

An introduction to behavioural science

Bev Bishop Consulting

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Outline of the day

- Session One: An introduction to behavioural science
- Session Two: Core concept and theories
- Session Three: 'Nudging'
- Session Four: COM-B and the behaviour change wheel
- Session Five: Other theoretical frameworks
- Session Six: The appliance of behavioural science
- Session Seven: Incorporating behavioural science into formative evaluation: a case study

Session One: Introduction

- Definition
- Scope
- A brief history

What is behavioural science?

Behavioral science describes the study of human behavior through the use of systematic experimentation and observation.

- *Mindworks*

A comprehensive toolset to analyse our irrationality.

- *3rd Year LSE student*

Behavioural insights encourage people to make better choices for themselves and society.

- *Local Government Association*

Behavioural science's guiding theme is to understand how and why people make decisions.

- *David Halpern, CEO of Behavioural Insights Team*

It is the cross-disciplinary, open-minded science of understanding how people behave.

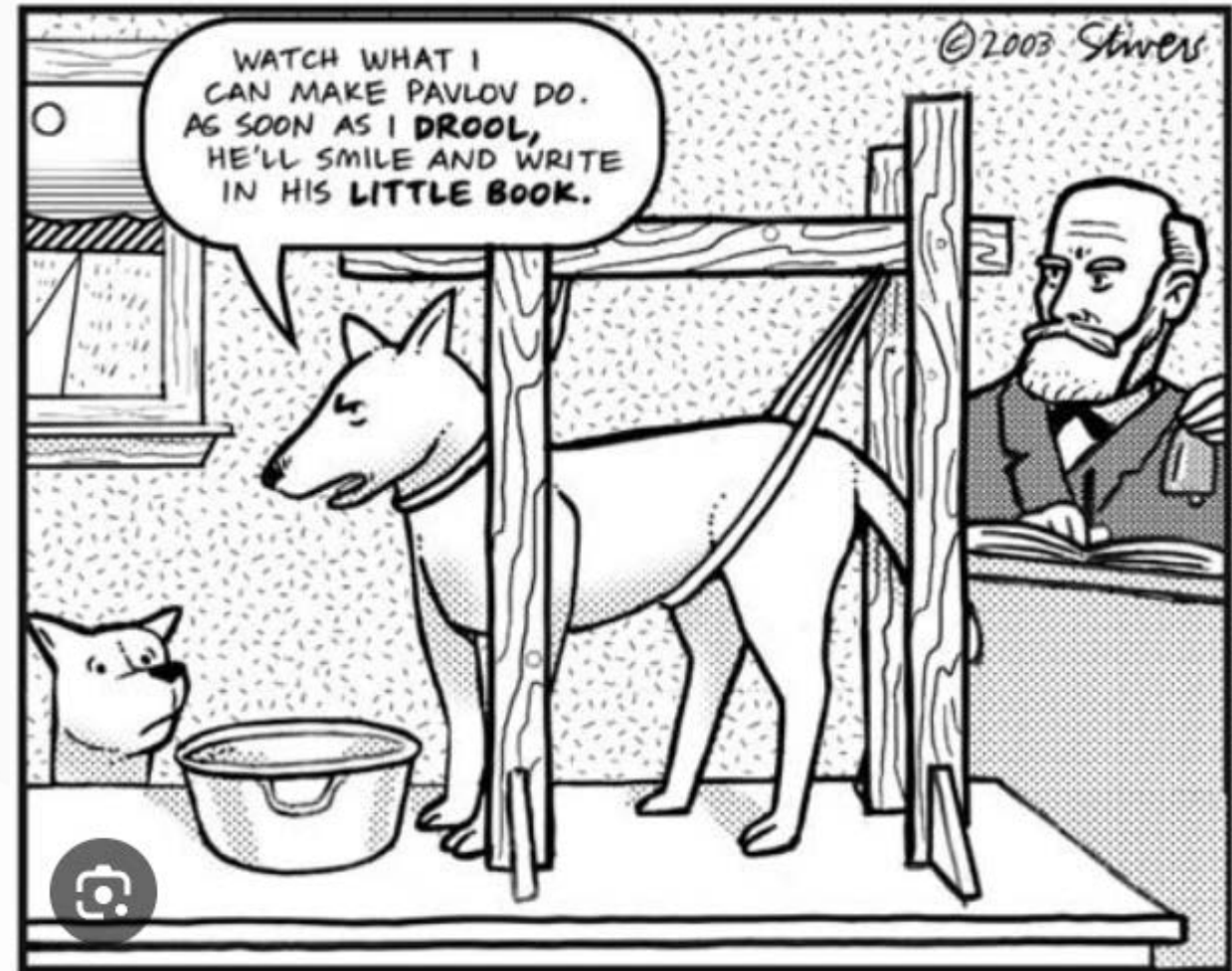
- *Matteo M Galizzi Assistant Professor of Behavioural Science, LSE*

Behavioural Science draws upon

- Psychology
- Economics
- Anthropology
- Organisational science
- Criminology
- Sociology
- Neuroscience
- Political Science
- Behavioural biology / Ethology
- Marketing

The foundations of psychology (late C19 – early C20)

- Wilhelm Wundt - the experimental method
- Ivan Pavlov - classical conditioning
- John B. Watson - the foundation of behaviourism



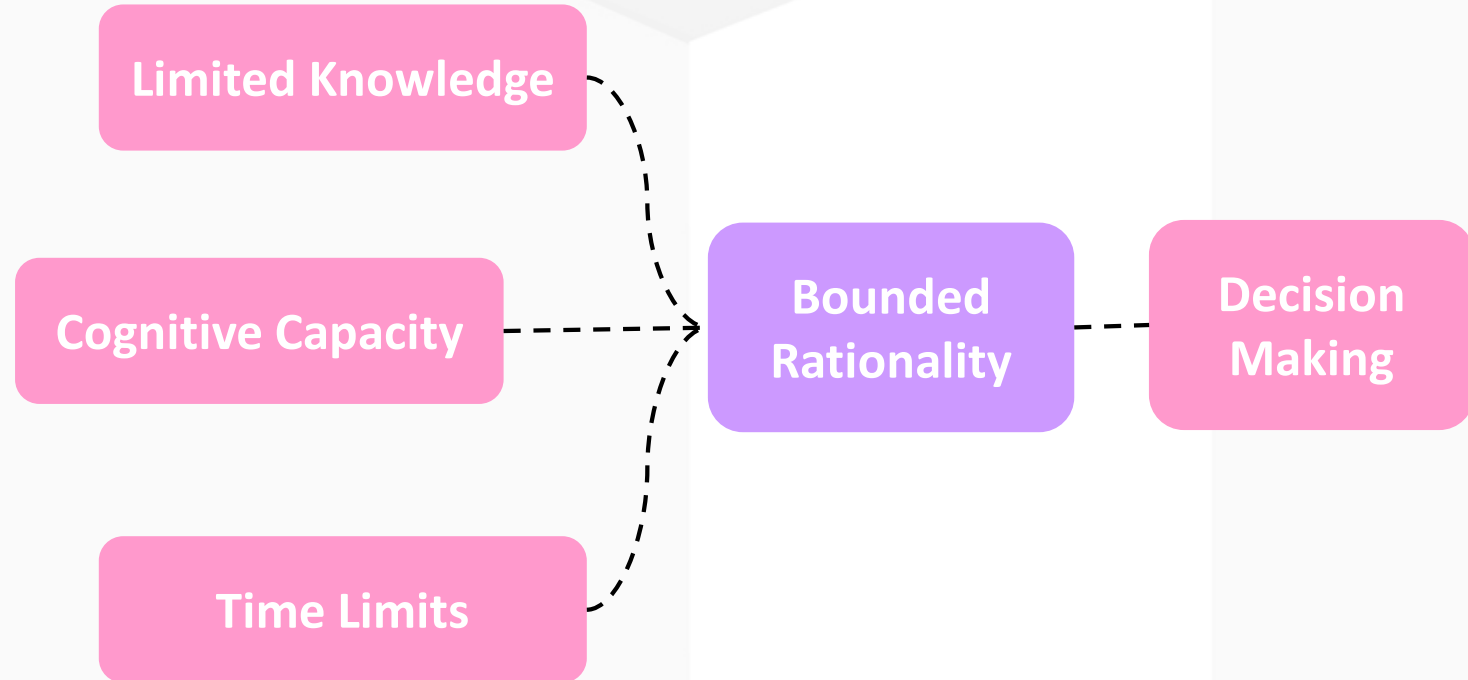
The Rise of Behaviourism (mid-C20)

- B.F. Skinner - operant conditioning
- Clark Hull - role of motivation in behaviour
- Edward Tolman - cognitive maps
- Albert Bandura - social learning theory.



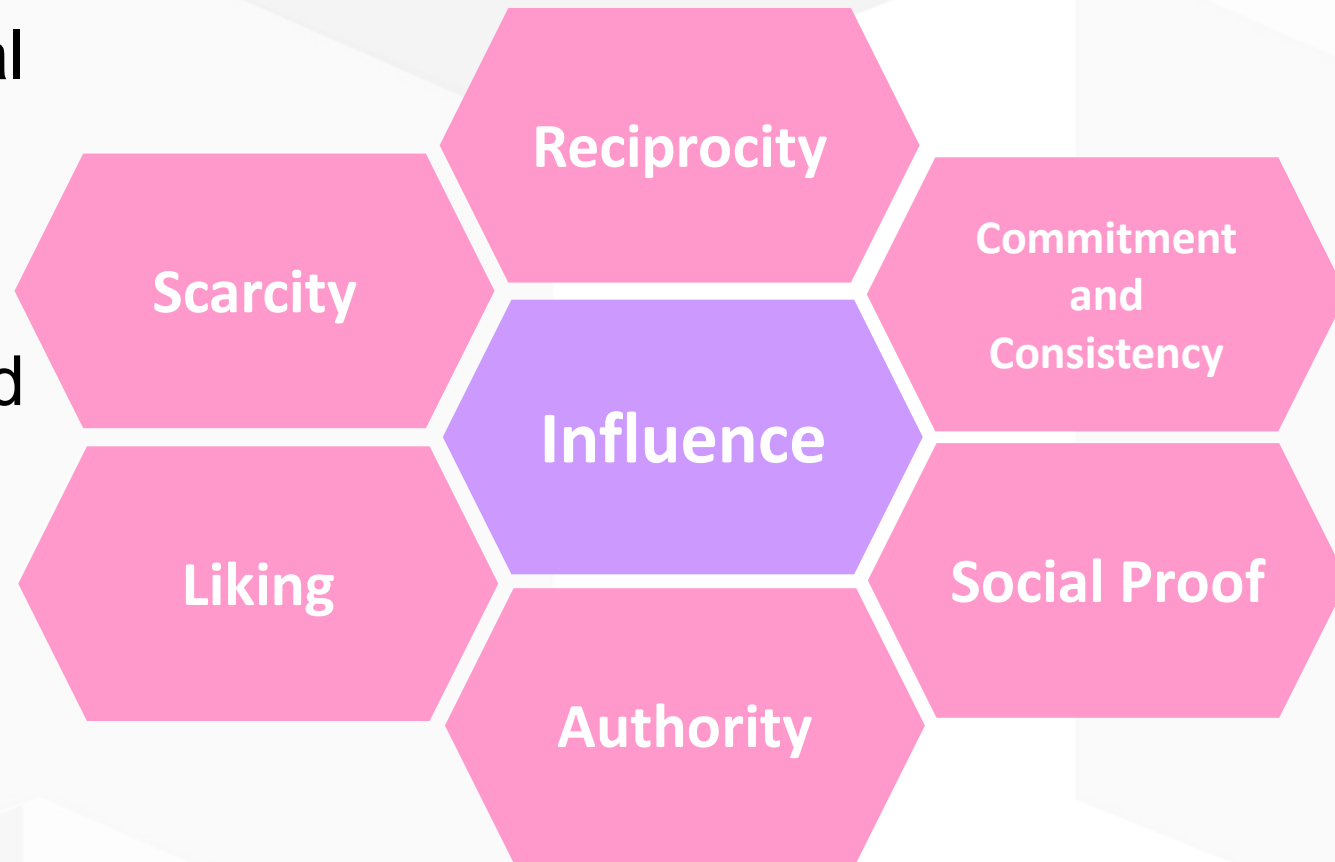
The Cognitive Revolution (1950s-1970s)

- Herbert Simon - bounded rationality
- Leon Festinger - cognitive dissonance.
- Daniel Kahneman and Amos Tversky - prospect theory



Emergence of Behavioural Economics (1980s-2000s)

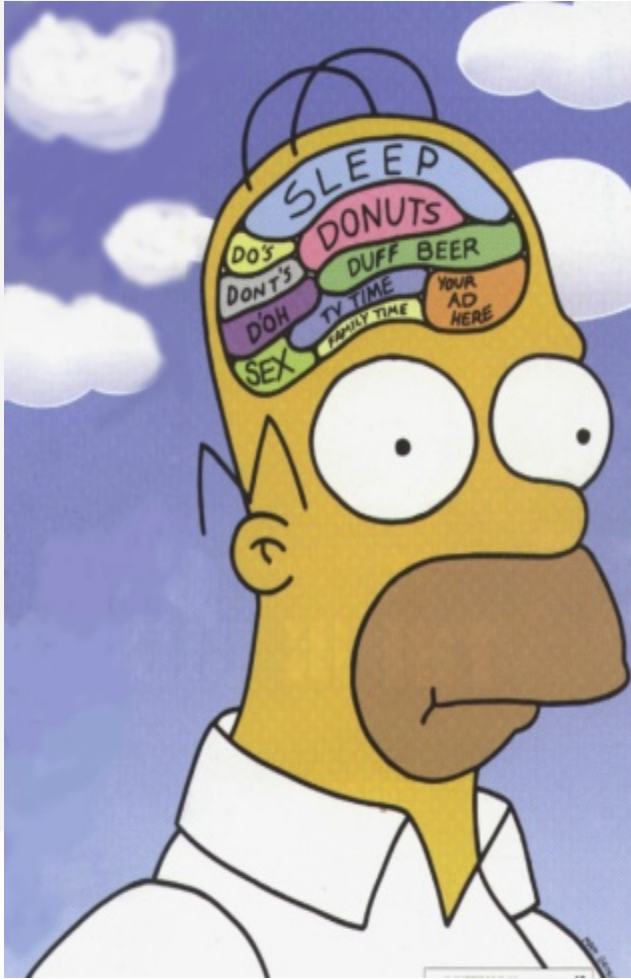
- Richard Thaler (1980s) : Mental accounting and nudging (with Cass Sunstein) influenced public policy.
- Robert Cialdini: Persuasion and influence in the 1980s and 1990s provided insights into how social norms, reciprocity, and authority affect behaviour
- Daniel Ariely – Predictable irrationality



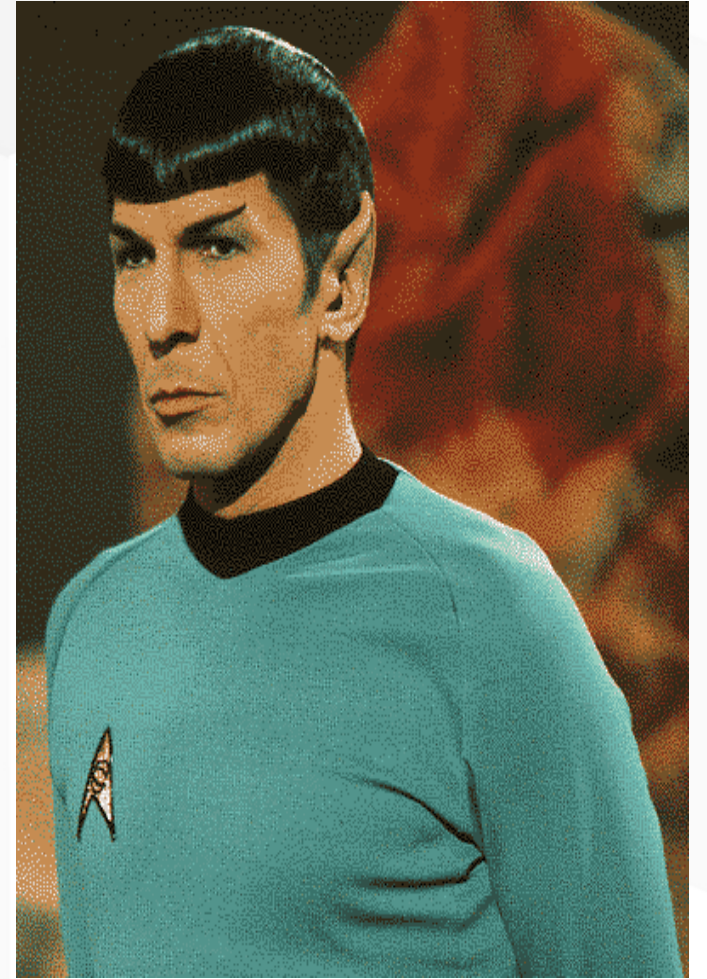
Session Two: Core concepts

- Dual-process theory (System 1 and System 2 thinking)
- Heuristics and biases (e.g., availability heuristic, anchoring, confirmation bias)
- Prospect theory and loss aversion
- Social norms and influences (e.g., conformity, obedience, social proof)

Dual process theory



- Traditional analysis often assumes rationality...
- But we think in different ways
- System One versus System Two



Dual process theory

System One

- Automatic, quick, intuitive
- Relies on instinct and mental shortcuts
- Shaped by emotion and learned associations
- Used for, e.g. recognising faces, making snap judgements
- Fast, efficient and usually works well in familiar situations
- Prone to bias and error, particularly in complex situations

System Two

- Deliberate, effortful, analytical
- Engages when tasks require attention
- Accurate, logical and thorough in evaluating complex situation
- Slow and requires cognitive effort

Some heuristics and biases

- **Availability bias**

People tend to overestimate the likelihood or importance of events based on how easily examples come to mind.

- **Anchoring bias**

People rely too heavily on the first piece of information they encounter (the "anchor") when making decisions or judgments. Once the anchor is set, people tend to adjust their subsequent judgments or estimates around this reference point, even if the anchor is irrelevant or misleading.

- **Representative bias**

People judge the probability or likelihood of an event based on how much it resembles or represents a typical case, rather than considering relevant statistical information

The Linda Problem

Linda is 31 years old, single, outspoken, and very bright. She majored in philosophy. As a student, she was deeply concerned with issues of discrimination and social justice, and also participated in anti-nuclear demonstrations. Which of the following statements is more likely?

1.Linda is a bank teller.

2.Linda is a bank teller and is active in the feminist movement.

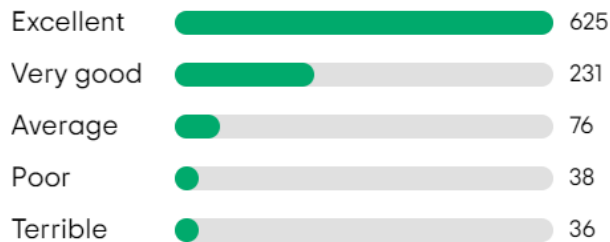
Prospect Theory

- Losses loom larger than gains
- Probabilities are not judged in a linear way – overestimate of unlikely events and underestimation of common ones
- Diminishing sensitivity as numbers grow

Social Norms

- People tend to conform to the (perceived) behaviour of others.....particularly if those others are like them
- **Social proof** is a psychological and social phenomenon where people look to the behaviour and actions of others to guide their own decisions, particularly in uncertain situations.
- **Social proofs include online reviews, crowd behaviour or expert endorsement, or endorsements**

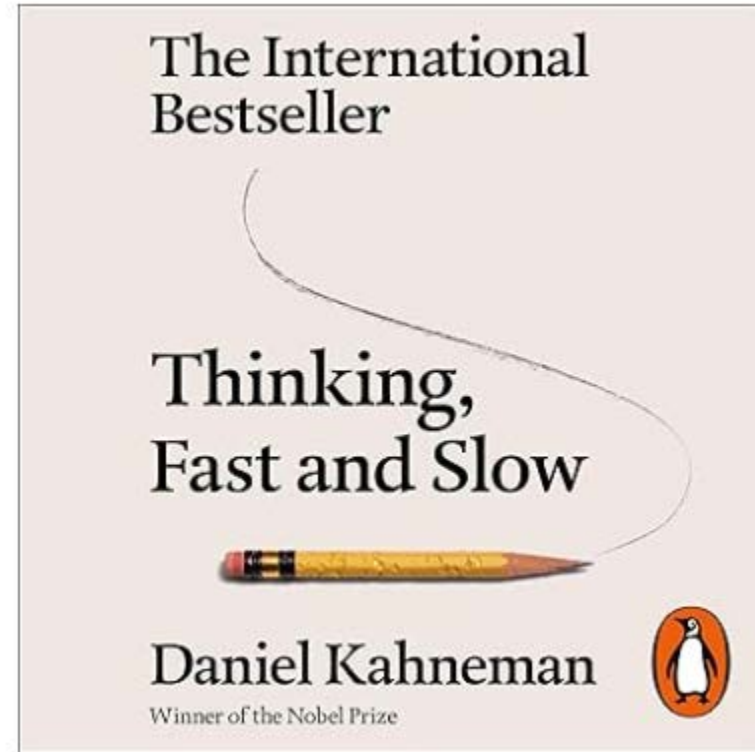
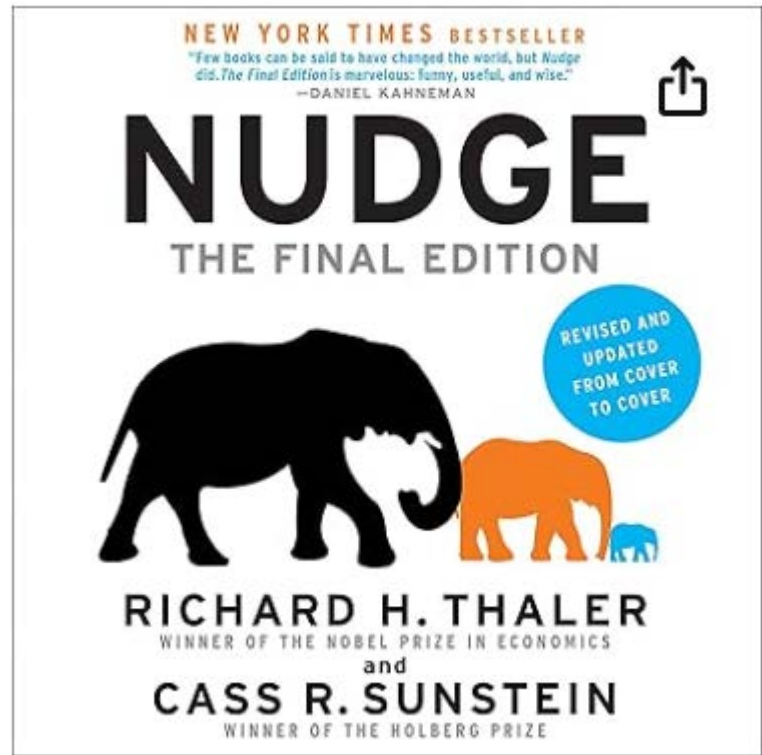
4.5 ●●●●● 1,006 reviews



Session Three: 'Nudging'

- The incorporation of behavioural science into government policy making
- MINDSPACE and EAST
- INSPECT: An example from health and safety
-then over to you.

Where it all started



Behavioural Insights in UK Govt (and beyond)

- 2010 – Cabinet Office set up Behavioural Insights Team (‘Nudge Unit’)
- Publication of MINDSPACE
- Notable successes in tax, education and NHS waiting times
- 2012 – Publication of EAST
- 2014 – BIT ‘spun out’ of government as “social purpose company”
Meanwhile.....
- > 24 UK government entities have set up their own behavioural science teams, and many other government social research and communications teams are using behavioural science.
- ‘Nudge’ units established in USA, France, Australia, Germany, Denmark, Singapore, Canada, New Zealand, Netherlands and Canada.

MINDSPACE

Messenger

Incentives

Norms

Defaults

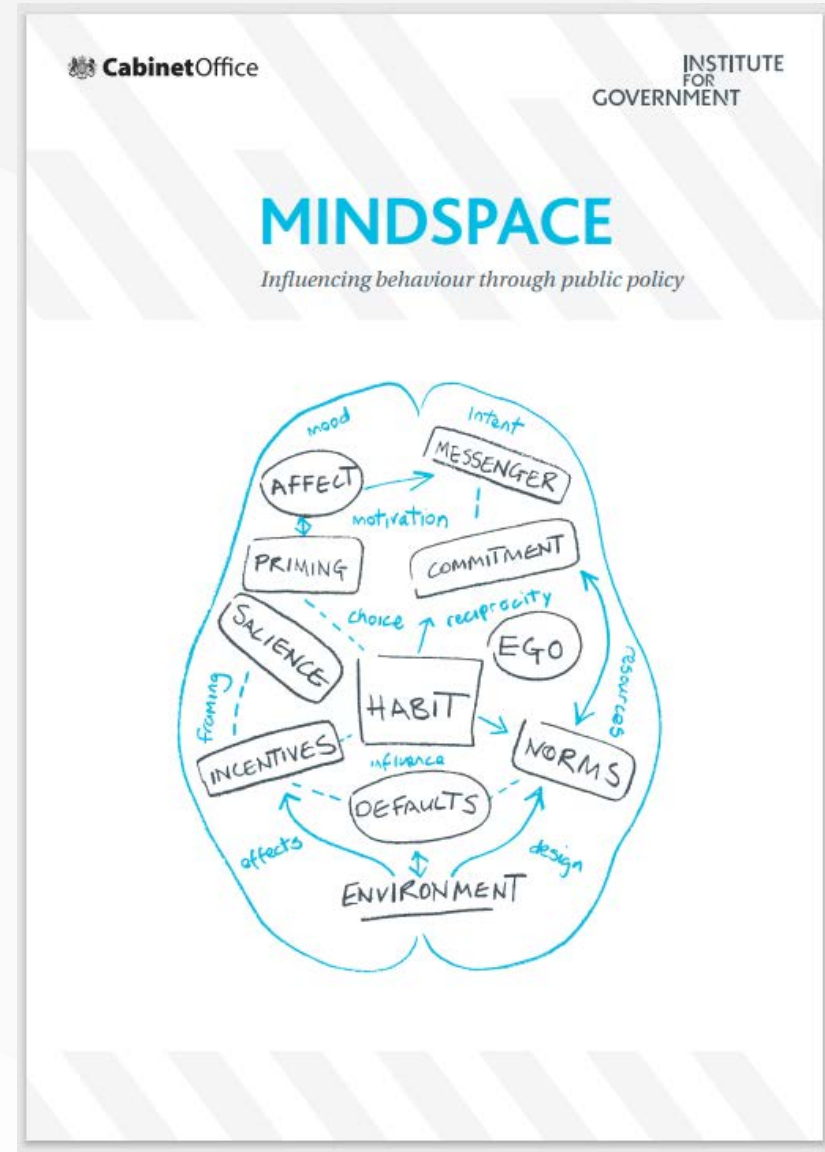
Salience

Priming

Affect

Commitments

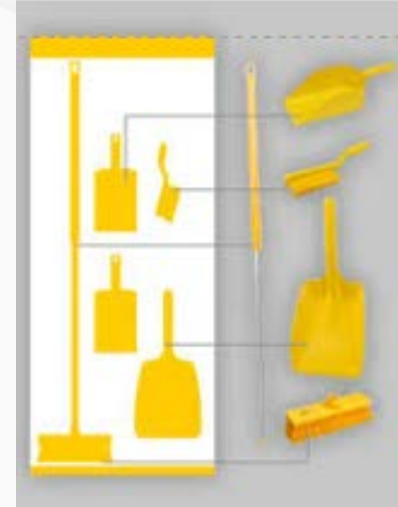
Ego



EAST



INSPECT: A case study



Make the promise. Come home safe.



INSPECT: A Tool to Improve Workplace Health and Safety

Incentives: How are you incentivising the behaviour you want to change? What psychological rewards will the dutyholder get if they adapt their behaviour? Or what will they lose if they don't?

Norms: What can you do to convey that the desired behaviour is a norm? Can dutyholders be persuaded to formally commit to a course of action? Does the dutyholder believe our activities are fair and legitimate?

Salience: How can the dutyholder be persuaded that this issue is pertinent to them? Can messages be personalised? Can you use case studies that the dutyholder will identify with? Can you use other means to draw their attention to our message ?

Priming: Can you make the visible environment one that supports health and safety? Can you test alternative presentations of your guidance, tool or message to see which has the biggest effect?

Emotion – Can you make use of emotional cues, such as people's reactions to certain words, sights and sensations?

Choice structure: Can you introduce a desirable 'default' option? Can you make compliance easy? Can you force the dutyholder to choose?

Trust: Who are the trusted messengers for the people you want to influence? Can messages be delivered through 'people like me', those who have credibility with the group, or acknowledged experts? If you need to bring about cultural change, consider who has the social connections, expertise and influence to bring about cultural change.

Over to you!

Design an intervention or a communication campaign to :

- Facilitate medicine regime compliance (Group 1)
- Discourage 18 year olds from vaping (Group 2)
- Encourage take up of active travel (walking, cycling and wheeling) (Group 3)

Session Four: COM-B and the Behaviour Change Wheel

- The COM-B Model
- Barriers to and facilitators of behaviour change
- The Behaviour Change Wheel
- Mapping interventions

The COM-B Model

- **Capability:** Physical and psychological capacity to engage in a particular behavior.
- **Opportunity:** Opportunity refers to the external factors that influence behavior, including environmental and social factors.
- **Motivation:** Motivation encompasses the conscious and unconscious reasons why individuals choose to engage in or avoid certain behaviors.
- **Behaviour:** Actions that individuals take, or choose not to take, in a given situation. It is influenced by capability, opportunity, and motivation.

Barriers and facilitators of behaviour change

Capability		Motivation		Opportunity	
Psychological: Knowledge, memory, mental energy	Physical: Strength, skill, stamina	Reflective: Attitudes, intentions, decisions, expectations	Automatic: Emotions, feelings, habits	Physical: Triggers, cues, contexts	Social: Norms, social identity, culture
<p>Not knowing the best time to travel for speed and safety (b)</p> <p>Knowing the illness is prevalent and there are risks when taking busy trains (f)</p> <p>Tiredness/cognitive overload makes self-regulation (distancing awareness) more difficult (b)</p>	Physical inability to reach alternative (quieter) train or mode of transport (b)	<p>Not wanting to spread illness (f)</p> <p>Need/desire to be seen as conscientious and following rules (f)</p> <p>Identify with those who do not want to wear face coverings, freedom-fighters (b)</p> <p>Unrealistic optimism: will not contract illness (b)</p> <p>Need to reach destination (priority; cost-benefit) (b)</p>	<p>Negative reinforcement of previously changing route to have a negative experience means reluctance to attempt new route. (b)</p> <p>Anxiety of taking a different journey (b)</p>	<p>Lack of accessible travel on route (e.g. ramps) (b)</p> <p>Having the Zipabout App with routing and planning details available (f)</p>	<p>Social group may perceive low level of illness threat (b)</p> <p>Managers expect workers to arrive at work at a certain time (b)</p>

Adapted from: Developing public transport messaging to provide crowding information during COVID-19: Application of the COM-B model and behaviour change wheel - ScienceDirect

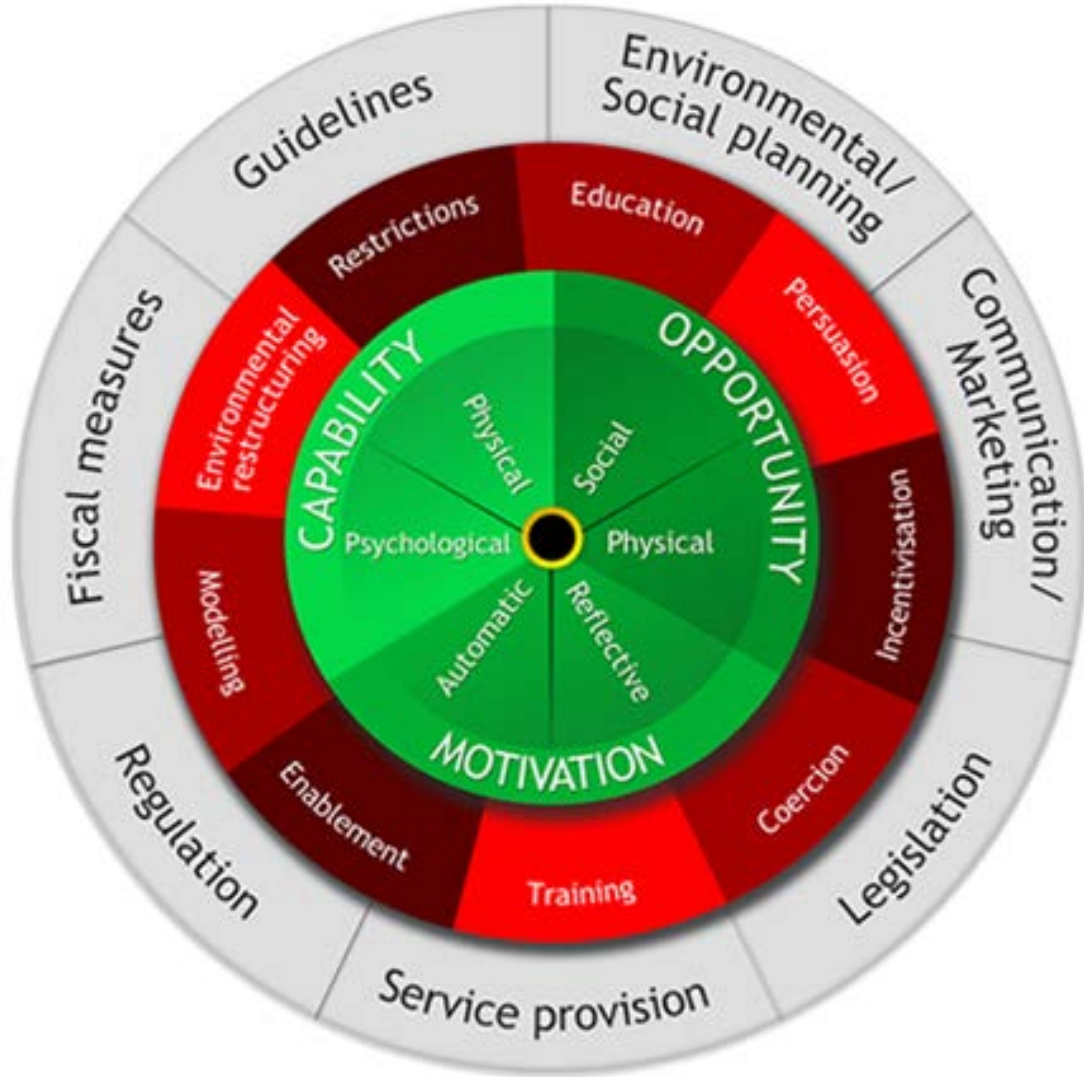
Exercise Two

- Which of your own behaviours would you like to change?
- In pairs or groups, record the barriers to and facilitators of behaviour change

Exercise Two

CAPABILITY		OPPORTUNITY		MOTIVATION	
Physical	Psychological	Physical	Social	Reflective	Automatic
Strength, skill, stamina	Knowledge, memory, mental energy	Triggers, cues, contexts	Norms, social identity, culture	Attitudes, intentions, decisions, expectations	Emotions, feelings, habits

The Behaviour Change Wheel



- 19 frameworks of behaviour change
- 3 layers
- 7 policy categories
- 9 intervention functions
- COM-B model

Behaviour change interventions: coordinated sets of activities designed to change specified behaviour patterns (Michie 2011)

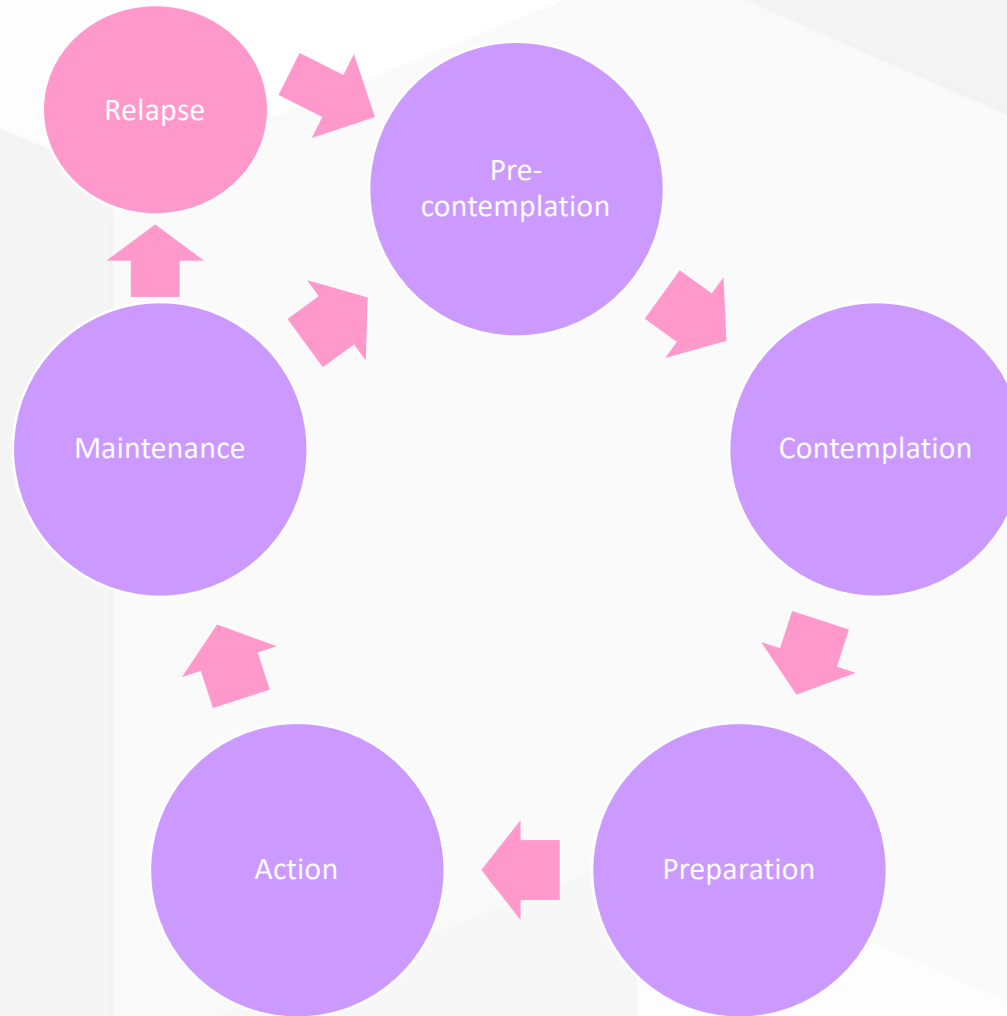
Exercise Three

In your groups, map out the interventions that central and local government, the third sector, and your friends and family could put in place to help you make that change!

Session Five: Some other theoretical models

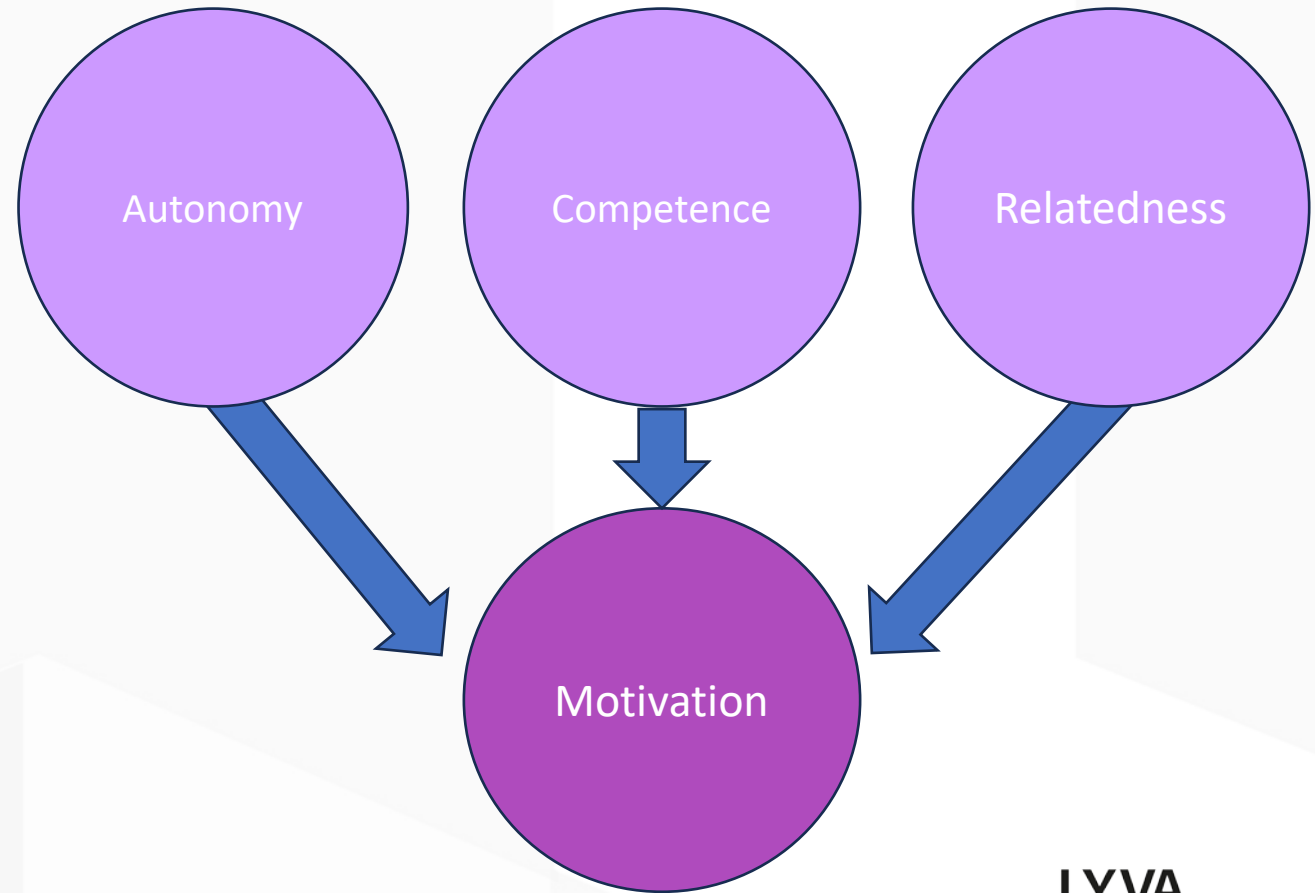
- Transtheoretical Model (TTM) or Stages of Change Model
- Self-Determination Theory (SDT)
- Theory of Planned Behaviour

Transtheoretical Model (TTM) (Stages of Change)

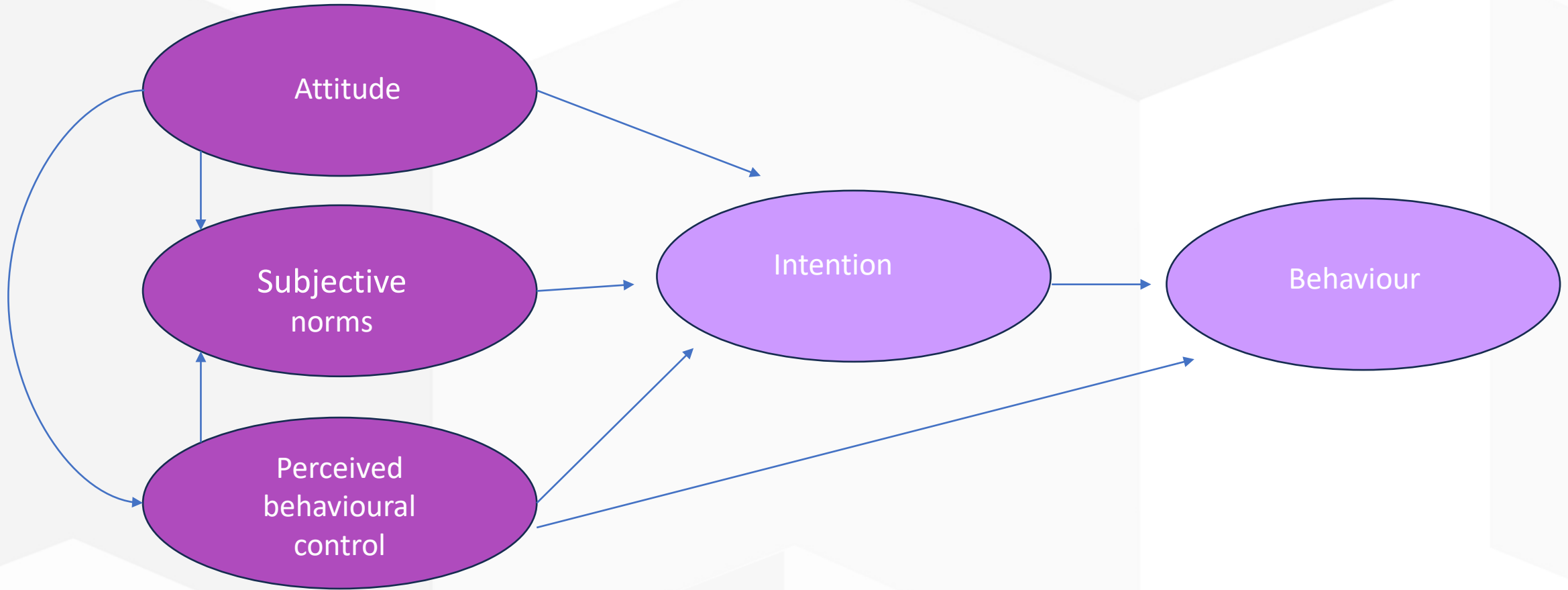


Self-Determination theory

- Intrinsic and extrinsic motivation
- Basic psychological needs:
 - Autonomy
 - Competence
 - Relatedness
- Motivation continuum
 - Amotivation
 - Extrinsic motivation
 - Intrinsic motivation
- Role of social context



Theory of Planned Behaviour



Limitations of behavioural models

- Models are concepts, not representations of behaviour. Behaviour is complex, but models are deliberately simple
- Models don't tend to differentiate between people. Personas research is more nuanced
- They were largely developed in a Western context, and may not be applicable where social norms are different
- Prioritisation of cognitive and rational processes, underestimating the role of emotions, stress, and subconscious drives in shaping behavior.

Session Six: The appliance of behavioural science

- How do people behave?
- Why do they behave like that?
- What will bring about behaviour change?
- Let's test that!

How do people actually behave?

Methods:

- Horizon scanning workshop
- Systematic review
- Qualitative research
- User journey mapping



Why do people behave the way they do?

Methods:

- REA / Systematic review
- Barrier/driver mapping
- Persona analysis
- Research with target communities



What will bring about change?

Methods:

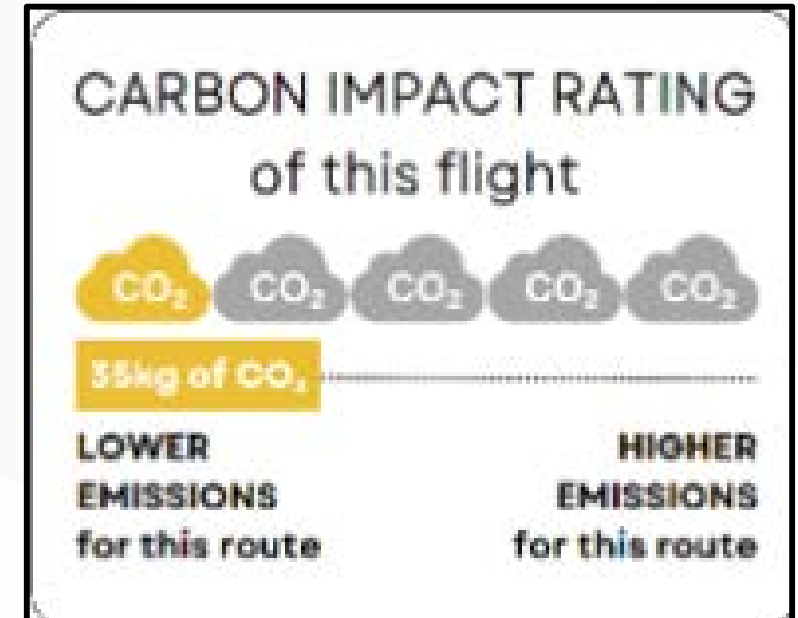
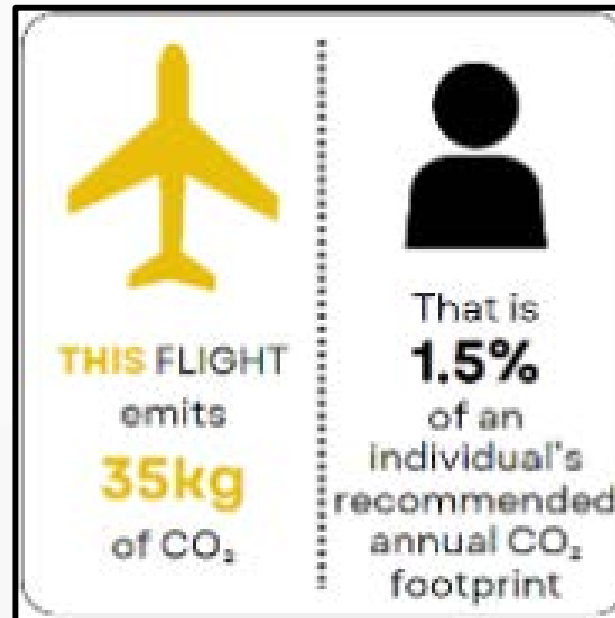
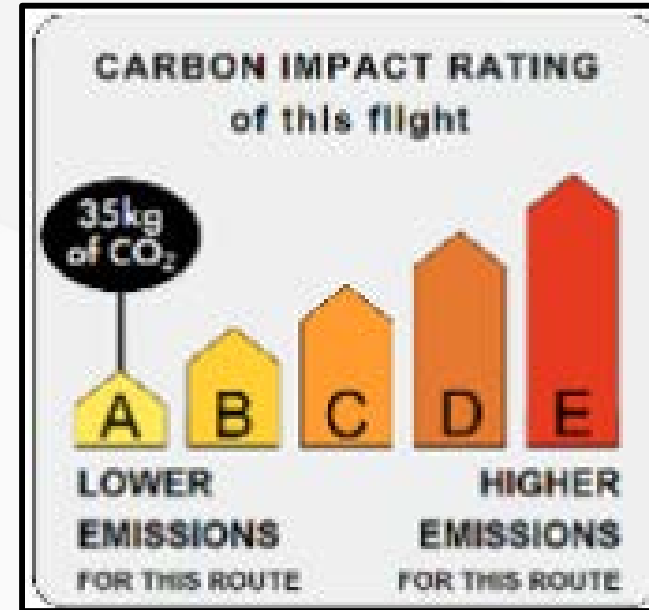
- Consultancy
- Intervention design workshops
- Research with target communities
- Co-creation sessions
- Intervention pre-testing



Did the change work?

Methods:

- Rapid online testing
- Field experiments
- Evaluation



Session Seven: Behavioural Science and Evaluation

- Contribution to the theory of change
- Contribution to methodological rigour
- A framework for formative evaluation
- The evaluation of the NHS Covid-19 app

Components of a theory of change



Problem statement: identification of the issue or need the program aims to address.



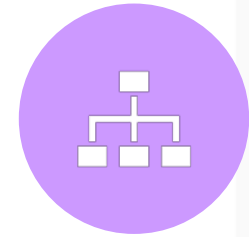
Outcomes: specific changes that the program seeks to achieve, often mapped out as short-term, intermediate, and long-term outcomes.



Interventions: strategies or activities implemented to achieve the outcomes.

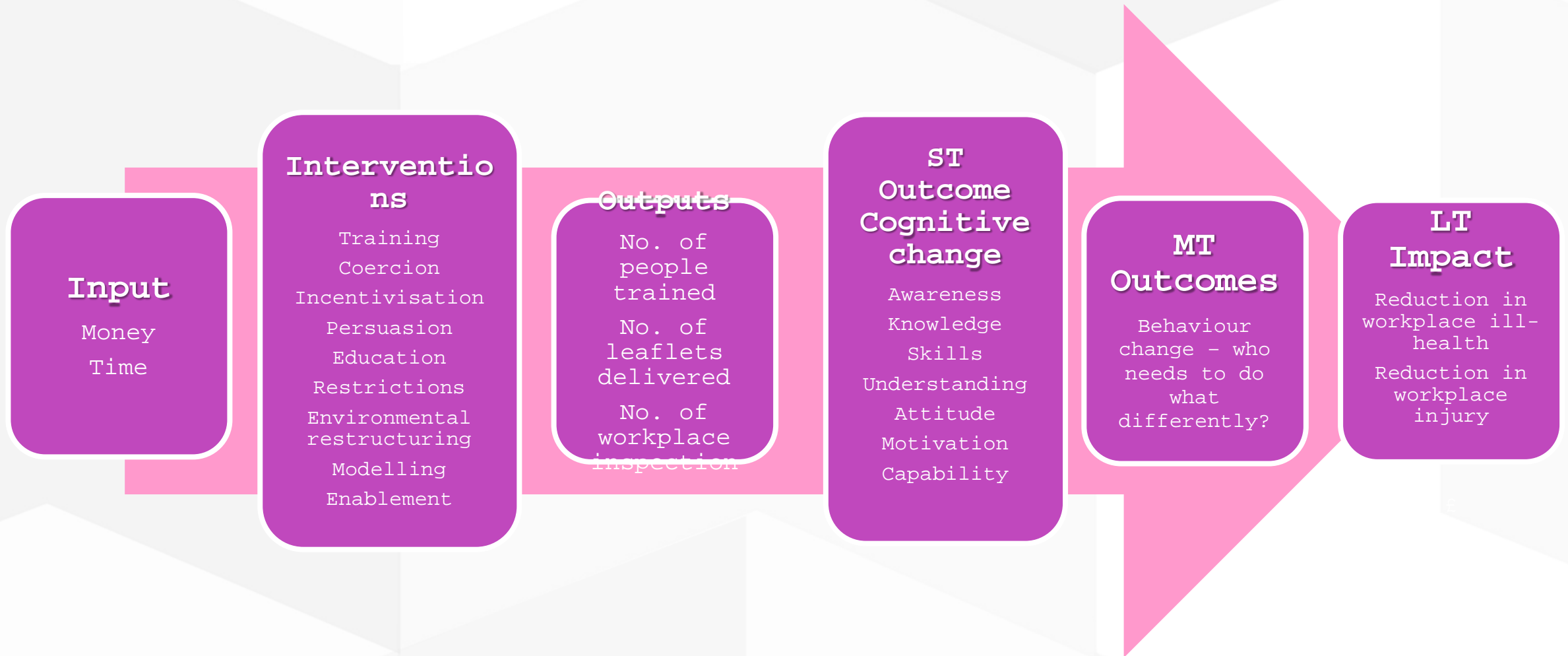


Assumptions : underlying beliefs about how change will occur and the conditions necessary for success.



Context: the broader environment and external factors that might influence the program.

Health and Safety Executive

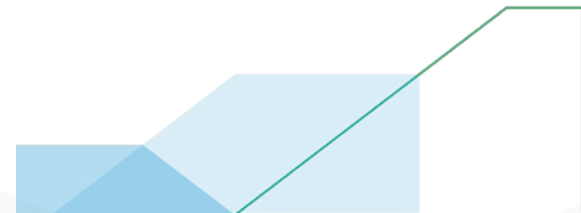


New Methods of Evaluation

- Testing against behavioural theory / models
- In-house testing platforms: can mimic shopping websites, apps etc.; eye-tracking
- Modelling of environmental restructuring
- Bayesian belief networks

The evaluation of the NHS Covid-19 pilots

- Anonymous app usage information
- Online surveys issued to all IoW residents and NHS Volunteers, both NHS COVID-19 app and non-NHS COVID-19 app users
- Multi-lingual telephone surveys in Newham
- Insights were gathered through focus groups and user research.
- In-depth qualitative interviews with app users and non-users and applicable venue managers from all 3 early adopter pilot groups



Capability

- Businesses requested a 10-day lead time moving forward to print QR code posters.
- QR code posters need to be printed in a visible size and placed in a clearly visible location that is accessible to wheelchair users as well.
- Language barriers

Opportunity

Physical:

- Smartphone compatibility
- Phone-related concerns (battery life and vulnerability)
- Ability to self-isolate

Social:

- Privacy concerns
- Feeling that if others weren't doing it, it was pointless

Motivations

- Understanding if you had been at risk
- Access to useful information
- Having the opportunity to identify as an 'early-adopter'
- Supporting a return to 'normal life' by facilitating visiting venues and travelling on public transport
- A sense of civic, public or social responsibility or obligation to help society and protect loved ones

Behavioural insights that were included in app rollout

- Data privacy concerns addressed in public-facing video
- GP involvement was key in promoting app to individual and LAs were crucial intermediary with business [Trusted Messenger]
- Choice default introduced into contract tracing toggle
- Publication of download numbers [Social norms]
- Benefits claims during self-isolation added to the app.
- Making multi-lingual elements more salient.

DISCUSSION

How can you apply behavioural science in your role in the National Lottery?

Any questions or comments?

Do get in touch!

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