The communication of Product Environmental Footprint – Pilot testing of product group specific communication methods.

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Assessment of different communication vehicles for providing Environmental Footprint information funded by the EC – DG ENVIRONMENT

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Changing minds, changing behaviour

- Aristotle's advice on rhetoric

  - Logos – appeal to rationality
  - Ethos – appeal to the communicator's expertise and credibility
  - Pathos – appeal to emotion

- Many public information campaigns on health, and a variety of societal risks rely on logos.
- Present the facts and if that doesn't work get a 'credible expert' to present them
- And many such campaigns deliver disappointing results
- Hence, the interest in behavioural economics and 'nudges'

Road signs to counter child pedestrian accidents:
directed at the rational motorist

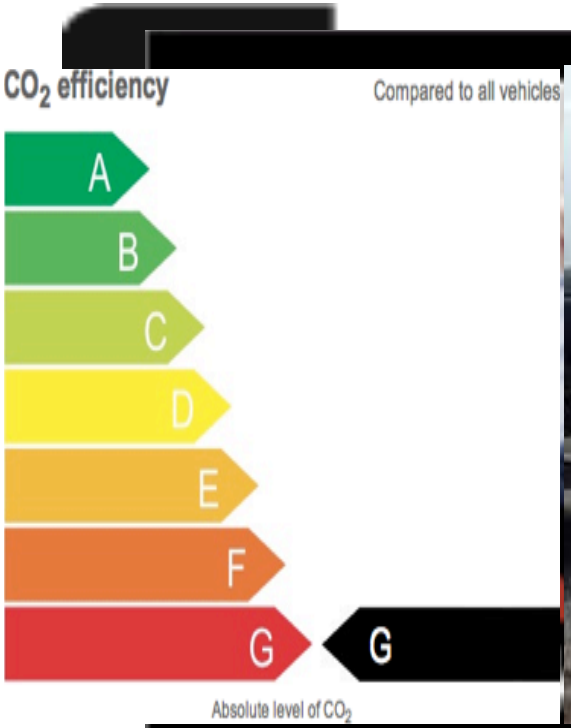
School
Drive carefully

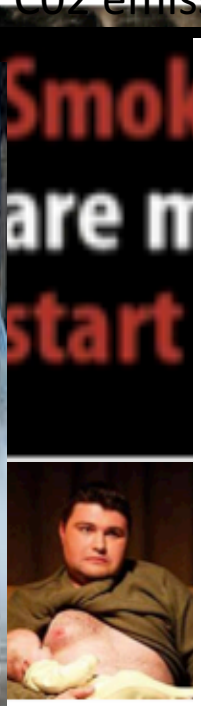
Pathos (here emotional arousal) nudges drivers to think.

photo: David Lally

Without being an expert …
which of the following two do you think could have the highest impact on consumers?

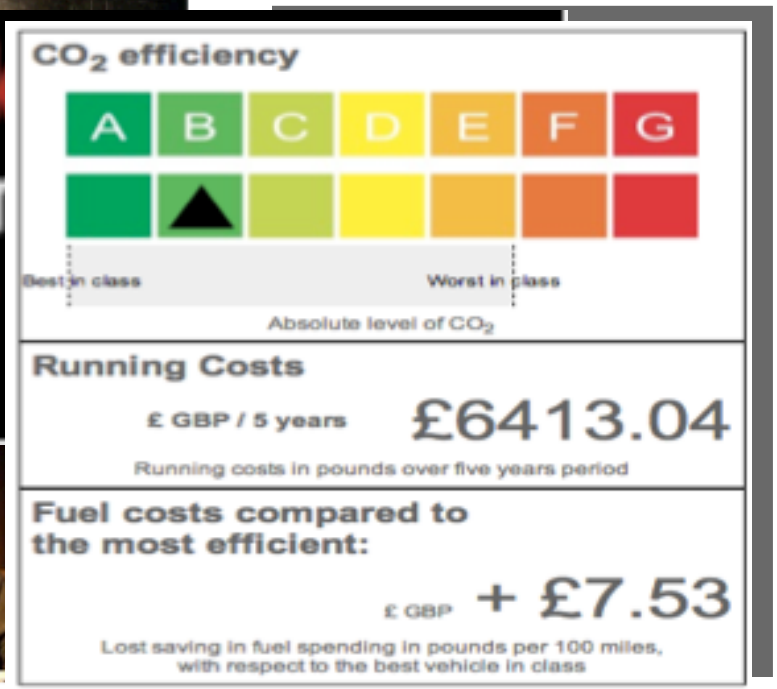
Study on Tobacco labelling and packaging
Study on Car labels C02 emissions





start smoking

Gambling is addictive
If you can't stop call toll free helpline 800-000-000



What is behavioural science?

- The science of choice: what we decide, how we decide and how can decisions be changed.

- In other words, understanding, predicting and changing behaviour.

  - Social psychologists describe behaviour
  - Cognitive neuroscientists focus on mechanisms
  - Economists seek to predict behaviour

Characteristics of *homo economicus*

- To boldly go rationally with Mr Spock who:
- Has **unlimited cognitive capacity**
  - (e.g., memory, computational ability, attenti
- Has **effortless cognition**
  - (i.e., can perform any cognitive operation wi effort)
- Has **stable and context-independent preferences** and **tastes**
- Has a **perfect knowledge** of his/her future **preferences and tastes**
  - (including future emotional reactions)
- Has **unlimited willpower and self-control**
- Only goal is to take the courses of actions that **maximise "utility"**
  - (i.e., that satisfy best his/her present and future preferences)
- Meticulously **thinks about all possible consequences** of decisions and actions
  - (including whether to think about them)

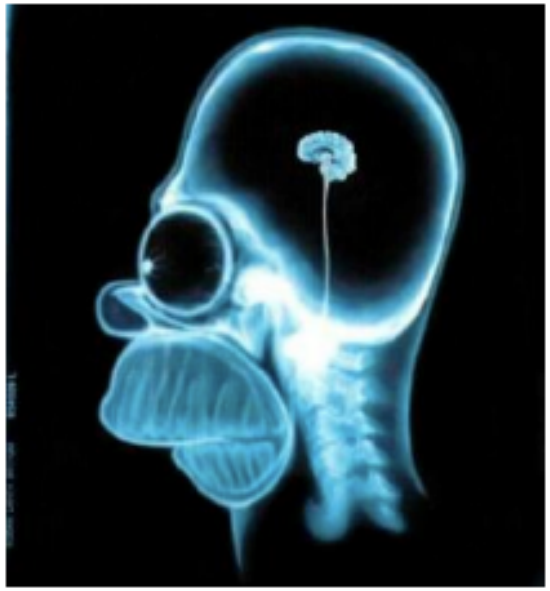
Realistic?

- There are numerous examples where humans do not act like *homo economics*
  - overeating, not saving, overspending on a credit card, etc.
  - According to neoclassical economics, such people don't exist
  - The world would be a very different place if we were all like *homo economicus*

- Kahneman and Tversky uncovered a series of systematic shortcuts or heuristics that people use to make judgments and decisions

- **Behavioural economics** brings insights from psychology into economics to highlight fallibilities in axiomatic assumptions
  - Mainly through experiments and field studies, to construct improved models of economic behaviour

Homo economicus vs. Homer economicus



Thinking fast and slow

By David Plunkert in NYT 27/11/2011

System 1 (fast)	System 2 (slow)
Quick, automatic, no effort, no sense of voluntary control *Continuous construal of what is going on at any instant*	*Slow, effortful, attention to mental activities requiring it* *Good at cost/benefit analysis, but lazy and saddled by decision paralysis (cognitive overload)*
Characteristics •Quick (Reflexive) •Heuristic based •Use shortcuts	**Characteristics** •Deliberate (Reflective) •Conscious •Rule-based
When it plays •When speed is critical •Avoid decision paralysis •When System 2 is lazy or not activated (not worth, no energy, lack of awareness)	**When it plays** •May take over when System 1 cannot process data •May correct/override System 1 if effort shows that intuition or impulse is wrong

From a Marketing perspective

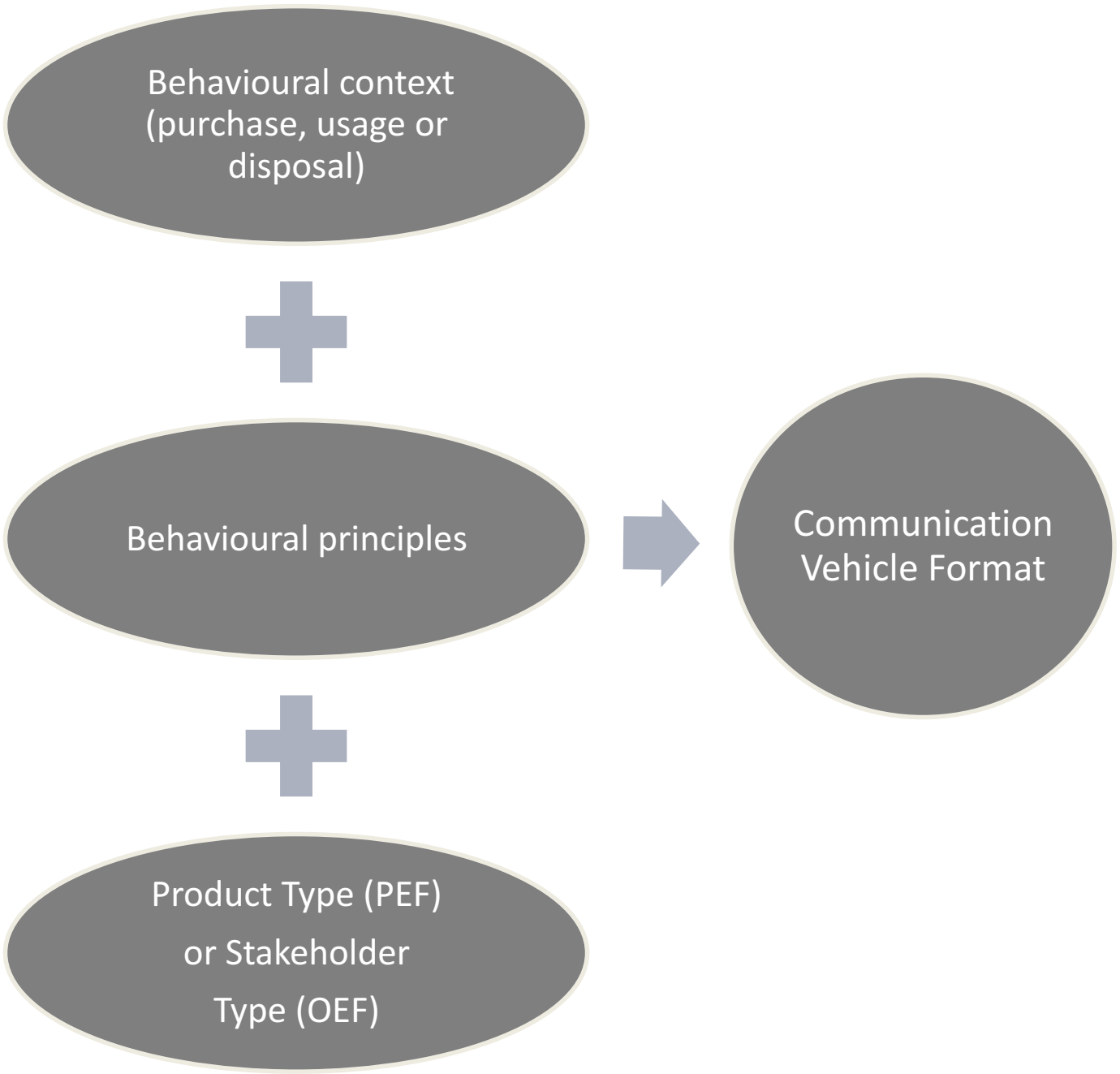
Nudging

Understanding and changing people's behaviour, by analysing, improving, designing, and offering free choices for people, so that their decisions are more likely to produce helpful outcomes for those people and society generally.

System 1 is highly adaptive enabling us to navigate many situations almost without thinking.

But, at times it leads us astray, or we are led astray – **BIASES**- by others who are well aware of the **HEURISTICS** and use them to great effect.

Some practical advice to the pilots


Behavioural context (purchase, usage or disposal)
Behavioural principles
Product Type (PEF) or Stakeholder Type (OEF)
Communication Vehicle Format

PEF and OEF

- **Product Type 1: Products with low cognitive commitment or based on habits:** intermediate, end-use products, bought routinely
  - *e.g., detergents, beer, coffee, dairy, meat, pasta, olive oil*

- **Product Type 2: Products with high cognitive commitment:** intermediate, end-use products, expensive, not frequently bought
  - *e.g., decorative paints, washing machines, cars*

- **Stakeholder Type 1: Organizational Environmental Footprint Information for investors, NGOs and public administrators:** Consider the environmental data of organisations to make investment decisions, create sustainability rankings.
  - *e.g., Carbon Disclosure Project, compliance with the recently adopted EU directive on mandatory disclosure of non-financial information, credit agencies such as S&P, financial institutions that focus on sustainable lending*

- **Stakeholder Type 2: Organizational Environmental Footprint Information for NGOs and consumers**: Act based on the image of organizations, Engaged in CSR
  - *e.g., NGOs, consumer or environmental organisations, and consumers*

Systematic Biases

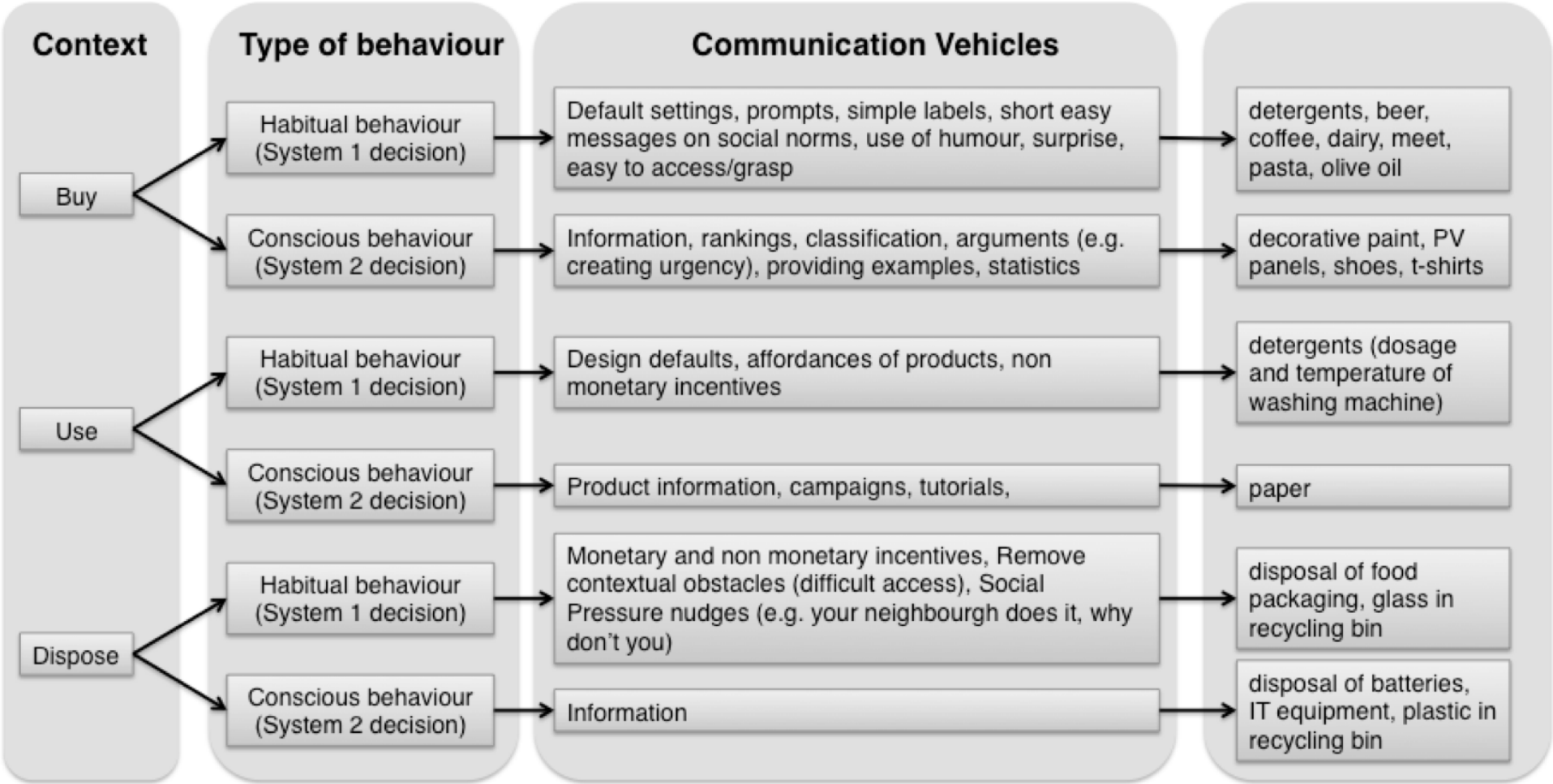
- **Loss Aversion:** people tend to be risk seeking when a loss is involved (or the frame is a loss) and risk averse when a gain is involved.
- **Discounting too much the future (hyperbolic discounting):** we place more weight on the short-term than on the long-term effects of our decisions.
- **Difficulty to evaluate numerical information**. suggests that decision makers are often quite poor at using numeric information in decisions.
- **Difficulty to compare**. The use of different metrics and classification systems can induce a consumer in error.
- **Hard to read hard to do**. It has been demonstrated that, by simply altering the fonts in which experimental tasks were described, something appearing more difficult to read leads individual to anticipate that the tasks will be hard to perform even when this is patently not the case

Obvious nudges

- Meaningful and easy to understand scales;
- Limit additional information to the strictly needed to avoid mixing scales and producing a confounding effect;
- Use large fonts and wherever possible substitute text with very clearly symbolic way of signalling.

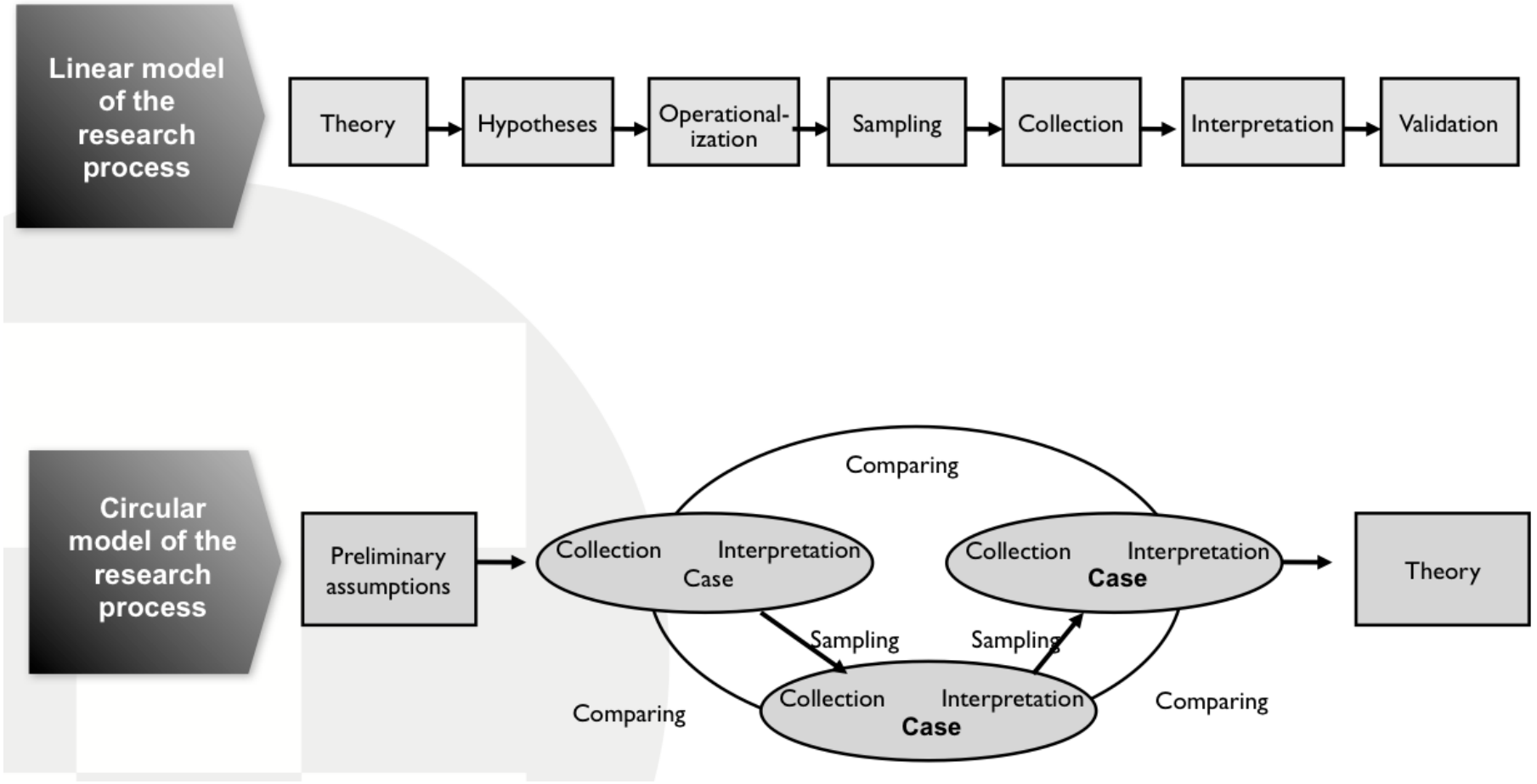
Target group and context of behaviour (situation) determines:

- which of the communication vehicles within the selected group we advise to choose
- the content of the communication vehicles (e.g. framing of message)



Methodology:
How behavioural insights can be tested

Research process

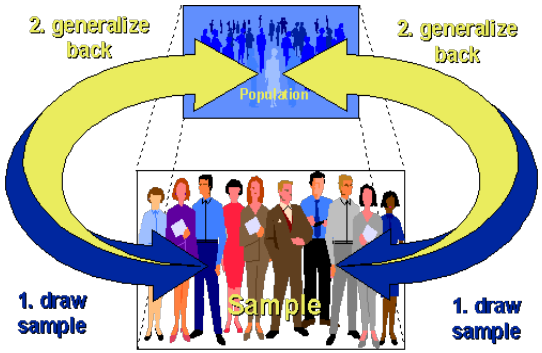


Research design validity: three dimensions

- **Internal validity :** extent to which a causal conclusion is warranted

- **Ecological validity :** the extent to which the settings are realistic with respect to the real-word situations that the research aims to examine

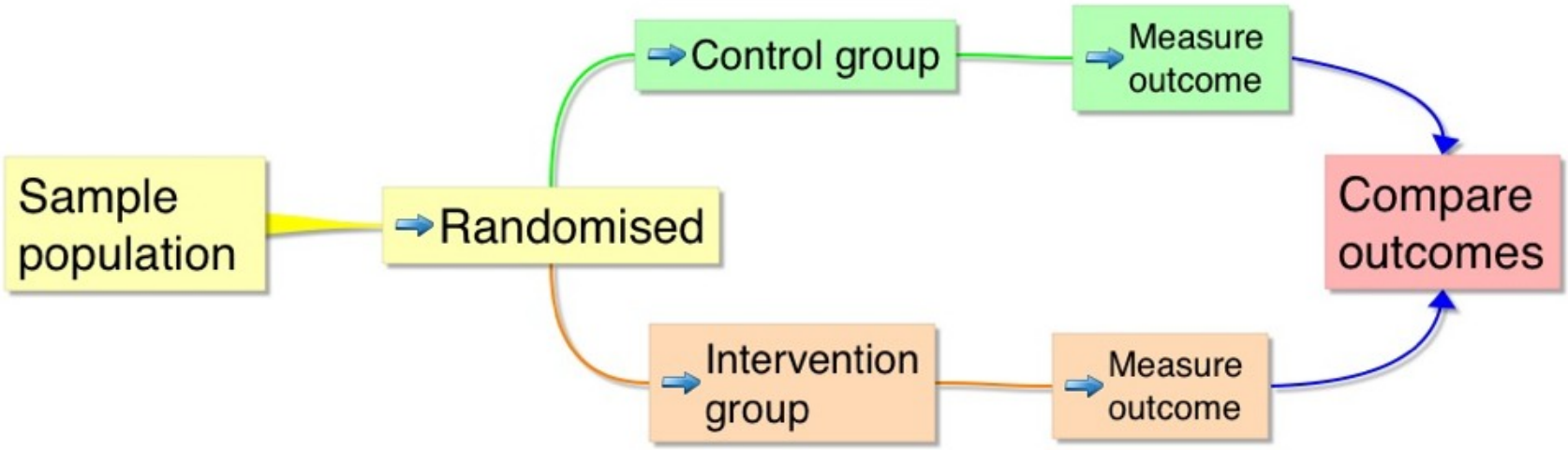
- **External validity:** extent to which the results obtained can be generalised to other populations and/or situations



Qualitative vs. Quantitative

	Qualitative	Quantitative
Objective	understanding the life world and what lies behind surface responses	measuring attitudes, opinions and behaviours.
Selection of Respondents	purposive, exhaustive of meanings (natural groups)	statistical sampling frame (taxonomic groups)
Research Questions	evolve with data collection	formulated before data collection
Nature of the interview	open ended dialogue with probes	closed questions standardised stimuli
Data	text	numbers
Analysis	interpretation	statistics
Report	thick description	percentages etc.

Golden standard



Counterfactual causation

Mr. Smith

Takes

= Y_1 factual outcome

Mr. Smith

Had he not taken

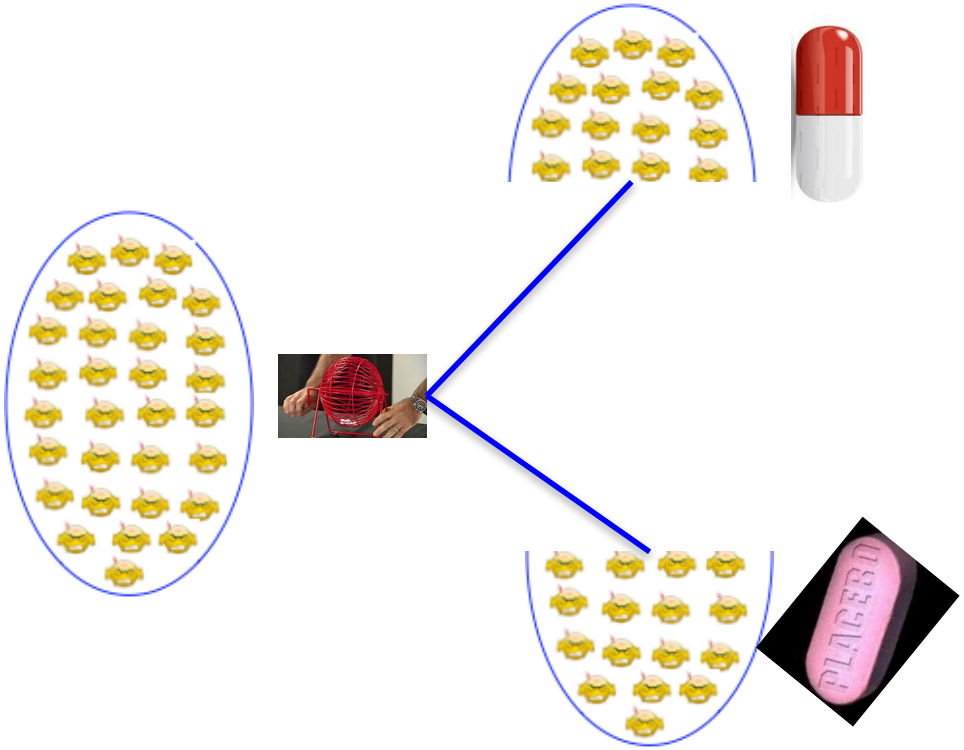
Y_0 counterfactual outcome

MINUS

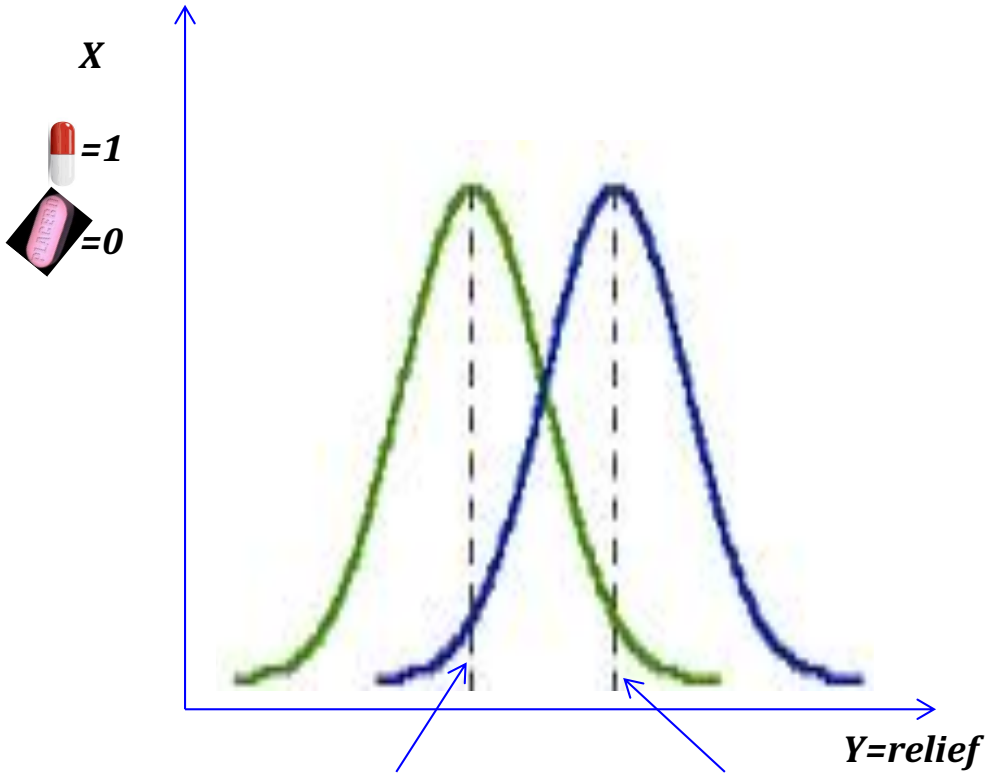
= causal effect of

BUT

IS NOT OBERVABLE



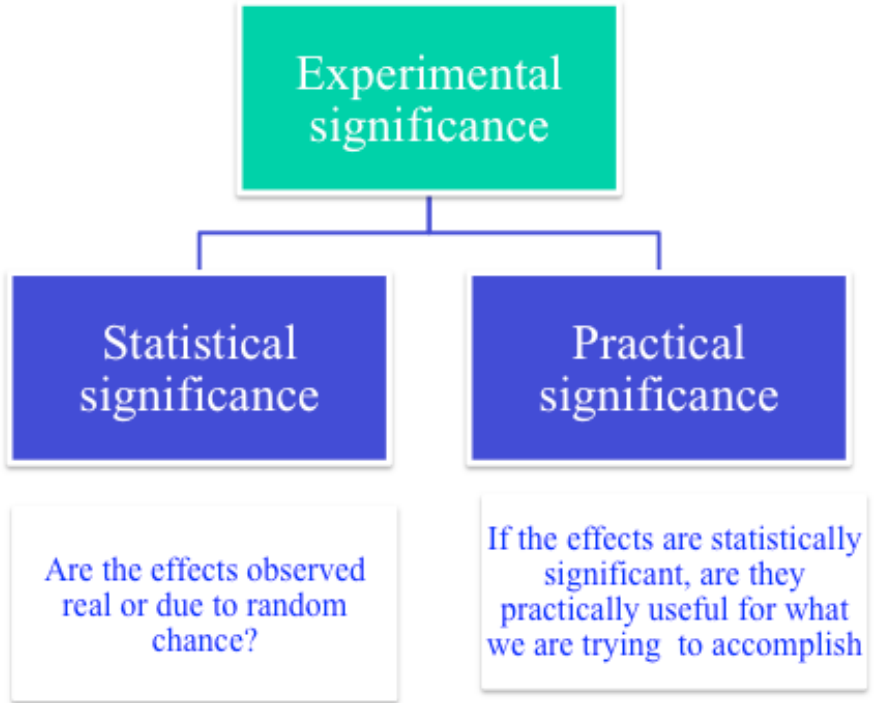
Treatment effect: a difference in mean



If CONTROL GROUP MEAN TREATMENT GROUP MEAN

Then

MINUS = causal effect of



Typology of experiments: lab-based, online and field

Field experiments

- Field experiments are done in the everyday (i.e. real life) environment of the participants.

- The experimenter still manipulates the independent variable, but in a real-life setting (so cannot really control extraneous variables).

Advantages	Disadvantages
Behavior in a field experiment is more likely to reflect real life because of its natural setting, i.e., higher ecological validity than a lab experiment.	There is less control over extraneous variables that might bias the results.
There is less likelihood of demand characteristics affecting the results, as participants may not know they are being studied. This occurs when the study is covert.	This makes it difficult for another researcher to replicate the study in exactly the same way.

Lab-based experiments

- Well-controlled environment
  - The researcher decides where the experiment will take place, at what time, with which participants, in what circumstances and using a standardized procedure.
- Participants are randomly allocated to each independent variable group.

Advantages	Disadvantages
Standardised procedure allows for easy replication (i.e. copy) of the experiment.	The artificiality of the setting may produce unnatural behavior that does not reflect real life, i.e. low ecological validity. This means it would not be possible to generalize the findings to a real-life setting.
They allow for precise control of extraneous and independent variables. This allows a cause and effect relationship to be established.	Demand characteristics or experimenter effects may bias the results and become confounding variables.

Online experiments

- They may be used:
  - to validate results from field research and from laboratory experiment,
  - for new investigations that could only be feasibly accomplished in this medium.

- Because many laboratory experiments are conducted on computers anyway, nothing is lost when an experiment is designed Web-ready: It can always also be used in the laboratory.
  - In distributed Web experimenting, local collaborators recruit and assist participants who all log onto the same Internet-based experiment (Reips, 1999).

Advantages	Disadvantages
Speed, low cost, external validity, experimenting around the clock, a high degree of automation of the experiment (low maintenance, limited experimenter effects), and a wider sample are reasons why the Internet may be the setting of choice for an experiment. Wider geographical variations in participants	Generally, experimental control may be an issue in some experimental designs. A further basic limitation lies in web experiments' dependency on computers and networks having psychological, technical, and methodological implications.
Wider geographical variations in participants	Psychologically, participants at computers will likely be subject to self-actualization and other influences in computer-mediated communication.

Lesson learned


Please keep this toilet clean for the next user.
Thank you

Thank you very much

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