a letter. When it's an issue as important as this, it's not difficult to find the time to do this," said political analyst John Morris. Many citizens also feel they have a reasonable grasp of climate change and of how the political process works. As a result, they are more confident that they can effectively comment on the EPA proposal. |
| External efficacy | EPA will take public comments into account before finalizing proposed climate change plan | The public comment period assures that the views of ordinary citizens will be taken into account before the proposed regulations are finalized. The EPA has a strong track record of responding to public comments. "I think the EPA is committed to incorporating the opinions of the public when revising the proposal over the next year. The agency is open-minded and may change the proposed regulations as a result of public input. Public commenting is an important part of the regulatory process," said political analyst John Morris. |
| Response efficacy | Proposed EPA plan can help stop negative impacts of climate change | The EPA's proposed emissions reduction is expected to be an effective tool in the effort to stop the negative impacts of climate change. Based on estimates from the National Oceanic Atmospheric Administration, the proposed rule can help slow the increase in global average temperatures and reduce sea level rise, preventing some of the catastrophic effects of climate change. Plus, according to political analyst John Morris, others of the world's biggest polluters such as China and India may follow the leadership of the United States and institute stronger limits on emissions in their countries. |



CASE STUDY: TARGET 140



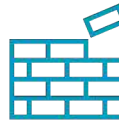
The 1990s/2000s drought was the worst on record. In 2007, Brisbane experienced less than 10% rainfall of the average. The Target 140 campaign ran that year, with the goal of reducing consumption to 140 litres per person per day.

They got it down to 129 litres.



Social

It targeted people's social identity as “water-wise” and good Queenslanders.



Actual

Images of dry dam beds made it real; feedback was given on nightly news reports.



Valuable

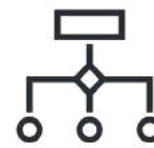
It informed people of the impact of their household's performance on bills.



Easy

It focused mostly on shower length, giving out four-minute timers with suction cups.





B

R

A

I

N

W

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S

H

Bamboozle

Rationalise

Attachments

Increments

Norms

Wishes

Autonomy

Symbolism

Heaven/Hell

FOR GOOD!

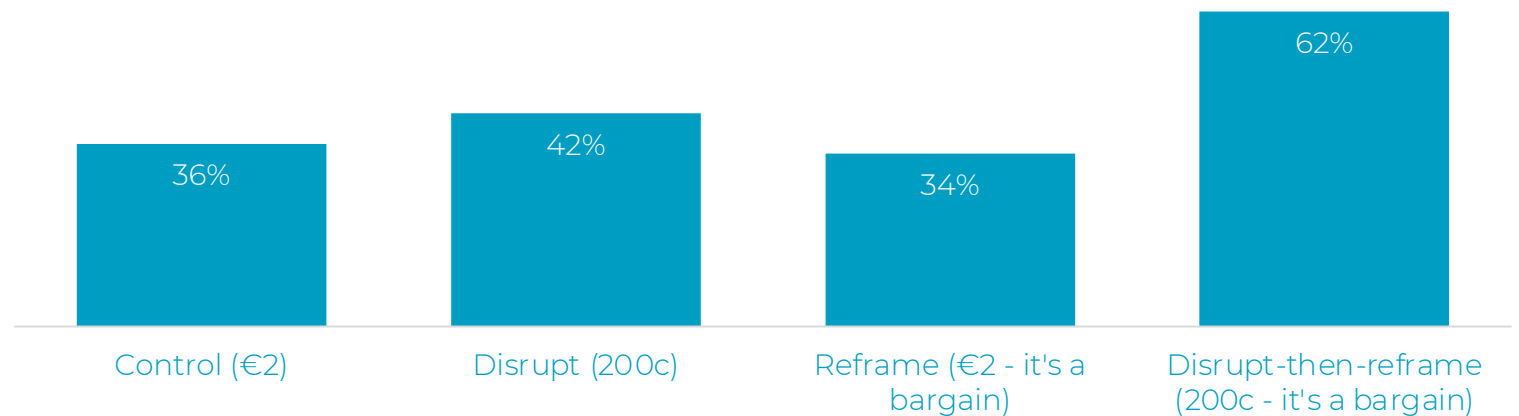




BAMBOOZLE

Cults must first disarm the conscious 'watchdogs of the mind' and disintegrate the old. They might exploit tiredness, stress, or tumultuous life changes. They might overwhelm people with drums, intoxicants, or snake handling.

Proportion Buying Cards for Charity



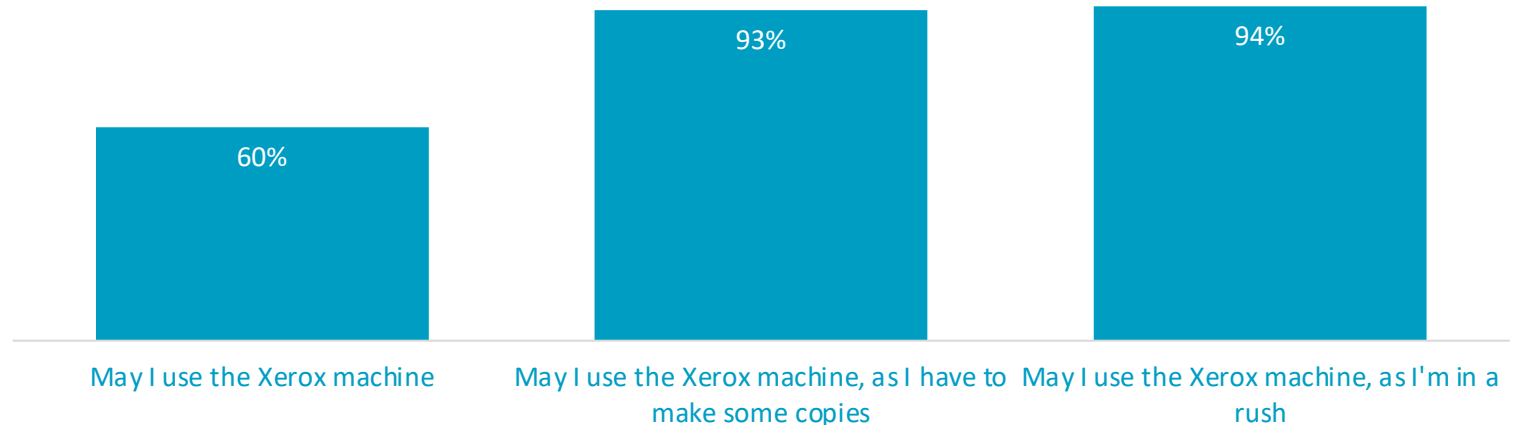
Saint-Bauzel, R., Pelt, A., Barbier, L., & Fointiat, V. (2015). Disrupt-then-reframe is in the air: A French replication and refinement. *Psychology of Language and Communication*, 19(2), 162-173.



RATIONALISE

We tend to post-rationalise our behaviours and thus cement our habits and beliefs even further – even if they are wrong. Cults often have complex ‘rabbit holes’ of intellectual thought that keep people trapped.

Proportion Letting Someone Jump in Line



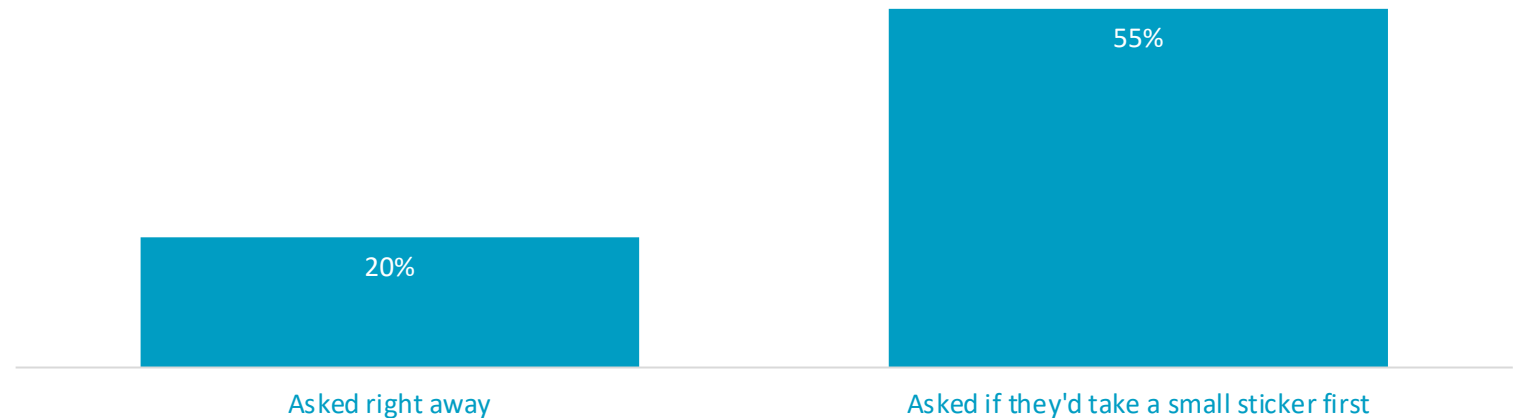
Langer, E. J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of "placebic" information in interpersonal interaction. *Journal of personality and social psychology*, 36(6), 635.



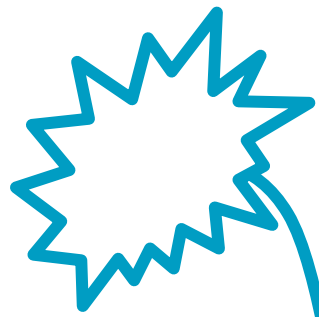
INCREMENTS

Indoctrination rarely happens overnight. Instead, it is the cumulative effect of gradual changes. Cults typically get adherents to make small commitments at first, ramping up the investment over time.

Proportion Agreeing to Put a Large 'Drive Safe' Sign in Their Yard



Freedman, J. L., & Fraser, S. C. (1966). Compliance without pressure: the foot-in-the-door technique. *Journal of personality and social psychology*, 4(2), 195.



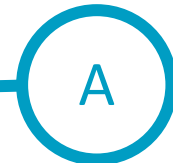
BAMBOOZLE



FORWARD PRESSURE

HEAVEN & HELL
ATTACHMENTS
WISHES
NORMS

INCREMENTS



B

AUTONOMY

RATIONALISE



SYMBOLS



AN INTERESTING CASE STUDY...



INCREMENTALISM

If people eat cricket powder baked into food first, they're more likely to eat whole insects.



SYMBOLISM

Insect products are 'grub' and 'meal'-worms. They are not spiders, centipedes or wasps.



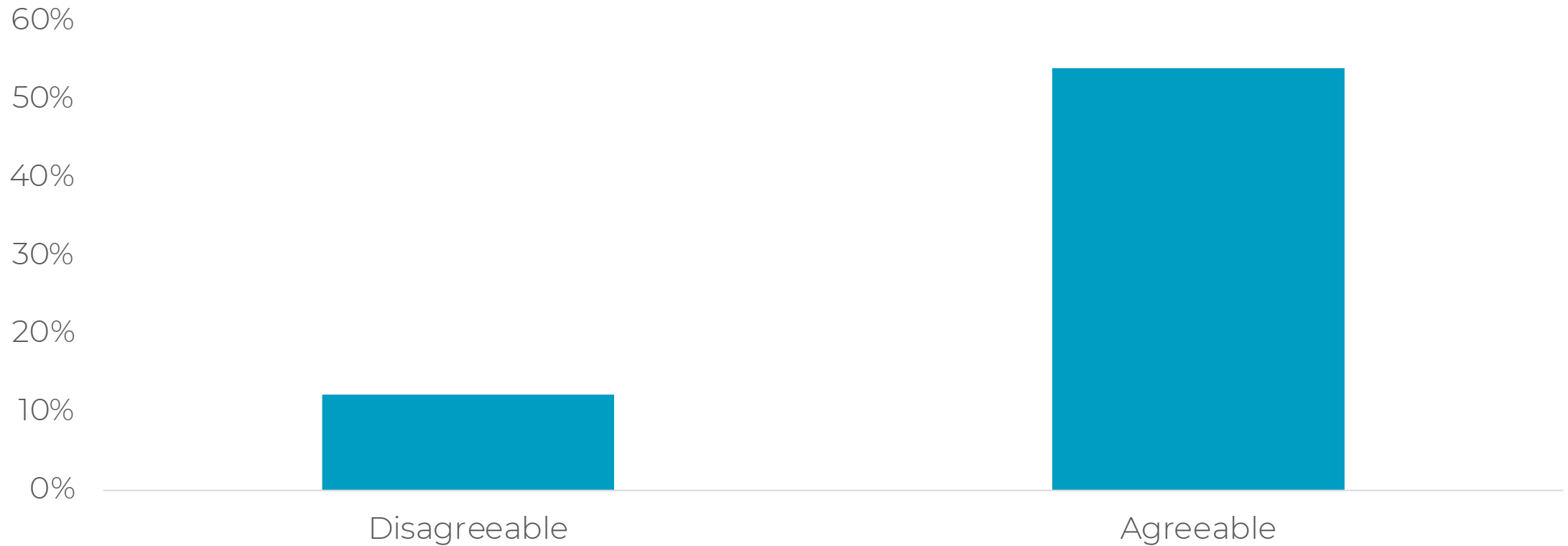
NORMS

Edible insects are eaten by celebrities, and 'over 2 billion' people eat them (allegedly).



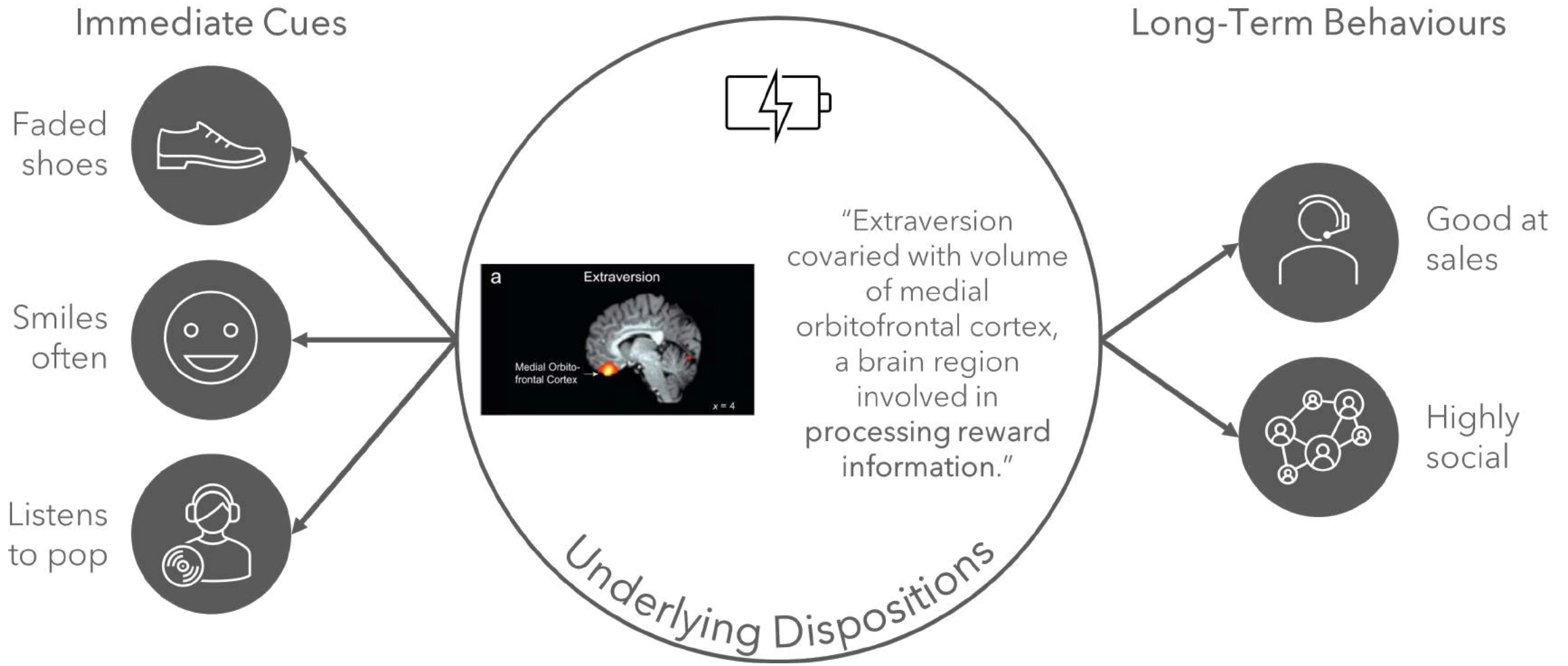
NUDGES ARE NOT ONE-SIZE-FITS-ALL

Change in Likelihood of Visiting a Restaurant if it has Many Reviews
(vs. No Reviews)





UNDERLYING TRAITS DETERMINE BEHAVIOUR

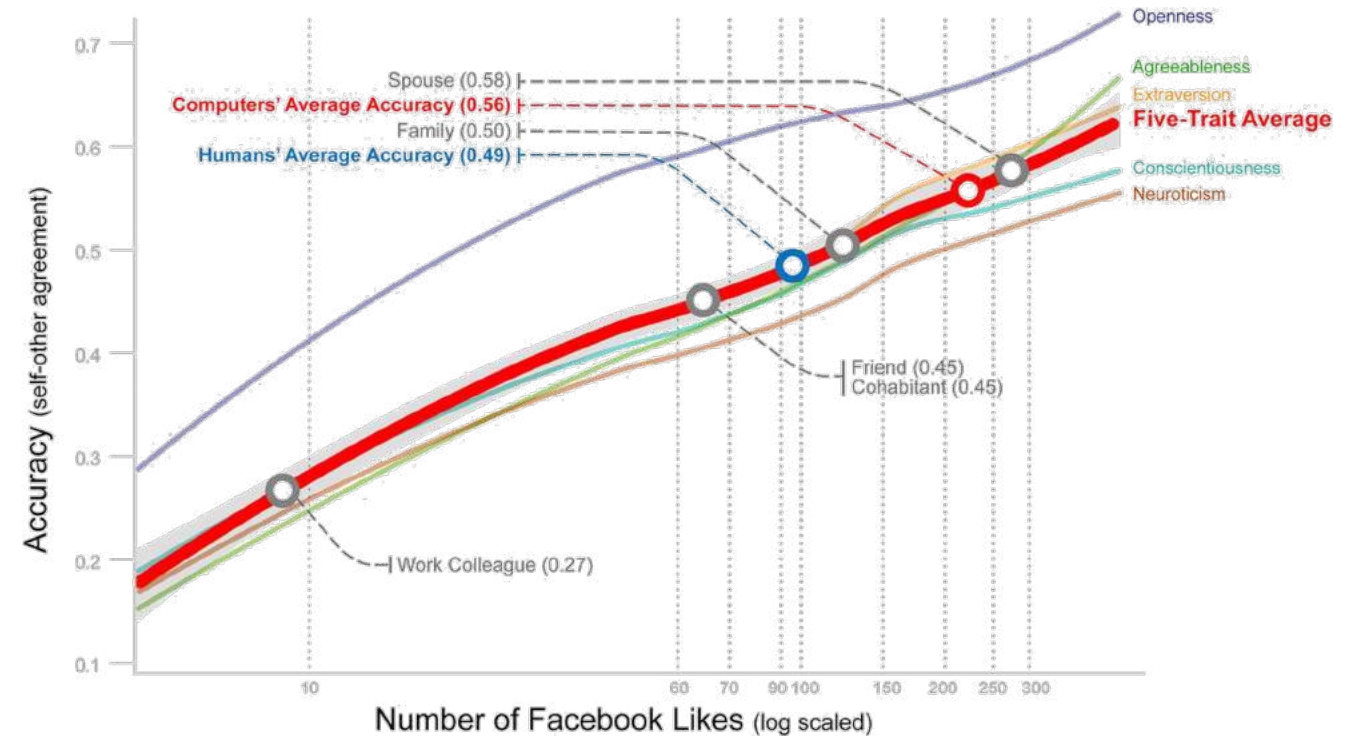


WE CAN READ PEOPLE FROM THEIR DATA

TABLE 1
TAG CLUSTERS MOST CORRELATED WITH PERSONALITY

| <i>r</i> | | | | | <i>r</i> |
|-----------|-------------------------|--------------|-------------------|---------------|-----------------------------------|
| *** -0.17 | horror-and-gothic | Introverted | Extraversion | Extraverted | relationships 0.25 *** |
| ** -0.16 | fantasy-sci-fiction | | | | chick-lits 0.17 *** |
| ** -0.15 | parallel-world | | | | memoir-autobio 0.17 *** |
| ** -0.14 | other-supernatural | | | | celebrity-romance 0.14 ** |
| ** -0.13 | manga-collection | | | | african-american-lit 0.13 ** |
| *** -0.17 | italian-renaissance | Disagreeable | Agreeableness | Agreeable | christian-classics 0.24 *** |
| ** -0.15 | cult-classics | | | | relationships 0.20 *** |
| ** -0.15 | psychological-drama | | | | family-drama 0.15 ** |
| * -0.12 | scary-stuff | | | | kids-book 0.13 ** |
| * -0.11 | japanese-culture | | | | buddhism 0.12 * |
| *** -0.26 | light-fantasy | Traditional | Openness | Open | back-burner 0.28 *** |
| *** -0.19 | grade-4-6 | | | | philosophical-novel 0.25 *** |
| *** -0.17 | indian-books | | | | university-readings 0.24 *** |
| *** -0.17 | chick-lits | | | | classic-favs 0.19 *** |
| * -0.11 | christian-classics | | | | plays-and-musicals 0.14 ** |
| *** -0.24 | theology-religion | Levelheaded | Neuroticism | Neurotic | mental-issues 0.25 *** |
| *** -0.22 | politics-and-philosophy | | | | pretty-writing 0.24 *** |
| *** -0.20 | professional-reading | | | | sad-endings 0.20 *** |
| *** -0.19 | leadership-business | | | | paranormal-fantasy-scifi 0.17 *** |
| *** -0.16 | science-and-technology | | | | dark-and-dangerous 0.15 *** |
| ** -0.16 | modern-fantasy | Tardy | Conscientiousness | Conscientious | grown-up-stuff 0.23 *** |
| ** -0.13 | graphica | | | | brain-food 0.23 *** |
| ** -0.13 | teenage-books | | | | history-ww2 0.21 *** |
| * -0.12 | fantasy-sci-fiction | | | | professional-reading 0.19 *** |
| * -0.11 | humor-comedy | | | | leadership-business 0.18 *** |

r = correlation coefficient; * *p* < 0.05; ** *p* < 0.01; *** *p* < 0.001.



...AND CREATE TARGET MESSAGING



Pop music
Romance books
Savings accounts



Folk music
Philosophy books
Spas and holidays

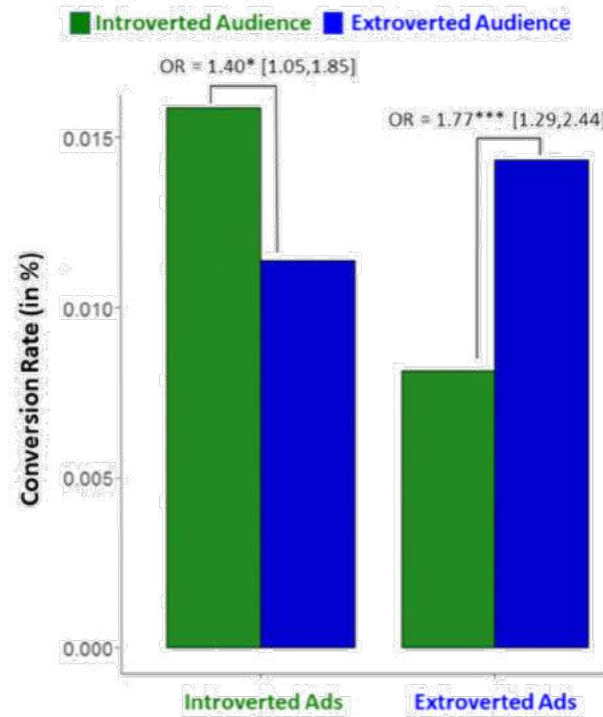


UP TO 50% HIGHER CONVERSION RATES

A High Extraversion



Dance like no one's watching
(but they totally are)

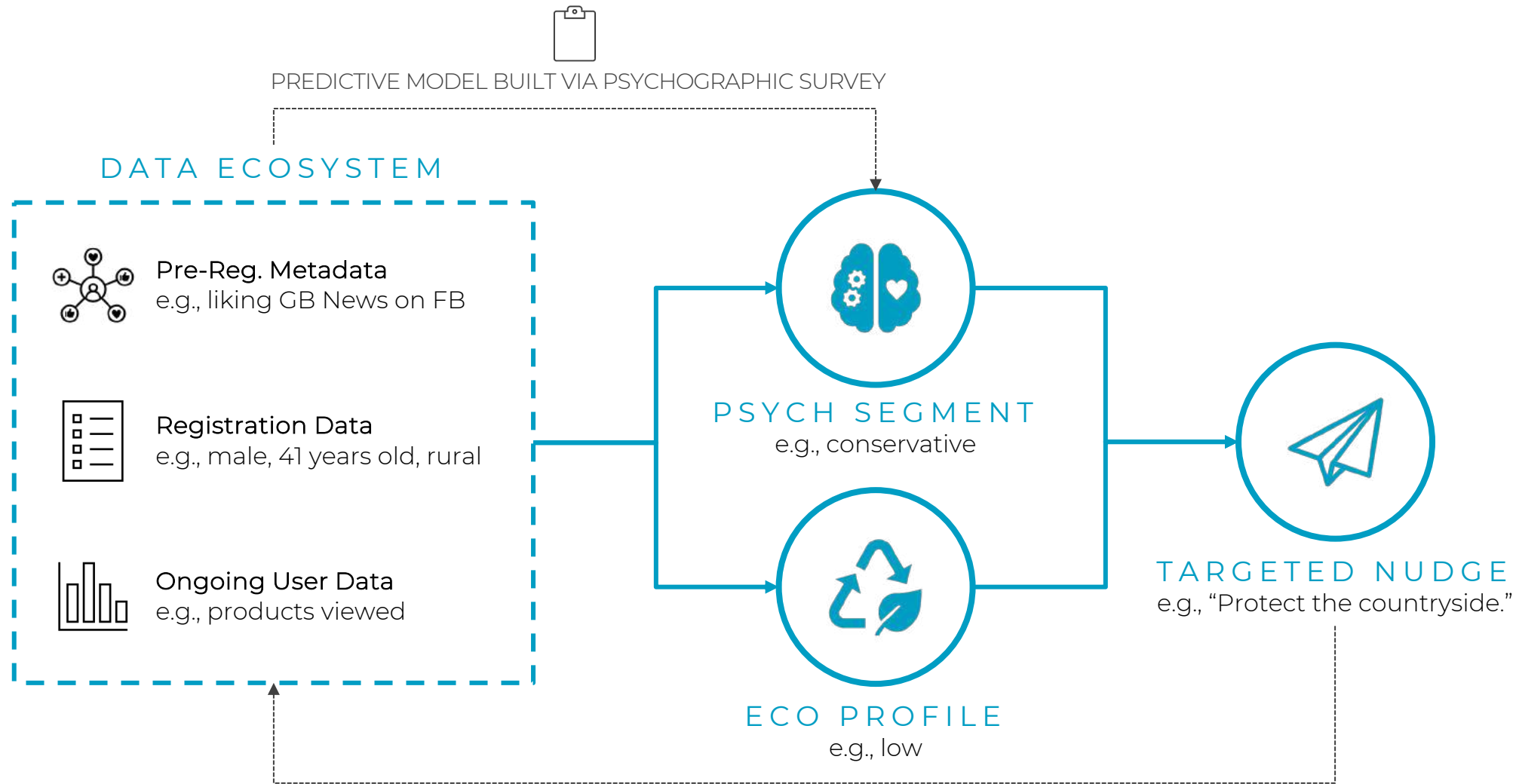


Low Extraversion



Beauty doesn't have to shout





BEHAVIOURAL RESPONSE TO NUDGE IMPROVES MACHINE LEARNING ALGORITHM



AS FOR THE UNPERSUADABLES...



MORAL REFRAMING



Fear-based story focusing on a victim being harmed



Anger-based story about subversion of norms



MORAL REFRAMING



TRADITION

Conservatives were likelier to endorse an environmental message if it focused on the past rather than the future.

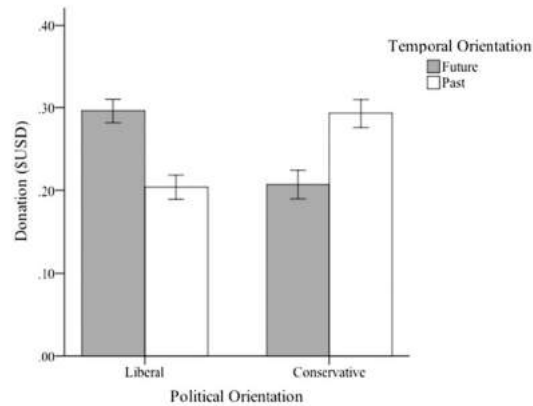
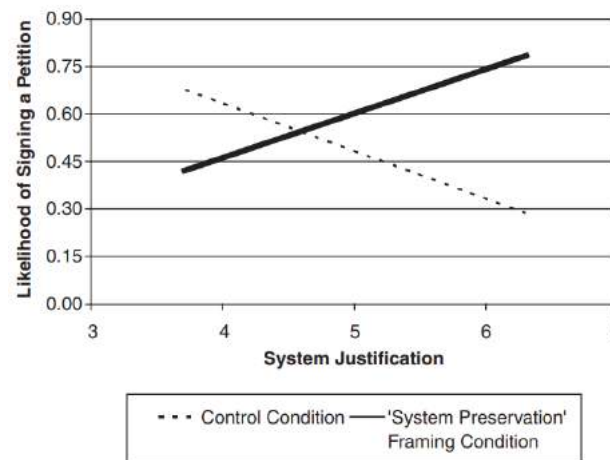


Fig. 5. Study 6. Conservatives donate more to the past-focused charity than to the future-focused charity, while the opposite is the case for liberals. Error bars represent SEs.



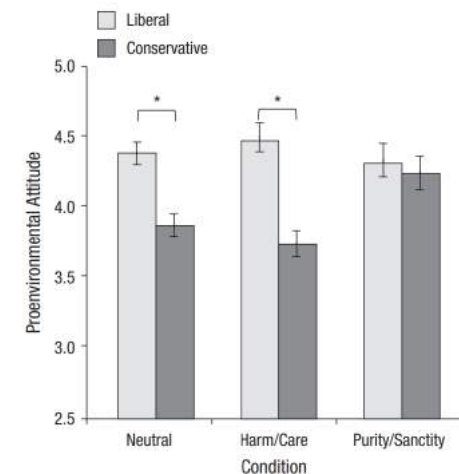
LOYALTY

Conservatives* were likelier to sign a petition which stated that environmentalism protects the American way of life.



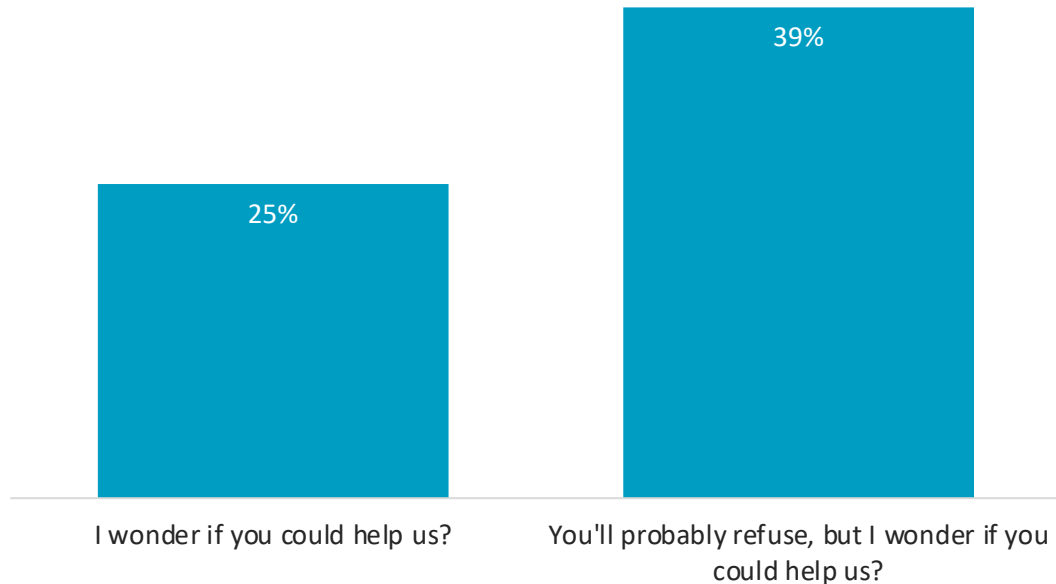
PURITY

Conservatives reported higher environmental concern when given a purity-based argument (e.g., with pictures of garbage).



YOU CAN'T PUSH A DONKEY FROM BEHIND

Proportion Donating



“As any sensible person can see, there is really no choice when it comes to consuming meat: you simply have to stop.”



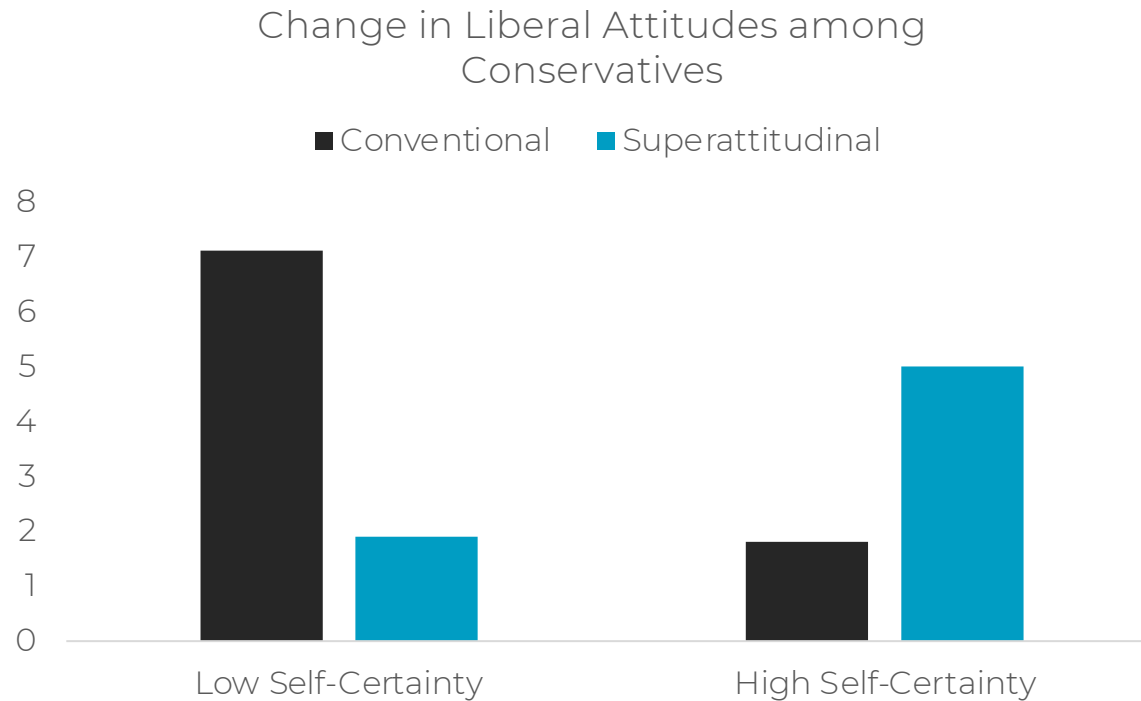
+25% increase in anger



+47% increase in reactance



CHANGE THE REFERENCE POINT



Conventional

Explain why you think women make better bosses than men?

Superattitudinal

Explain why you think men always make better bosses than women?



ON “PERSUADING THE UNPERSUADABLE”

The process is not always linear – it can be a bit of a dance. This is what hypnotists call ‘fractionation’ (a deeper trance can be reached by bringing people in and out repeatedly), and what pick-up artists call ‘two steps forward, one step back’. As self-professed dating coach Corey Wayne put it on his blog:

Maybe you’re kissing or maybe you’re making out. Your hands are wandering and then they go a little too far, and then she stops you. Now, most guys that don’t know any better, they think, ‘Well, that’s it, I’m not getting laid,’ and they just give up. All it really means is you’re going a little too fast and you need to slow down, back up a little bit. Hence the two steps forward. In other words, you keep moving forward until you encounter resistance. Then you take a step back. You refocus on conversation and talking, getting her to talk. And then a little while later, you start making out, heavy petting, start removing items of clothing, things of that nature.¹⁷





THE KEYS TO ETHICAL NUDGING



EMPATHY



HUMILITY



RESPECT





GREY MATTER

GREEN MATTERS





Don't forget we're here to help:

🧠 Improve your marketing with psychology and data

❤️ Make your communications more persuasive.

👉 Shift your audiences' behaviour

Tell us what you're trying to do and we'll show you how we can help.

insight@capuchin.cc

