

# Behavior Change and Nudge theory

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East of England  
East Midlands  
London  
North East  
North West  
South East Coast  
South Central  
South West  
West Midlands

Yorkshire and the Humber

## High Quality Care For All

NHS Next Stage Review Final Report



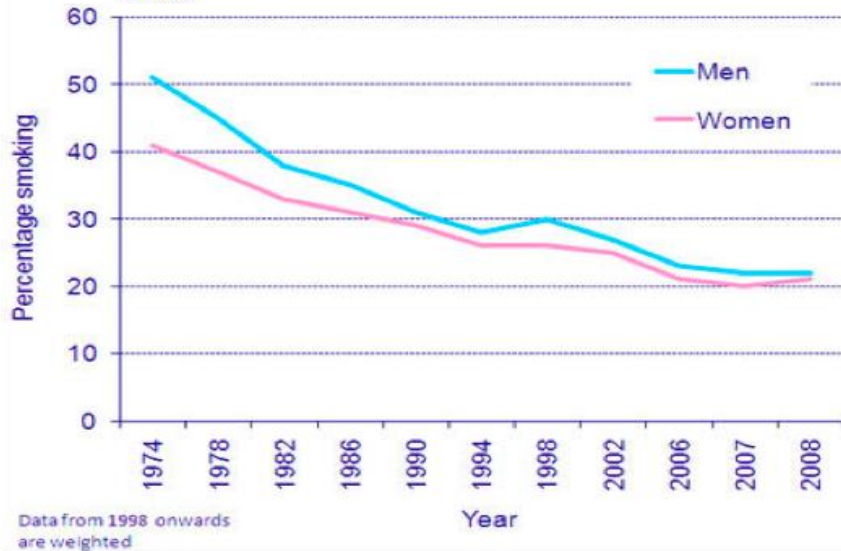
rather than get easy access to evidence-based medical knowledge.

### Challenge 4: The changing nature of disease

13. The NHS in the 21<sup>st</sup> century increasingly faces a disease burden determined by the choices people make: to smoke, drink excessively, eat poorly, and not take enough exercise. Today, countless years of healthy life are lost as the result of these known behavioural or lifestyle factors.

14. Wealth and technology have given

Figure 1.5: Prevalence of cigarette smoking in persons aged 16 and over, Great Britain, 1974-2008



Many ways to change behaviour...



## **Ways of thinking about behaviour change**

- Change the person – psychology (e.g. CBT)
- Change the incentives – economics
- Change the situation – nudge theory



# Change the person: Decades of research used mostly arguments and advice

## Attitude-Behaviour Relations

- Theory of reasoned action
- Theory of planned behaviour
- Model of interpersonal behaviour
- Elaboration likelihood model

## Models of Health Behaviour

- Protection motivation theory
- Prototype-willingness model
- Health belief model
- Stage models (e.g., Transtheoretical model)
- Health action process approach
- Parallel response model
- Precaution adoption process
- Motivational interviewing
- Cognitive behavioural principles

## Self-Regulation (Goal) Theories

- Control theory
- Theory of goal setting
- Social-cognitive / social learning theory
- Model of action phases
- Implementation intentions theory

More than 600 studies on Condom use, Use of dental tablets, Testicular self-examination, Parent-child communication, Smoking, Skin examination, Course enrollment, Sunscreen use, Visiting an Internet site, Low fat diet, Contraceptive use, Exercise, Indoor tanning, Donating behavior, Sun protective, Sexual behavior, Breast self-examination, Seat belt use, Cycle helmet use, Study behavior, AIDS-risk behavior, Smoking, HIV-preventive behavior, Calcium intake, and *others... but only ~15% variance explained...*

# Changing Minds

## Schizophrenia

This leaflet has been designed to make you think again about how you view people who suffer from schizophrenia.

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The campaign to increase the understanding of mental health problems and reduce their [stigma] and discrimination.

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### RESEARCH REPORT

## Stigmatization of people with mental illnesses: a follow-up study within the Changing Minds campaign of the Royal College of Psychiatrists

ARTHUR CRISP<sup>1</sup>, MICHAEL GELDER<sup>1</sup>, EILEEN GODDARD<sup>2</sup>, HOWARD MELTZER<sup>2</sup>

<sup>1</sup>Royal College of Psychiatrists, 17 Belgrave Square, London SW1X 8PG, UK

<sup>2</sup>Office for National Statistics, 1 Drummond Gate, London SW1V 2QQ, UK

BJPsych

The British Journal of Psychiatry (2013)  
202, s89–s94. doi: 10.1192/bjp.bp.112.114017

Anti-stigma training for medical students:  
the Education Not Discrimination project

Bettina Friedrich, Sara Evans-Lacko, Jillian London, Danielle Rhydderch, Claire Henderson  
and Graham Thornicroft

## Change the incentives: Straightforward incentives have their appeal too...

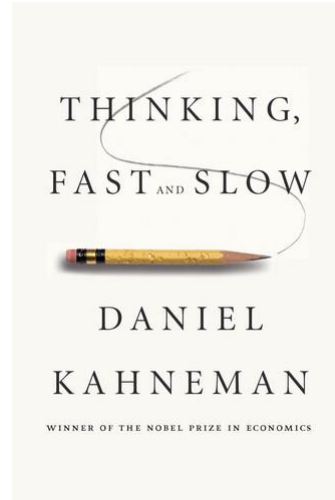




**But which one are you?**



# Change the situation: Nudging the automatic system



## Reflective System

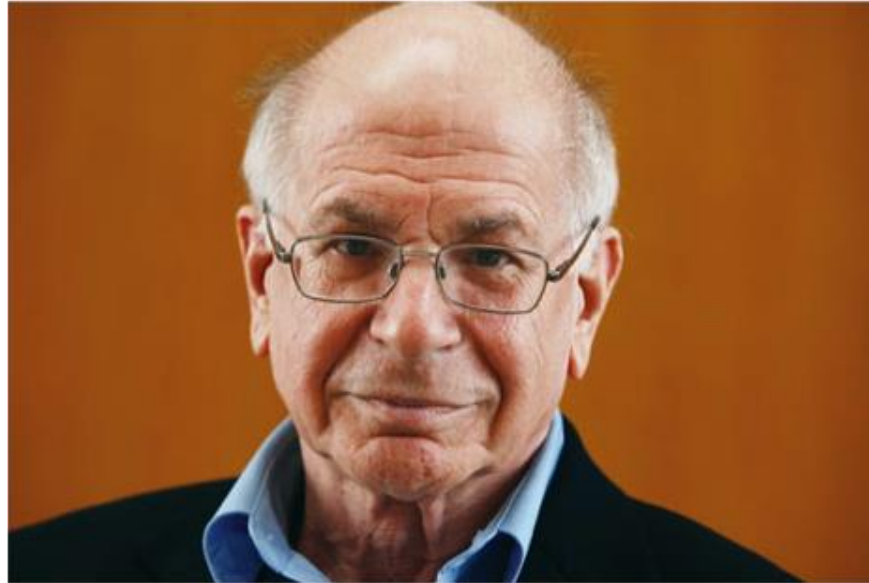
- Controlled
- Effortful
- Rule-based
- Slow
- Conscious
- Rational

## Automatic System

- Uncontrolled
- Effortless
- Associative
- Fast
- Unconscious
- Affective

# Cognition vs. Context





**It turns out that the environmental effects on behaviour are a lot stronger than most people expect**

**Daniel Kahneman**  
**Nobel Laureate**

# Reasons vs. Passions

2 digit #: **58**

7 digit #: **4972301**

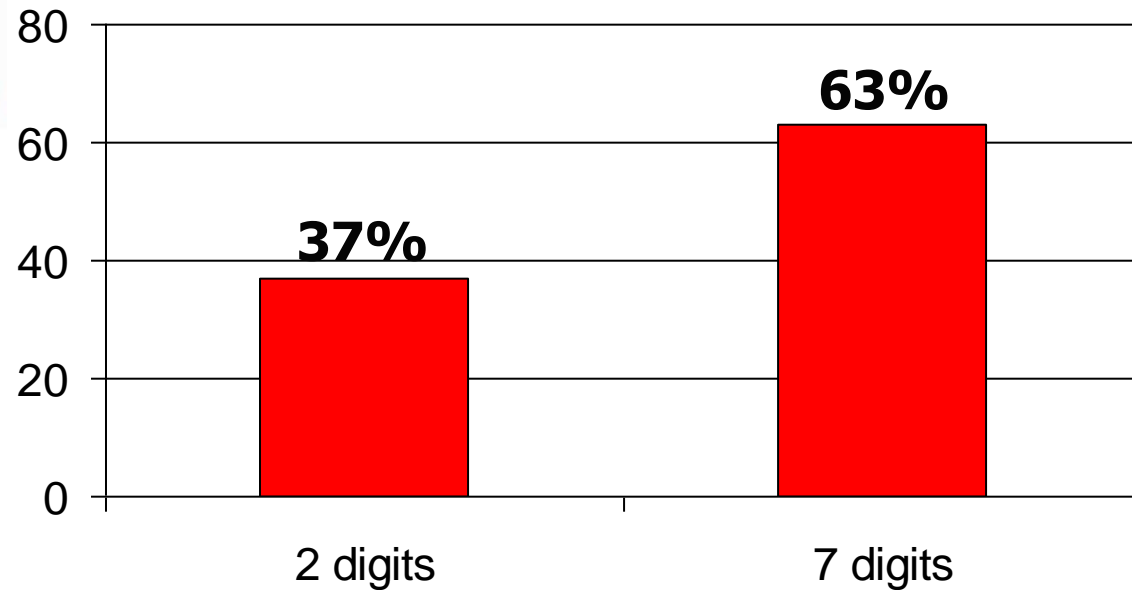


*Limited cognitive resources*

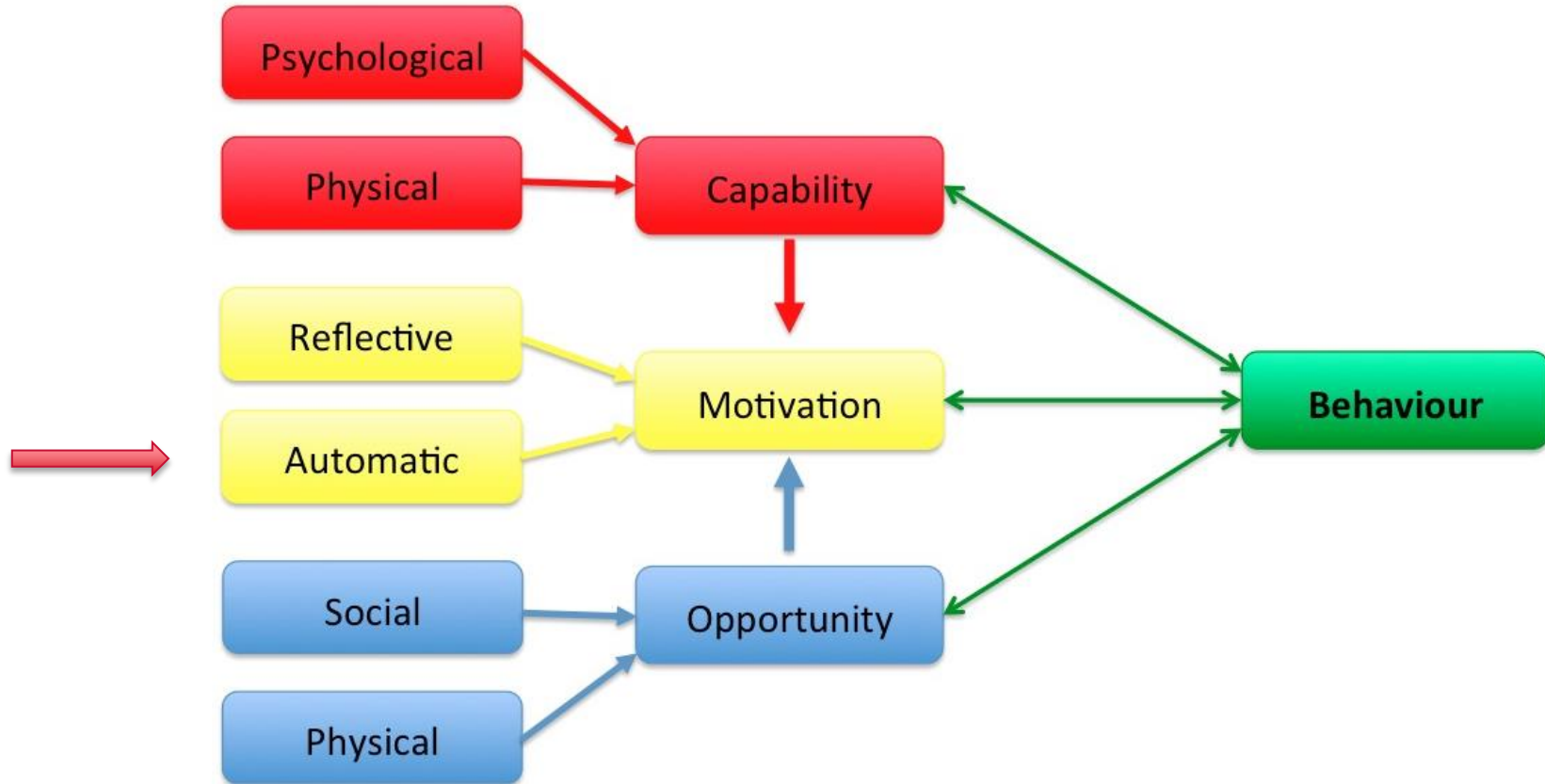




# Reasons vs. Passions



# COM-B (Susan Michie et al UCL)



Richard H. Thaler  
Cass R. Sunstein

# Nudge



Improving Decisions  
About Health, Wealth,  
and Happiness



**Dick Thaler**  
**Professor of**  
**Economics,**  
**Chicago**

**Behavioural**  
**Insight Team,**  
**Cabinet Office**



**Cass Sunstein**  
**Professor of Law,**  
**Harvard**

**Regulatory Czar in**  
**Obama**  
**Administration**

# **Choice architecture**

**describes the way in which  
decisions are influenced by how  
the choices are presented**

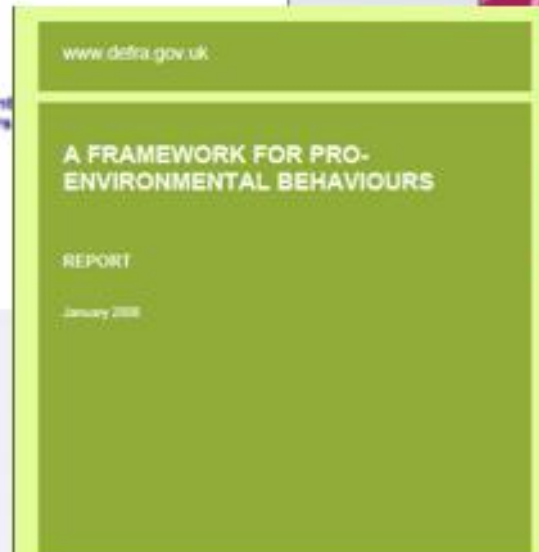
## An amusing but powerful nudge at Schiphol Airport



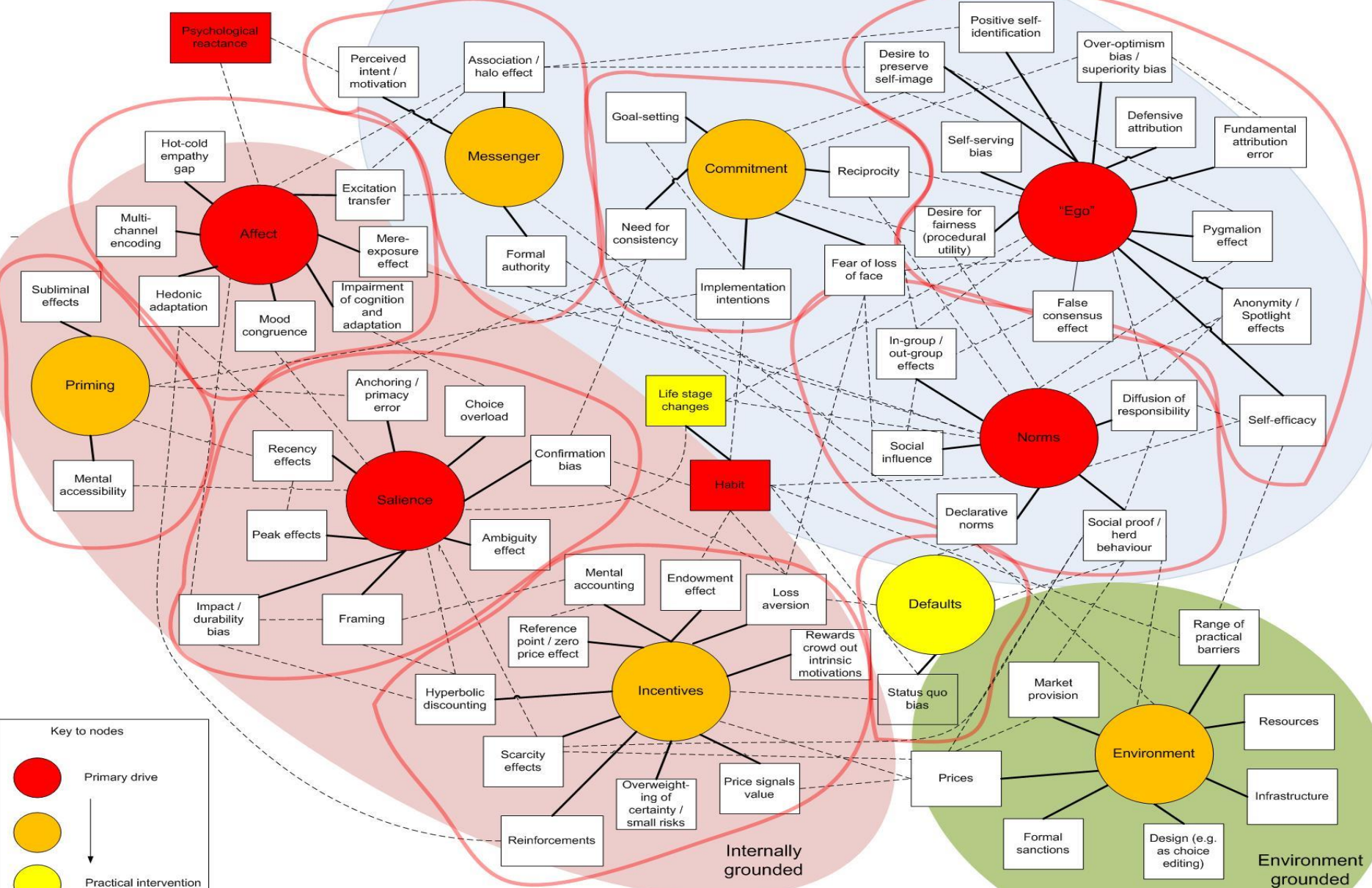
- Image of black fly etched onto urinals led to 'spillage' declining by >80%
- Men apparently like to aim at a target when urinating







# Socially-grounded



**Key to nodes**

- Primary drive
- Practical intervention

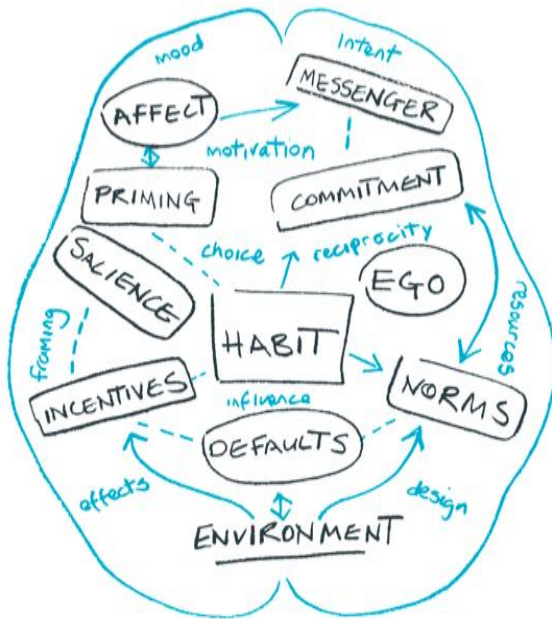
↓

# Internally grounded

# Environment grounded

# MINDSPACE

*Influencing behaviour through public policy*



- **Mindspace report published in March 2010**
- **Operating framework for applying behavioural insight to public policy**
- ***Behavioural Insights Team* established in the Prime Minister's Office**

## First goal of David Cameron's 'nudge unit' is to encourage healthy living

Behavioural Insight Team set up by prime minister will focus on urging people to 'make better choices for themselves'

# Giving

Green Paper



time money knowledge skills enthusiasm assets care energy

## Applying behavioural insight to health



# Policy Impact



Cabinet Office



**BBC**  
RADIO

92 – 95 FM



WORLD  
ECONOMIC  
FORUM

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COMMITTED TO  
IMPROVING THE STATE  
OF THE WORLD



FINANCIAL  
TIMES

THE   
INDEPENDENT



# MINDSPACE EXPLAINED

**M** **MESSENGER**  
We are heavily influenced by who communicates information to us  
The weight we give to information depends greatly on the instinctive reactions we have to the source of that information

**I** **INCENTIVES**  
We often respond to incentives using mental shortcuts  
Incentives are used as a mechanism to motivate behaviour change but we often respond to them in strange, but predictable ways

**N** **NORMS**  
We tend to do what those around us are already doing  
We behave in ways that are influenced by the explicit or implicit behavioural expectations, or rules, of the society or groups we belong to

**D** **DEFAULTS**  
We 'go with the flow' of pre-set options  
Many decisions we take have a default option, whether we recognise it or not. It is seen that we have an in-built bias to accept the default, even if it has significant consequences

**S** **SALIENCE**  
We respond to things that are novel and that we can understand  
We subconsciously filter out much of the information we receive. As a consequence our behaviour is greatly influenced by what our attention is drawn to

**P** **PRIMING**  
Our behaviour is often influenced by sub-conscious cues  
We act in ways that can be altered if we are exposed to certain cues beforehand - such as sights, words or sensations

**A** **AFFECT**  
Emotional associations can powerfully shape the way we behave  
We are strongly influenced by our feelings and emotions. Emotional responses can be rapid, so that we experience a behavioural reaction before we know what we are reacting to

**C** **COMMITMENT**  
We seek to be consistent with our public promises, and reciprocate acts  
We tend to procrastinate and delay taking decisions that are in our best interests. Commitment devices are widely used to counter our will-power weaknesses

**E** **EGO**  
We act in ways that make us feel better about ourselves  
We tend to behave in ways that support the impression of a positive and consistent self-image.

## WHAT IS MINDSPACE?

Influencing behaviour is central to public policymaking. Major advances in understanding what determines our behaviour means that we now have a new set of potentially powerful tools to use in challenging areas such as crime, obesity and recycling activities.

**MINDSPACE** outlines nine robust influences on human behaviour and change. These principles are underpinned by considerable research from the fields of social psychology and behavioural economics. They are therefore presented as the most robust effects that policy-makers should understand and, if appropriate, use.

# Messenger

## Advisor's Expertise

- People learn from experience to pay more attention to advisors who have given **good advice in the past**
- Consumers are more influenced by **better advisors**
- Advisors have less influence on more experienced and knowledgeable consumers

## Advisor's Trustworthiness

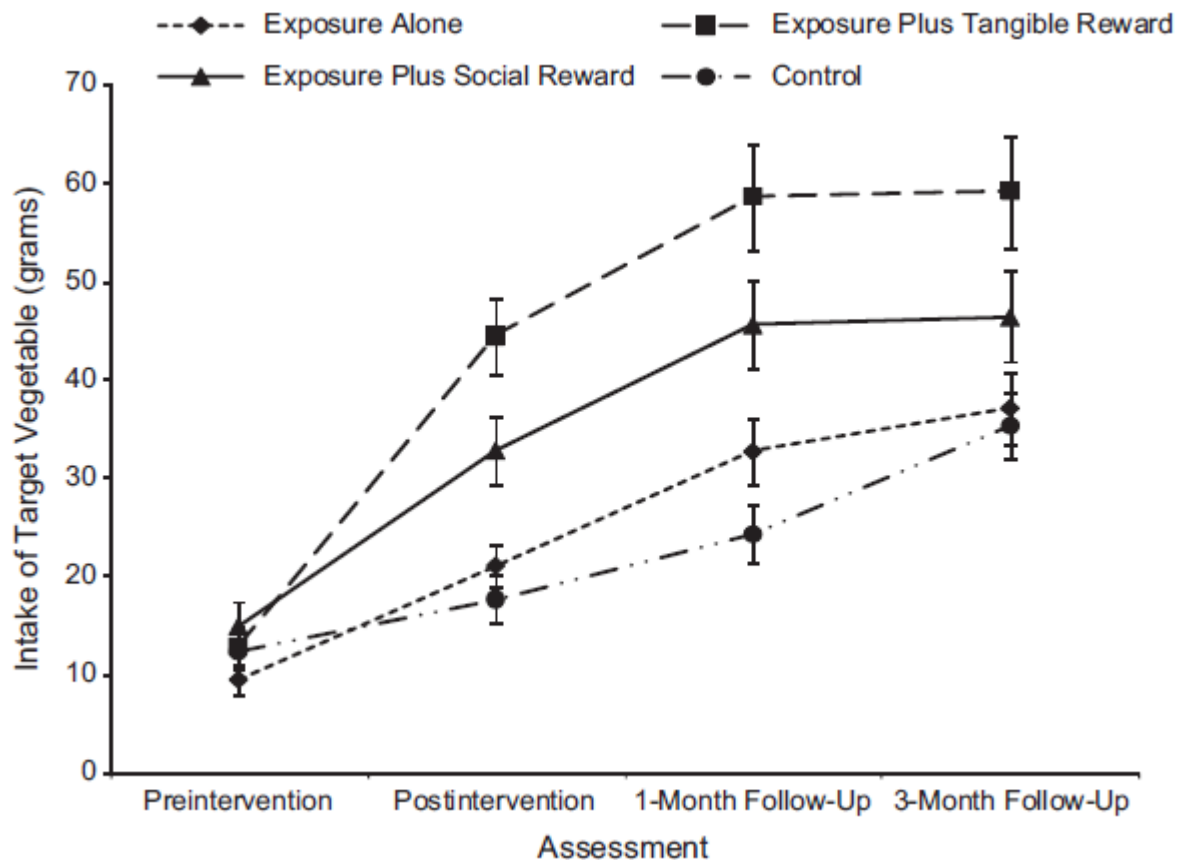
- People take more advice from trusted advisors
- Greater trust in advisors judged to have:
  - **Similar values**
  - **Shared goals**
  - **Similar intentions**
- Being of the **same sex and age** increases the attention paid to an advisor

## Advisor's Personality

- Consumers are more influenced by **confident** advisors irrespective of advice quality
- **Dissenting** advisors are discounted unless they are historically better than the consensus
- People are better at taking advice when advisors are more **distinct** from one another

# Incentives – healthy diet

- **Children’s liking and consumption of a disliked vegetable after 12 days exposure to taste and incentives (Cooke et al. 2011)**



# Incentives – weight loss

- **Lottery** incentive scheme and a **Deposit Contract** where participants risked losing money if they did not meet targets (Volpp 2008)



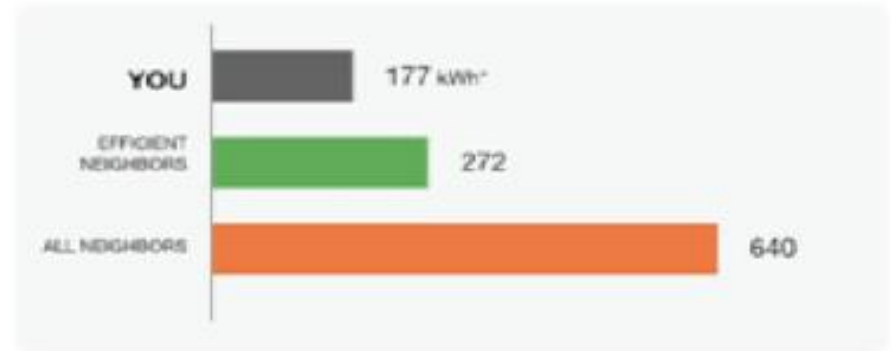
# Social Norms

**Last month you used 35% LESS electricity than your efficient neighbors.**

Your energy efficiency for the month was:  
Great!



You should feel good about your energy efficiency and the savings this means for you. To save even more energy and cost, see the back of this report for some personalized suggestions to help you improve your efficiency even more.



\* A 100-Watt bulb burning for 10 hours uses 1 kilowatt-hour (kWh).



# Social Norms



Volume 67, 2006 > Issue 6: November 2006

## A Multisite Randomized Trial of Social Norms Marketing Campaigns to Reduce College Student Drinking

William DeJong, Shari Kessel Schneider, Laura Gomberg Towvim, Melissa J. Murphy, Emily E. Doerr, Neal R. Simonsen, Karen E. Mason, Richard A. Scribner

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The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

## The Spread of Obesity in a Large Social Network over 32 Years

Nicholas A. Christakis, M.D., Ph.D., M.P.H., and James H. Fowler, Ph.D.

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

## The Collective Dynamics of Smoking in a Large Social Network

Nicholas A. Christakis, M.D., Ph.D., M.P.H., and James H. Fowler, Ph.D.

# Defaults

- Opt-in

Check the box if you **want** to participate in the organ donor program

- Opt-out

Check the box if you **don't want** to participate in the organ donor program

# Defaults

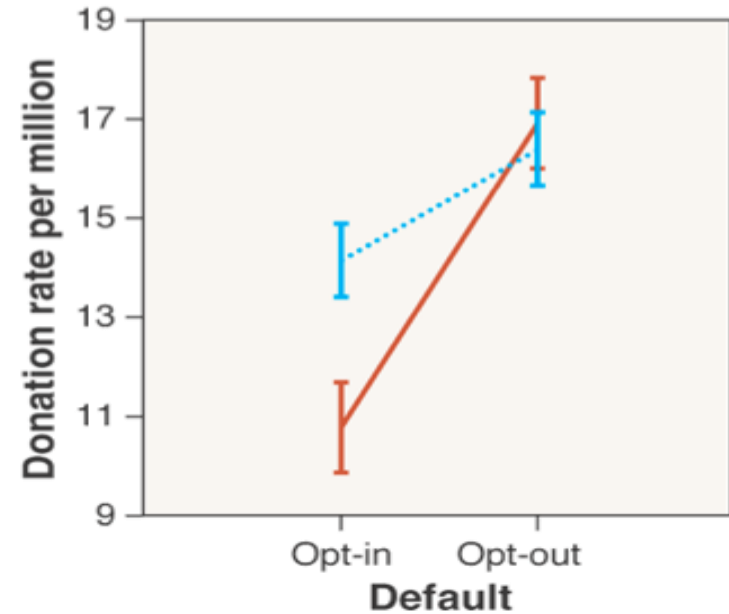
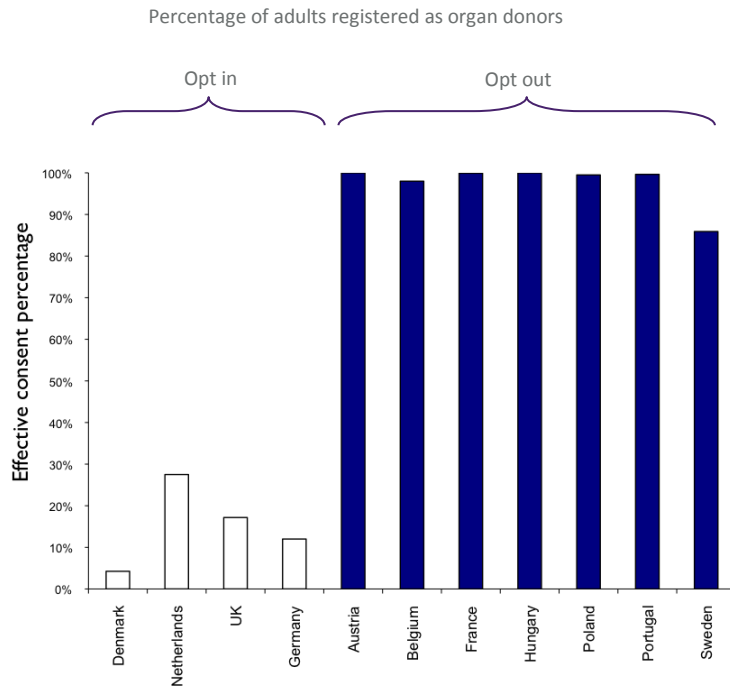
Check the box if you don't want to  
participate in the organ donor program

**PEOPLE DO NOT CHECK THE BOX**

Check the box if you don't want to  
participate in the organ donor program

**PEOPLE DO NOT CHECK THE BOX**

# Defaults



# Defaults

The NEW ENGLAND JOURNAL of MEDICINE

SOUNDING BOARD

## Harnessing the Power of Default Options to Improve Health Care

Scott D. Halpern, M.D., Ph.D., Peter A. Ubel, M.D., and David A. Asch, M.D., M.B.A.

When making many types of decisions, people are confronted with default options — the events or conditions that will be set in place if no alternatives are actively chosen. Because default options are implemented even if decision makers do the future.<sup>8</sup> The Infectious Diseases Society of America is urging Congress to mandate annual influenza vaccination for all health care workers who do not specifically decline vaccination in writing.<sup>9</sup>



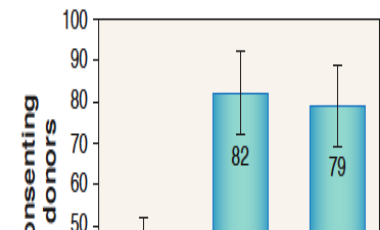
## POLICY FORUM

MEDICINE

## Do Defaults Save Lives?

Eric J. Johnson\* and Daniel Goldstein

Since 1995, more than 45,000 people in the United States have died waiting for a suitable donor organ. Although an oft-cited poll (*1*) showed that 85% of Americans approve of organ donation, less than half had made a decision about donating.



# Saliience



see Thaler and Sunstein (2008)



# Saliency – choosing what draws attention

The image shows a screenshot of the Tesco Bank website with a heat map overlay. The heat map uses a color scale from purple (low attention) to red (high attention). The most prominent areas of high attention (red) are the 'Home Insurance' section, the 'Up to 20% OFF' offer, and the '£50 CASHBACK' offer. Other areas of moderate attention (yellow and orange) include the 'Retrieve a saved quote' section and the '5 Star Defaqto rated' section. The rest of the page, including the navigation menu and footer, shows low attention (purple).

**TESCO Bank**

Enter your location...

Home Insurance

CLUBCARD Exclusive  
Plus £50 cashback

Up to 20% OFF

Plus... £50 CASHBACK

Remember to enter your Clubcard number and promo code HCASH50 during your online quote. Offer conditions apply.

Office ends on 25 September 2012.

TESCO Home Insurance is arranged and administered by Tesco Bank and is underwritten by a selected range of insurers.

GET A QUOTE

Retrieve a saved quote

Take a step nearer to applying for Tesco Home Insurance

RETRIEVE A QUOTE

Hints & Tips

- Home insurance glossary
- Home improvements
- Home safety & security
- Protection from nature

Finest Cover Standard Cover Value Cover

5 Star Defaqto rated

TESCO Home Insurance is our highest cover level with extra benefits included for added peace of mind.

defaqto.com/uk/en/faqto/home-insurance/0/

FIND OUT MORE...

Contact us

Have a question, need to make a claim, renew your policy or access 24hr helpline?

FIND OUT MORE...

Clubcard Price Promise

Get an exclusive discount, if you are a Clubcard customer. Just quote.

This heat map of eye movements for the Tesco website shows how much importance consumers place on **price**, without looking for **the level of cover** the insurance gives

# Priming hand hygiene



UNIVERSITY  
OF MIAMI



Imperial College  
London

SICU (B) ENTRANCE

AUTOMATIC  
CAUTION  
DOOR

AUTOMATIC  
CAUTION  
DOOR

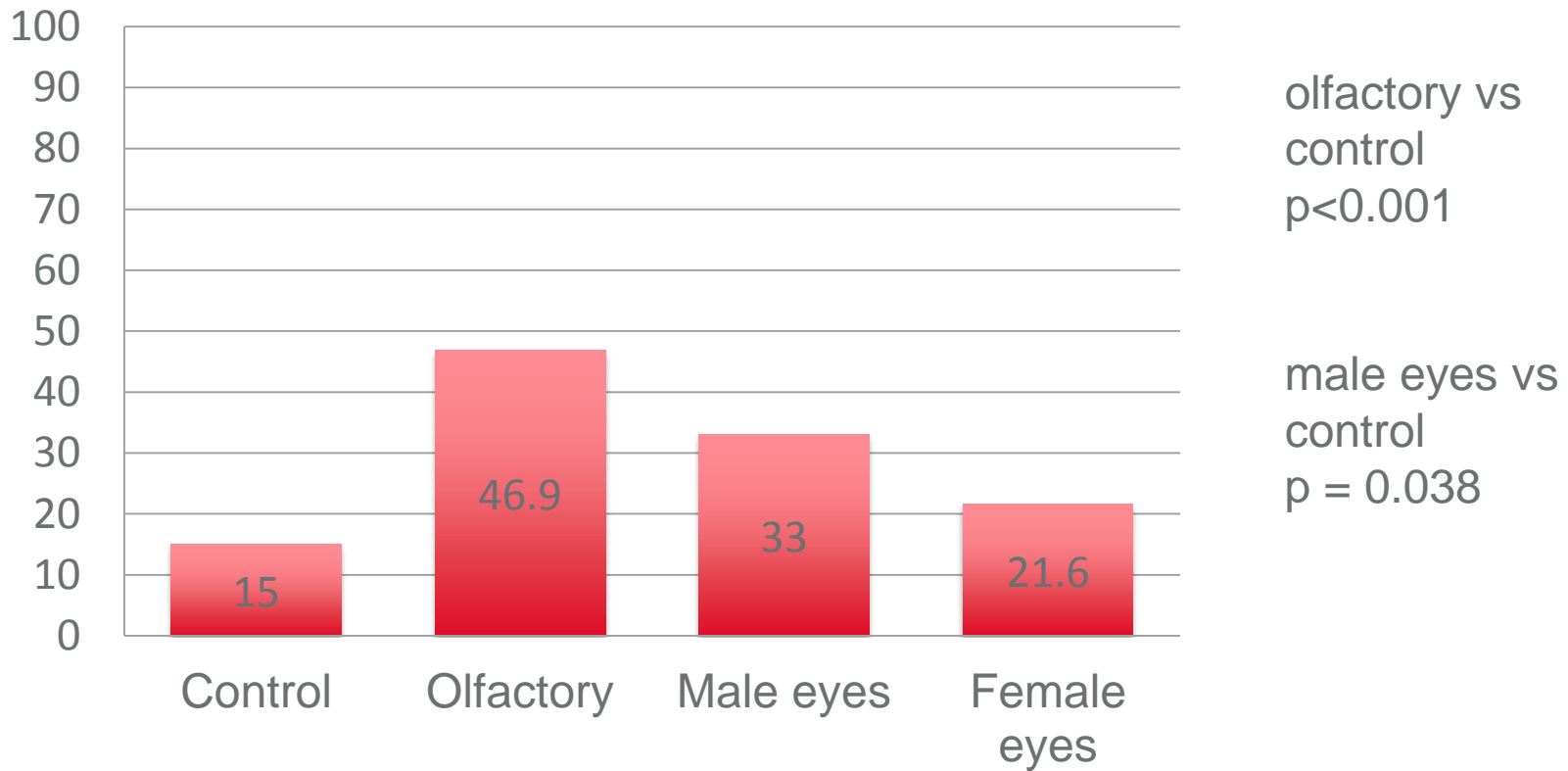
RESTRICTED AREA  
DO NOT ENTER  
WITHOUT CALLING

RESTRICTED AREA  
DO NOT ENTER  
WITHOUT CALLING



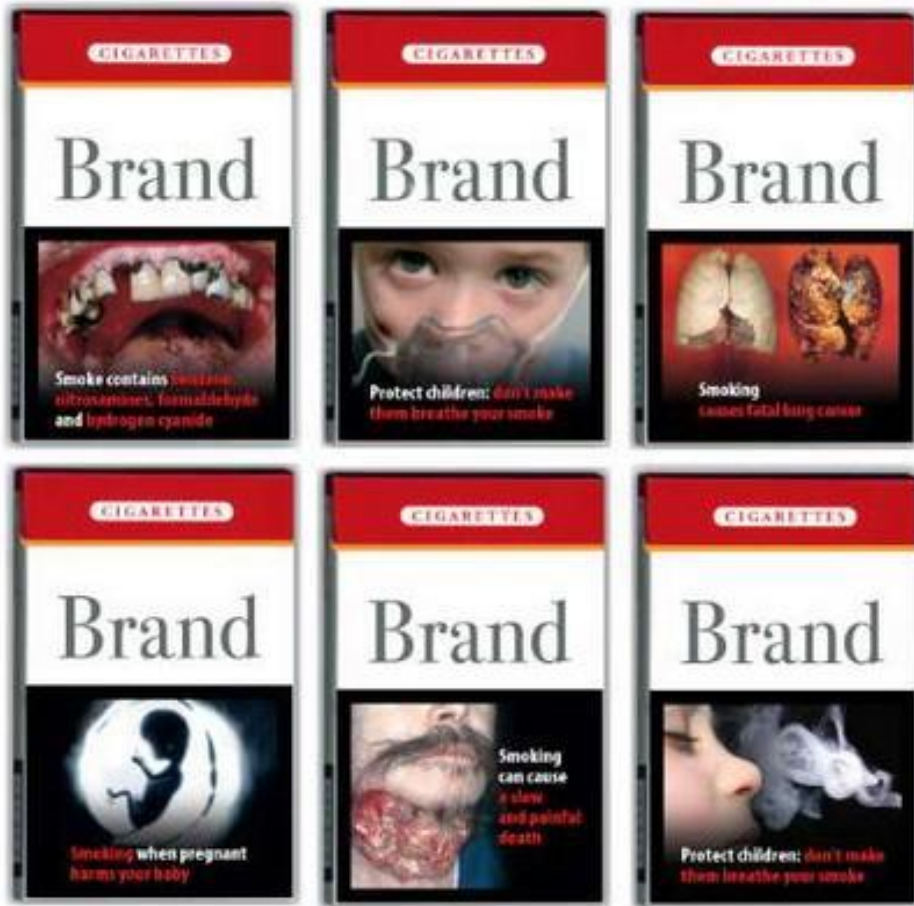


# HHC improved in presence of aroma and male (but not female) eyes





# Affect



the trusted way  
to borrow cash

Figure II. Example Letter 2

25 September 2003

Shop 95, Pinetown Arcade  
Hill Street  
Pinetown 3600  
Tel: 031 717 8950

Borrowed Rands	
000 - 100	10.00 - 11.00
100 - 200	11.00 - 12.00

A special rate for you.

Congratulations! As a valued client, you are now eligible for a special interest rate on your next cash loan from 1 September 2003. This is a limited time offer, so please come in by 31 October 2003.

**You can use this cash to buy an appliance, or for anything else you want.**

Enjoy low monthly repayments with this offer! For example:

	4 Months	6 Months	12 Months
R500	R149.95	R108.28	R66.62
R1000	R299.90	R216.57	R133.23
R2000	R599.80	R433.13	R266.47
R4000	R1199.60	R866.27	R532.93

LOAN AVAILABILITY SUBJECT TO TERMS & CONDITIONS

Loans available in other amounts. There are no hidden costs. What you see is what you pay.

**If you borrow elsewhere you will pay R280.14 more in total on a R350.00, 4 month loan.**

#### How to apply:

Bring your ID book and latest payslip to your usual branch, by **31 October 2003** and ask for

Names of clients, employees and Lender expressed to preserve confidentiality.

Customer Consultant

P.S. Unfortunately, if you have already taken a loan before the date this letter was issued, you do not qualify for the offer. Comparison based on a competitor's interest rate of 25%.



# Affect

"1 in 4" is 2 min film in the cinema during World Mental Health Day 2000

Disturbing images challenging preconceptions about mental health (features *cocaine addiction, anorexia, depression, dementia*)

Reinforces the message that anyone can suffer from mental illness:

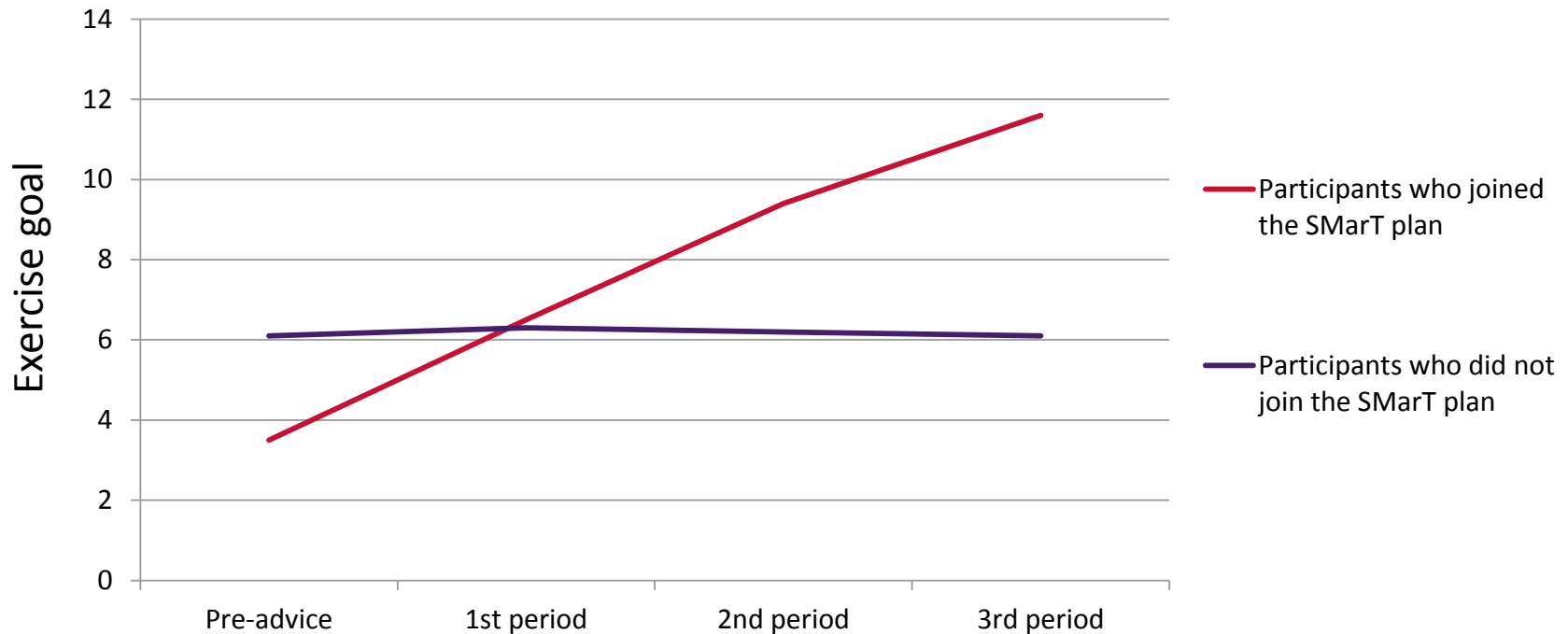
"1 in 4 could be your brother, your sister. Could be your wife, your girlfriend... 1 in 4 could be your daughter... 1 in 4 could be me... it could be YOU"





# Commitment

- African American women signing a behavioural contract, were more likely to reach their exercise goals (Williams et al. 2006).



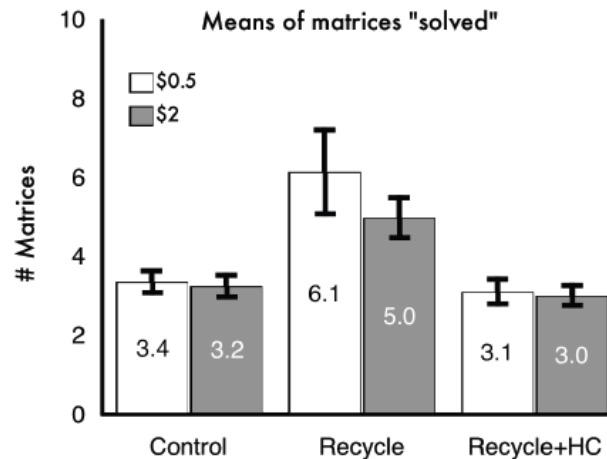
# Ego



As a lifelong member of the Columbia Business School community, I adhere to the principles of

**TRUTH  
INTEGRITY  
& RESPECT.**

I will not lie, cheat, steal, or tolerate those who do.





# MINDSPACE CHECKLIST

Have you...	Did you taken into account the following?
got the right <b>Messenger</b> ?	<ul style="list-style-type: none"> <li>We are more likely to act on information if the messenger has authority and expertise (either formally or through life experience) and if we can associate with them (if they are like us in some way)</li> </ul>
got the <b>Incentives</b> right?	<ul style="list-style-type: none"> <li>We dislike losses more than we like gains of an equivalent amount</li> <li>We live for today at the expense of tomorrow but tomorrow is not so strongly preferred to the day after</li> <li>We overweight small probabilities, which partly explains the popularity of lotteries</li> </ul>
tapped into the appropriate <b>Norms</b> ?	<ul style="list-style-type: none"> <li>We are influenced by what those around us are doing or whose behaviour our attention is drawn to</li> </ul>
thought about the <b>Default</b> option?	<ul style="list-style-type: none"> <li>We go with the status quo or default option, and will rarely opt out from whatever is the preset option</li> </ul>
enhanced the <b>Salience</b> of the information?	<ul style="list-style-type: none"> <li>We respond better to information that grabs our attention and that we can easily understand</li> </ul>
accounted for <b>Priming</b> effects?	<ul style="list-style-type: none"> <li>We are influenced by prior exposure to sights, smells and sounds, often outside our conscious awareness</li> </ul>
tapped into the right <b>Affect</b> (feelings)?	<ul style="list-style-type: none"> <li>We are influenced by our emotional responses to words, images and events</li> </ul>
got the right <b>Commitment</b> devices?	<ul style="list-style-type: none"> <li>We try to be consistent with our commitments and promises, especially when they are made public</li> </ul>
got the <b>Ego</b> effect right?	<ul style="list-style-type: none"> <li>We try to act in ways that are consistent with the images we have of ourselves, and when beliefs and behaviour come into conflict, it is often our beliefs that get altered</li> </ul>

## INFLUENCING BEHAVIOUR THROUGH MINDSPACE



New insights from behavioural sciences could lead to significantly improved outcomes, at lower cost than conventional policy tools