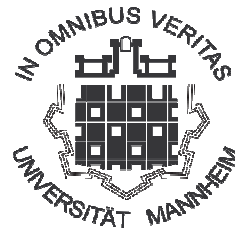


# Applying behavioural insights to change energy consumption

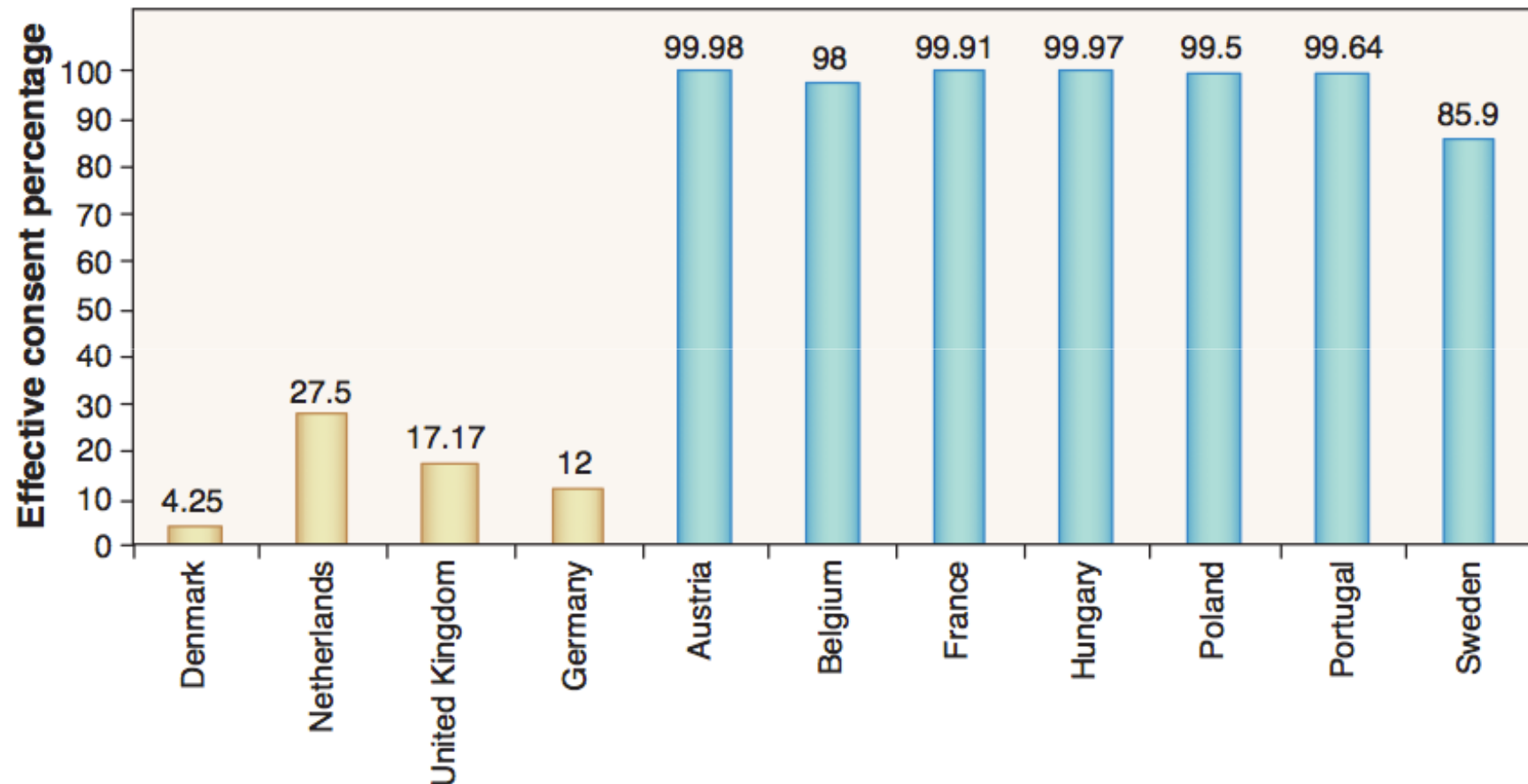
Florian Kutzner & Laura de Molière

UNIVERSITÄT  
HEIDELBERG  
Zukunft. Seit 1386.



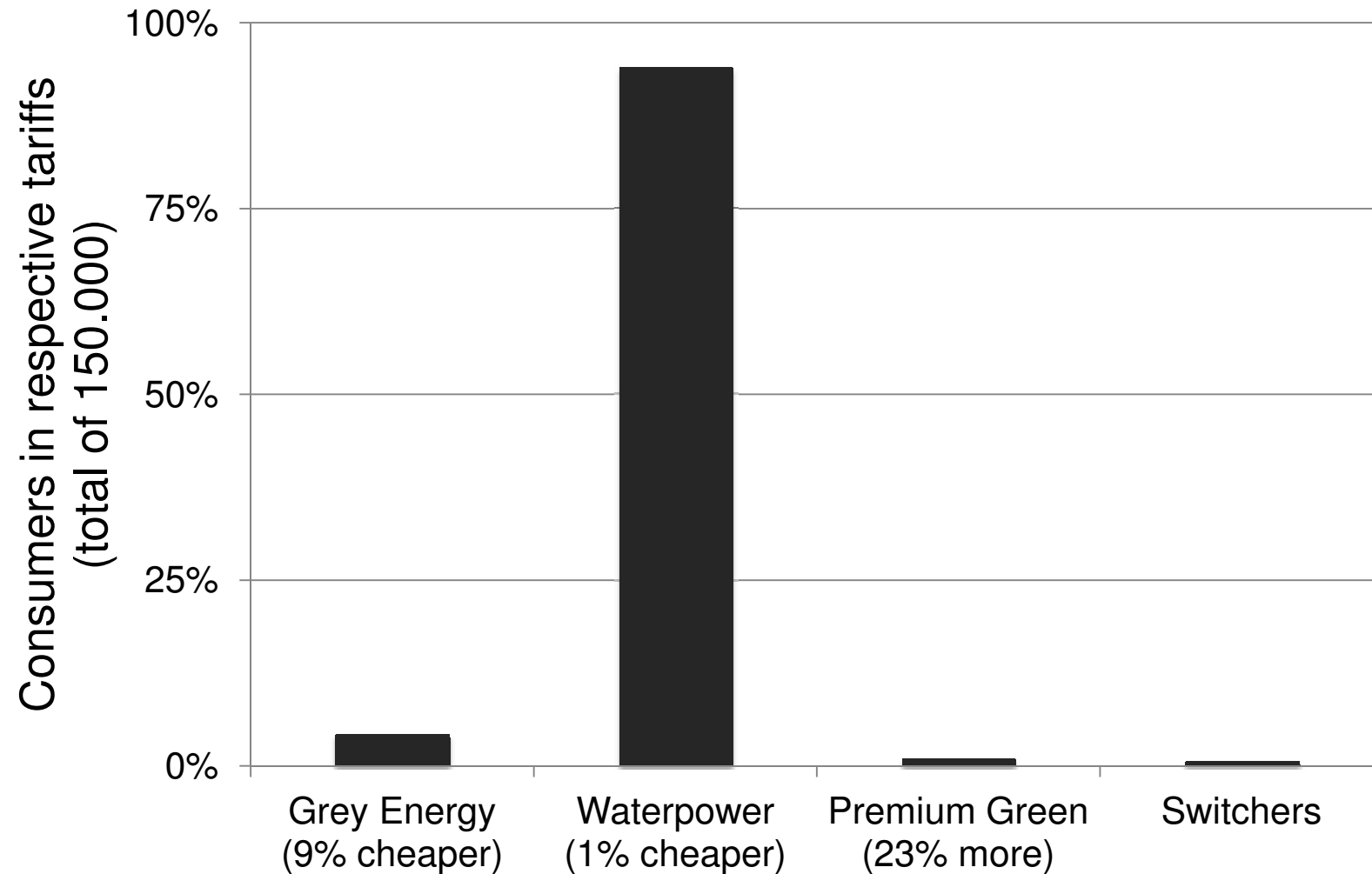
Bonn, 12<sup>th</sup> December 2013

## Defaults in organ donation

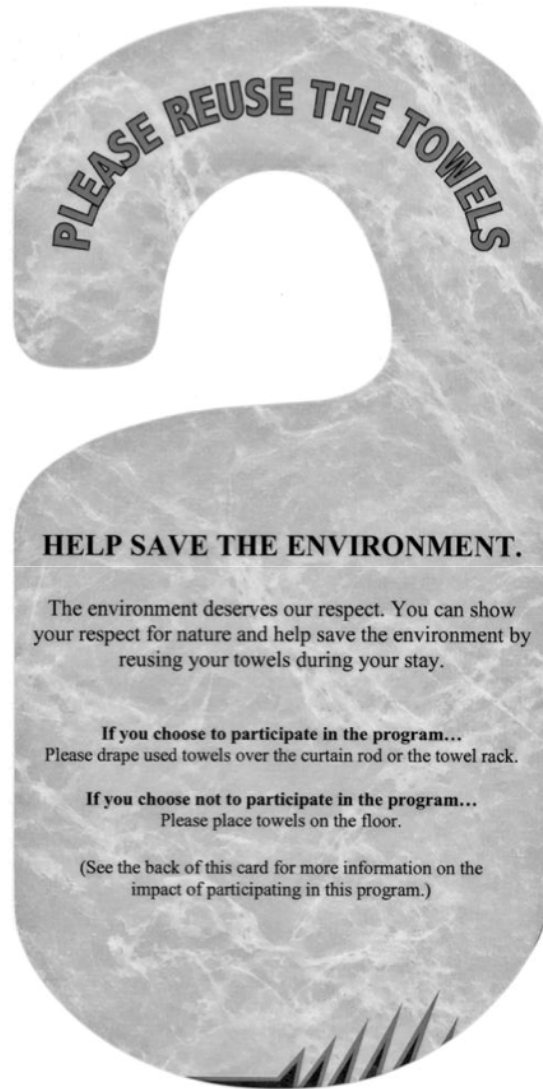


Source: Johnson & Goldstein (2003) *Science*

Make it easy!



Source: Pichert, & Katsikopoulos (2008) Journal of Environmental Psychology  
Bonn, 12<sup>th</sup> December 2013



## 1. HELP SAVE THE ENVIRONMENT

*or the above plus...*

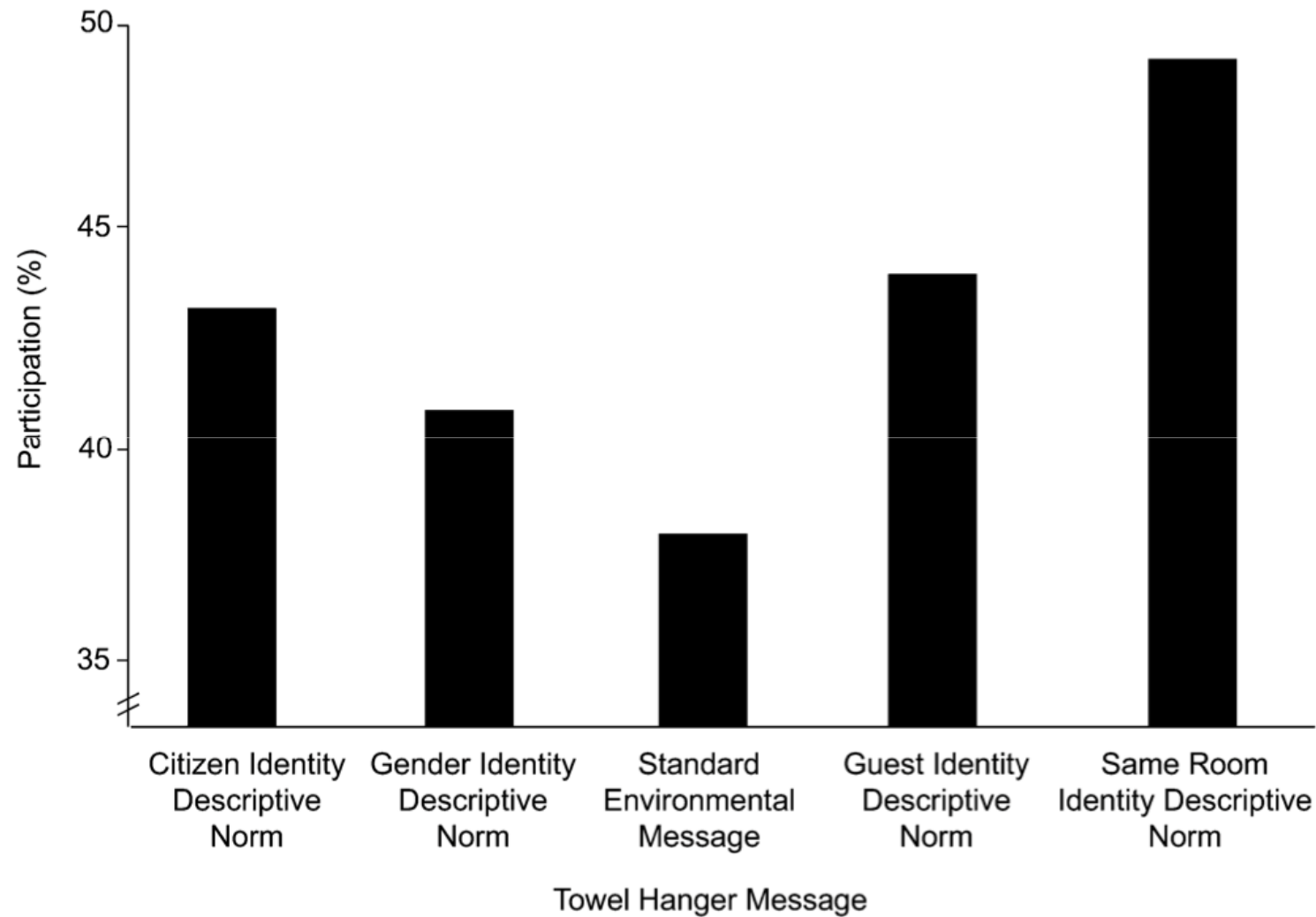
## JOIN YOUR FELLOW GUESTS IN HELPING TO SAVE THE ENVIRONMENT

2. ...75% of guests nationwide participated
3. ...76% of the women and 74% of the men participated
4. ...75% of the guests in this hotel participated
5. ...75% of guests who stayed in this room

Source: Goldstein, **Cialdini**, & Griskevicius (2008) Journal of Consumer

Bonn, 12<sup>th</sup> December 2013  
Research

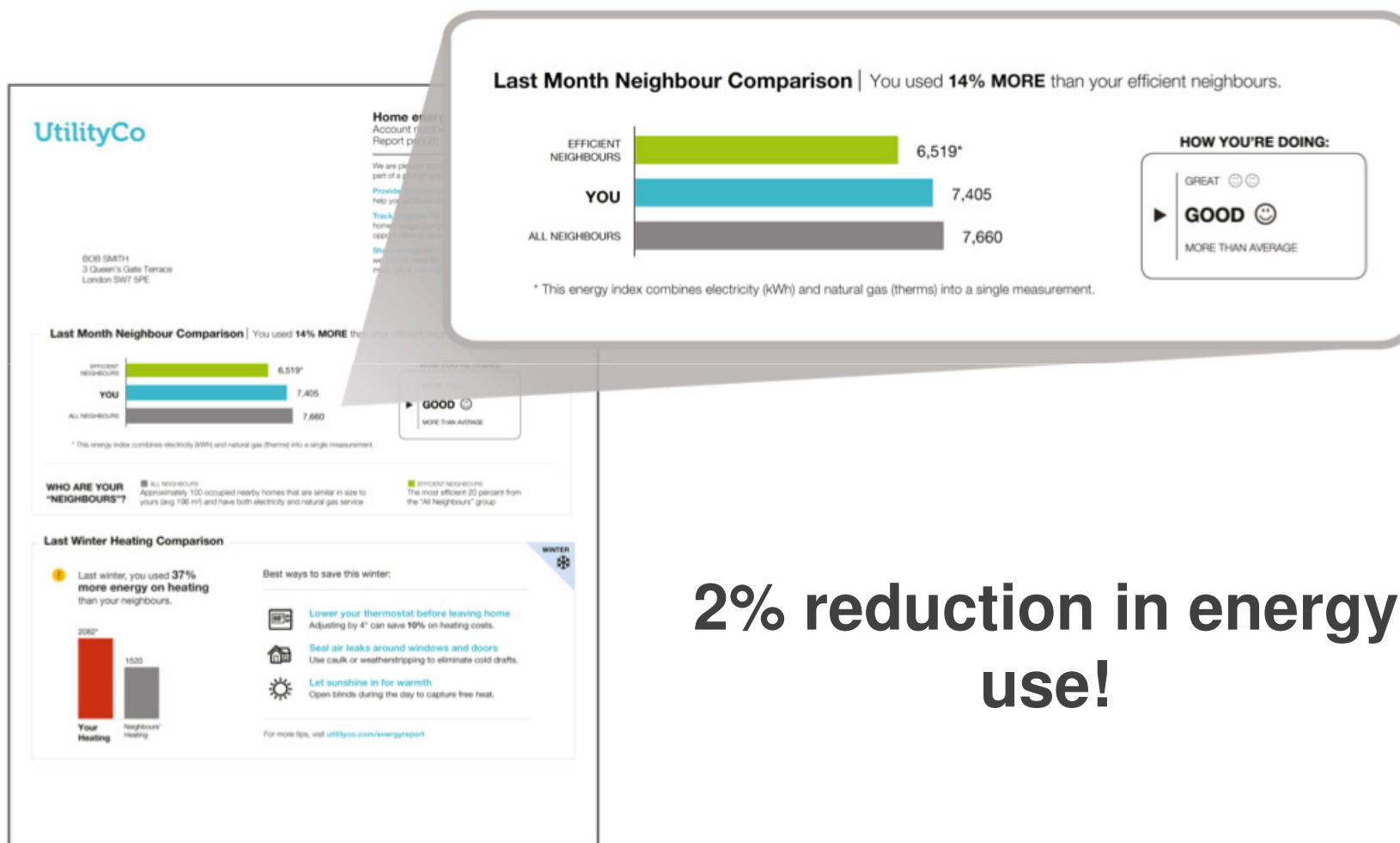
Make it social!



Source: Goldstein, **Cialdini**, & Griskevicius (2008) Journal of Consumer Research  
Bonn, 12<sup>th</sup> December 2013

Make it social!

## “Enhanced Billing”

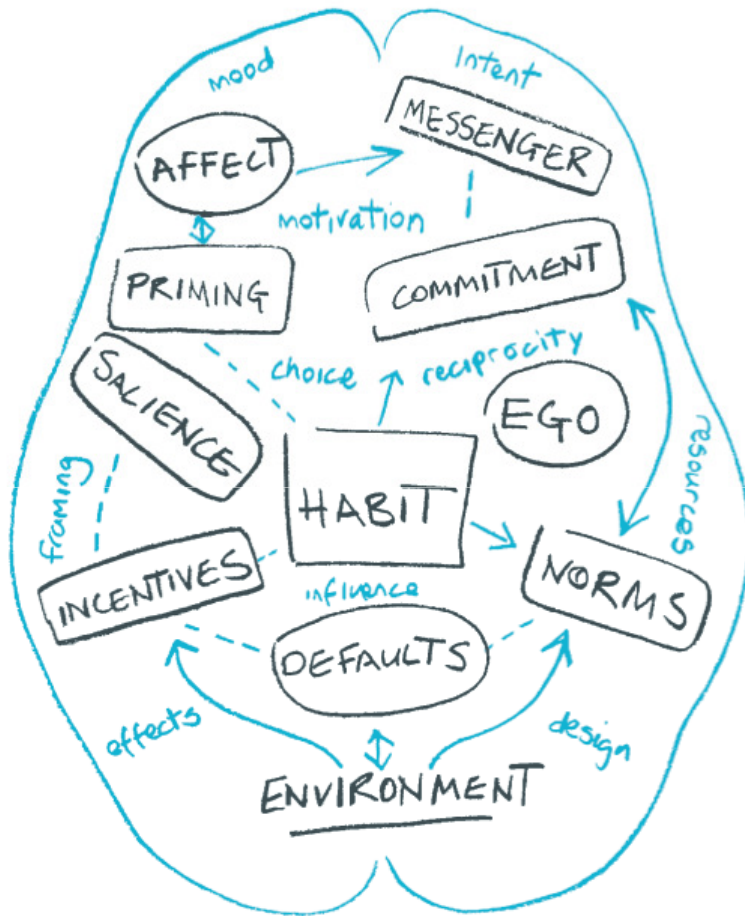


2% reduction in energy use!

Source: Allcott (2011) Journal of Public Economic

Bonn, 12<sup>th</sup> December 2013

# Behavioural Insights informed by Psychology



Easy

Social

Timely

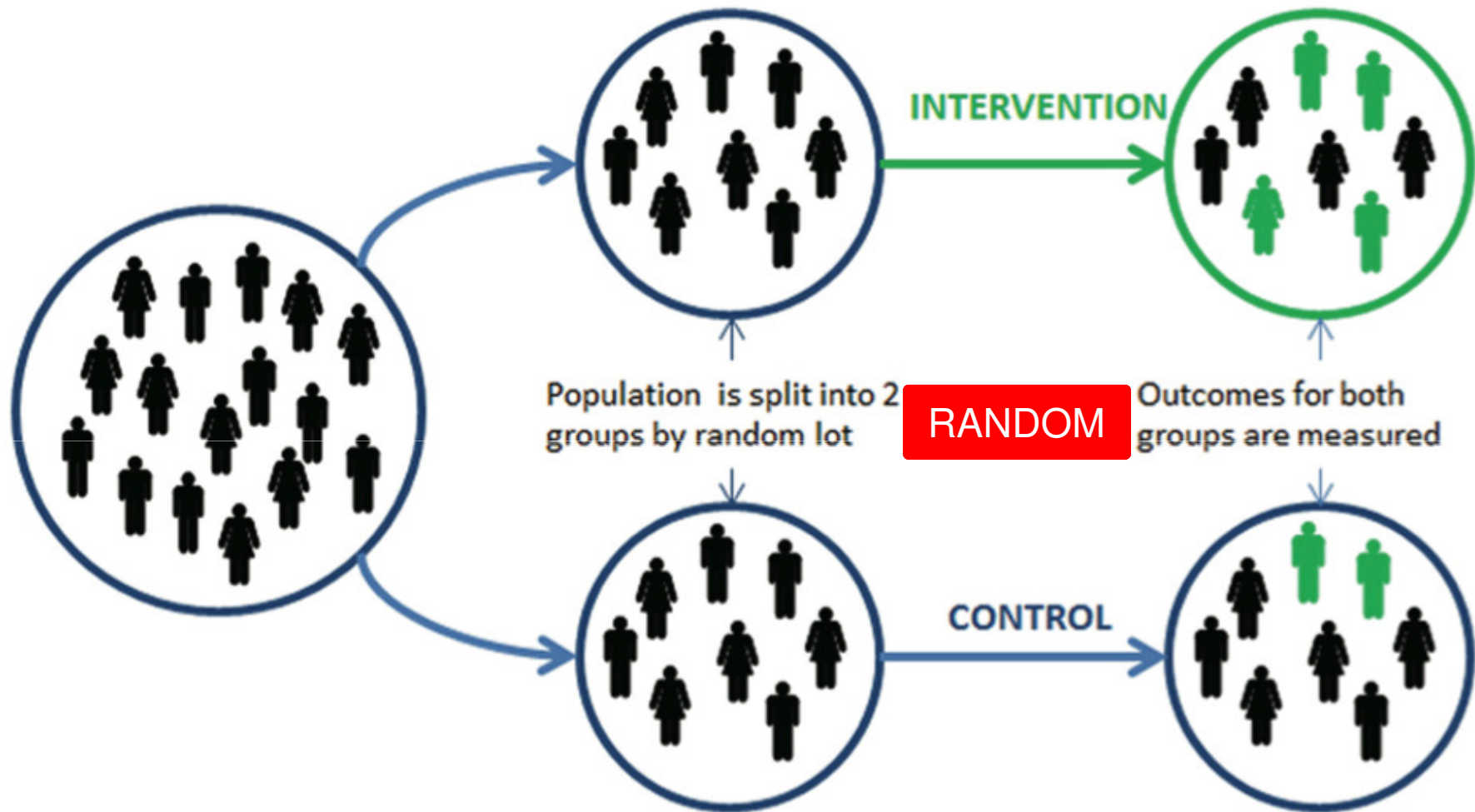
Attractive

Source: Mindspace (2012) Cabinet Office

Source: Owain Service (2013)

Brussels  
Bonn, 12<sup>th</sup> December 2013

# Randomized Controlled Trials (RCTs)

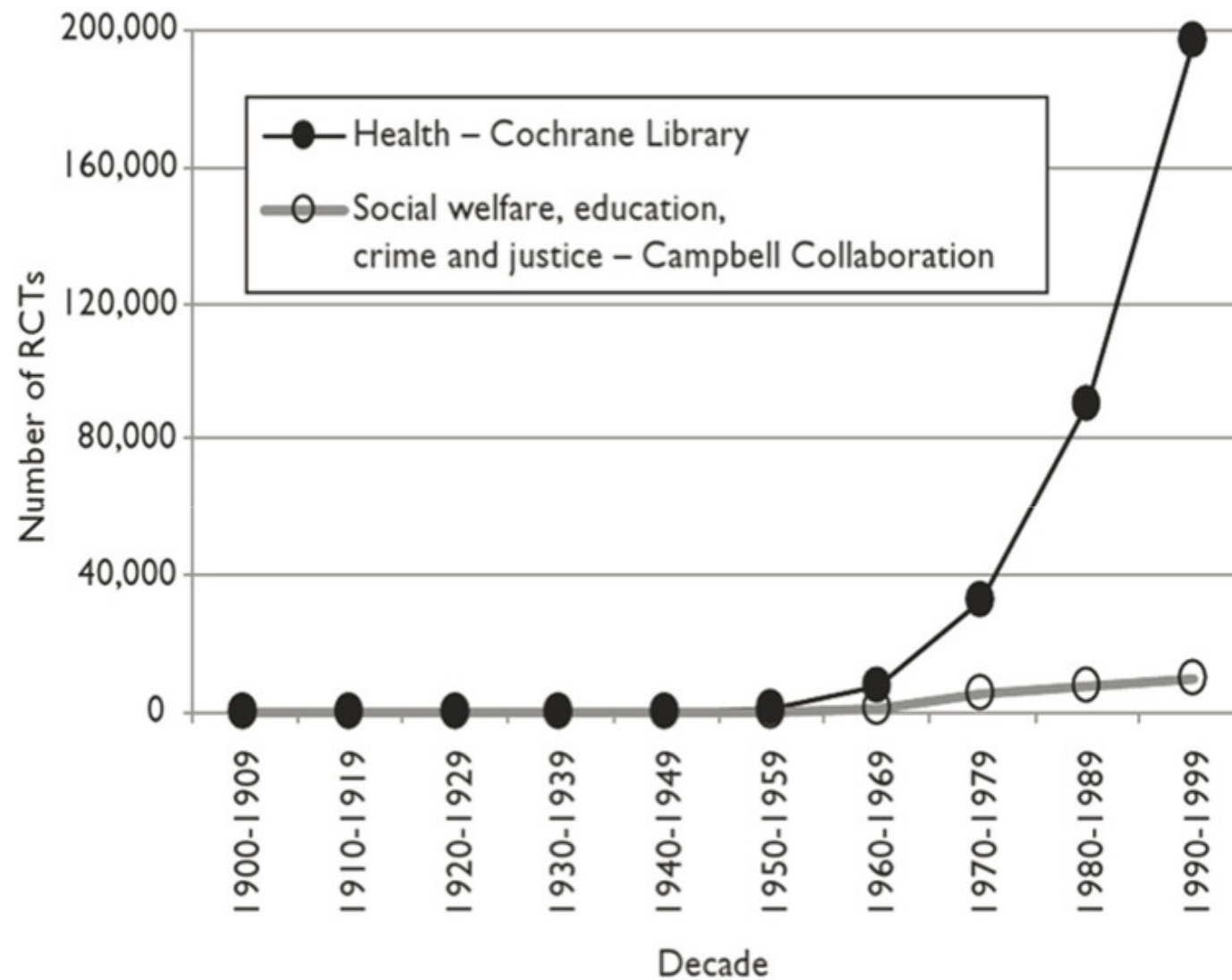


Source: Test, learn, adapt, 2012, Cabinet Office

Bonn, 12<sup>th</sup> December 2013



# Randomized Controlled Trials (RCTs)

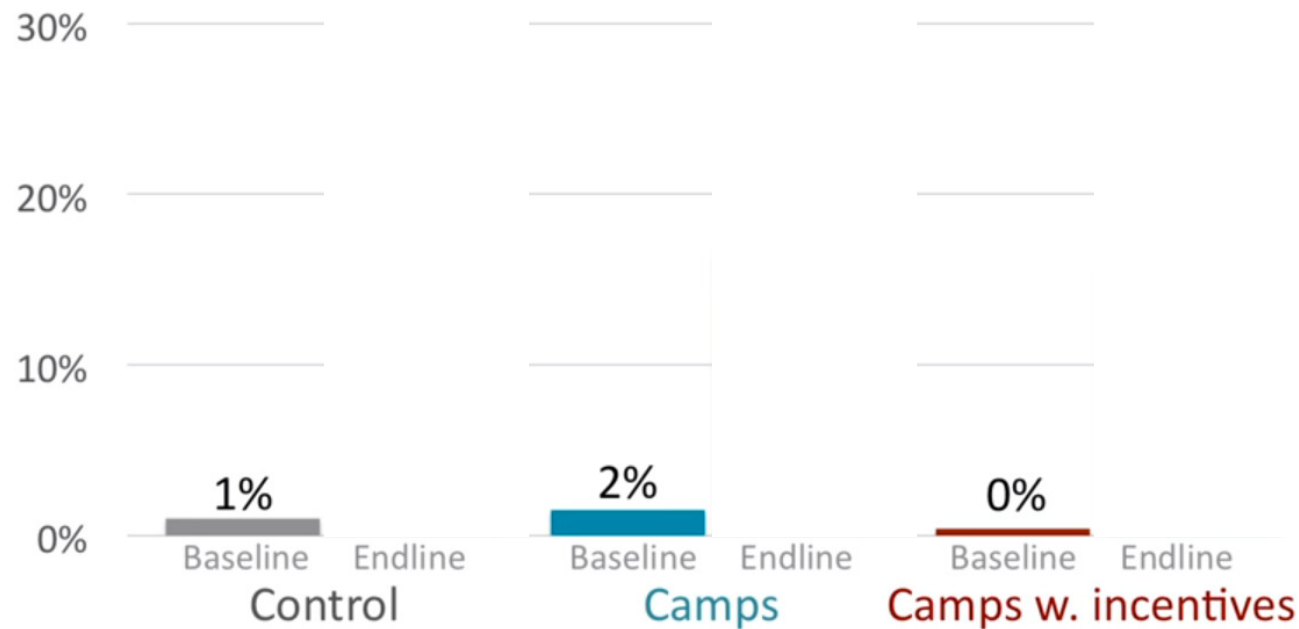


Source: Test, learn, adapt, 2012, Cabinet Office

# Making it social and timely: Immunization Udaipur, Rajasthan

- Camps
- Camps with incentives
- Comparison

## Fully immunized children

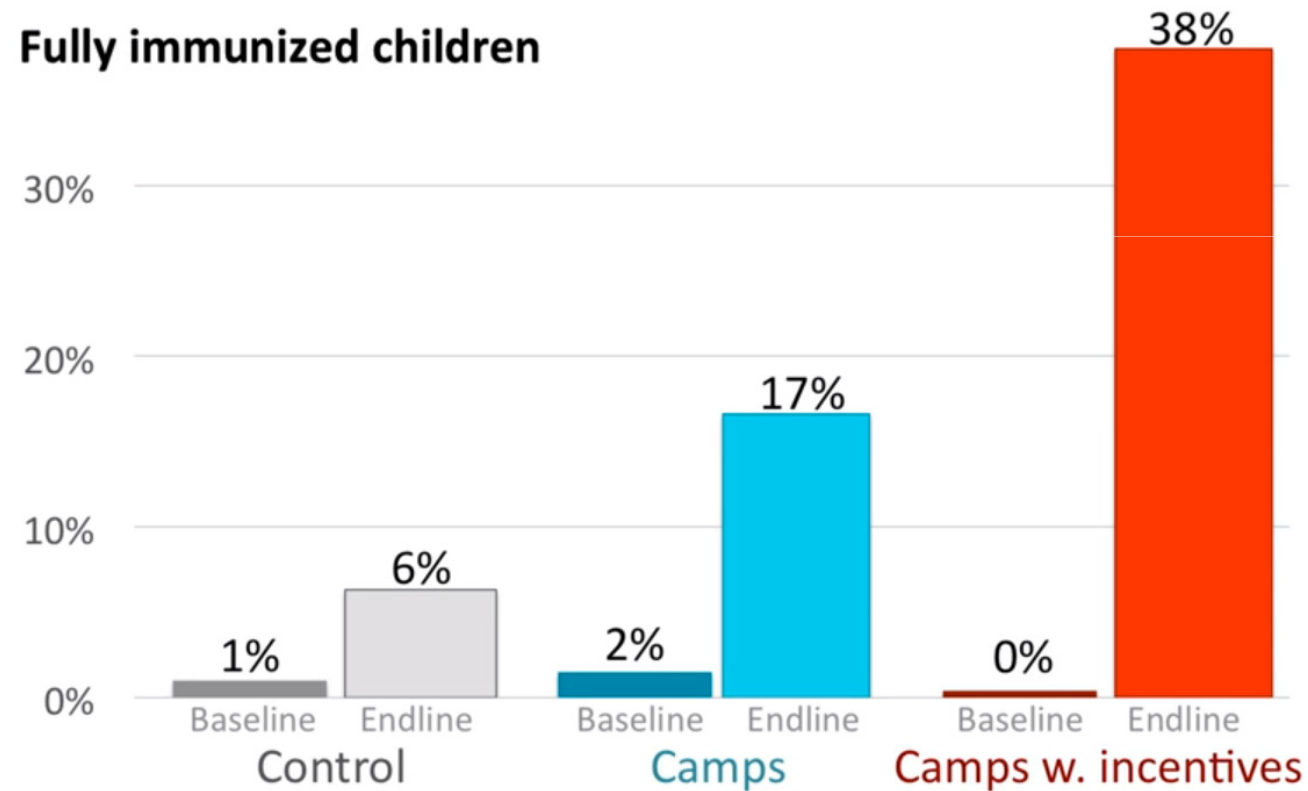


Source: Banerjee, Duflo, Glennerster, & Kothari (2010) *BMJ: British Medical Journal*

Bonn, 12<sup>th</sup> December 2013

## Making it social and timely: Immunization Udaipur, Rajasthan

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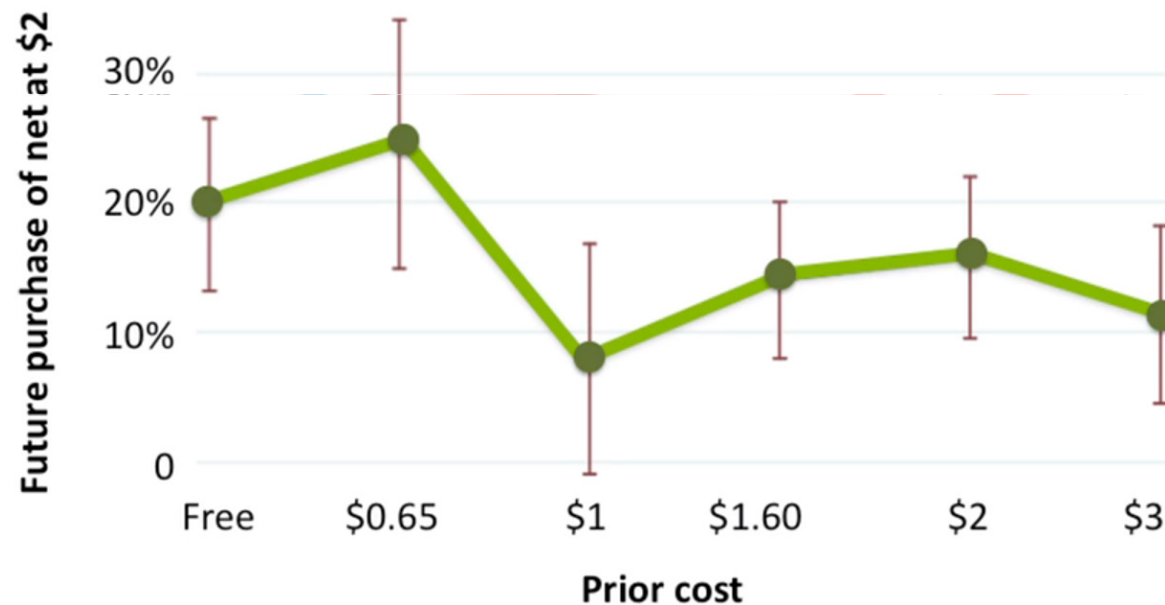


Source: Banerjee, Duflo, Glennerster, & Kothari (2010) *BMJ: British Medical Journal*

Bonn, 12<sup>th</sup> December 2013

## Making it attractive: Bed nets in Busia, Kenya

Do free nets discourage  
future purchases?

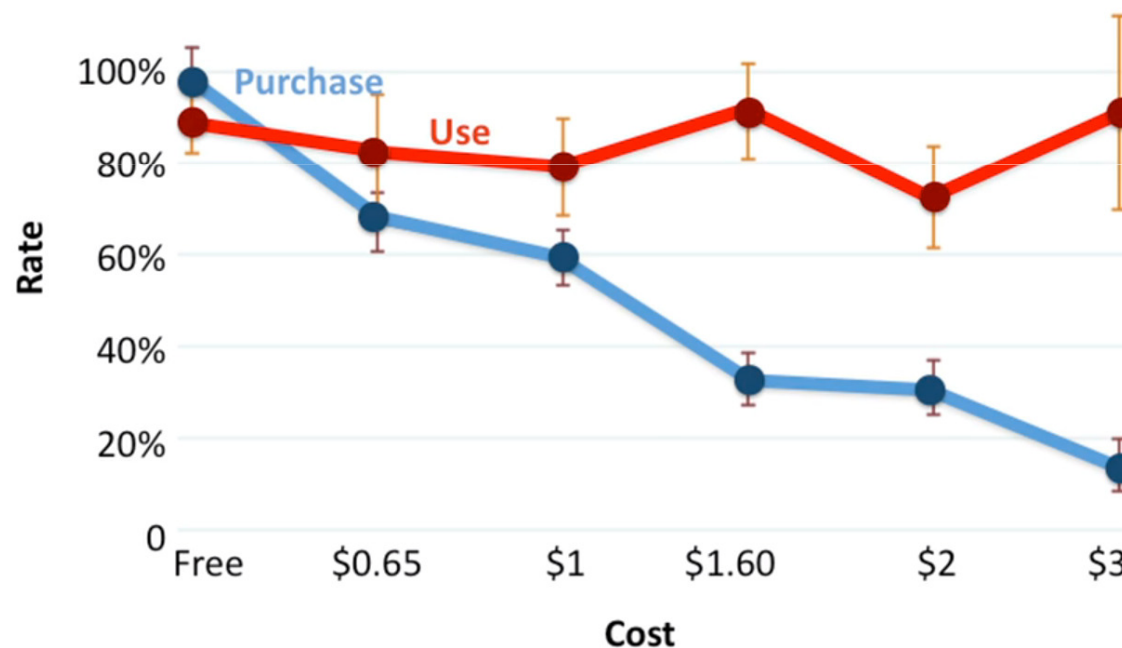


Source: Dupas (2010) National Bureau of Economic Research

Bonn, 12<sup>th</sup> December 2013

## Making it attractive: Bed nets in Busia, Kenya

When people get bednets  
for free, will they **use** it?



Source: Dupas (2010) National Bureau of Economic Research

Bonn, 12<sup>th</sup> December 2013

## Making it attractive: Bed nets in Busia, Kenya

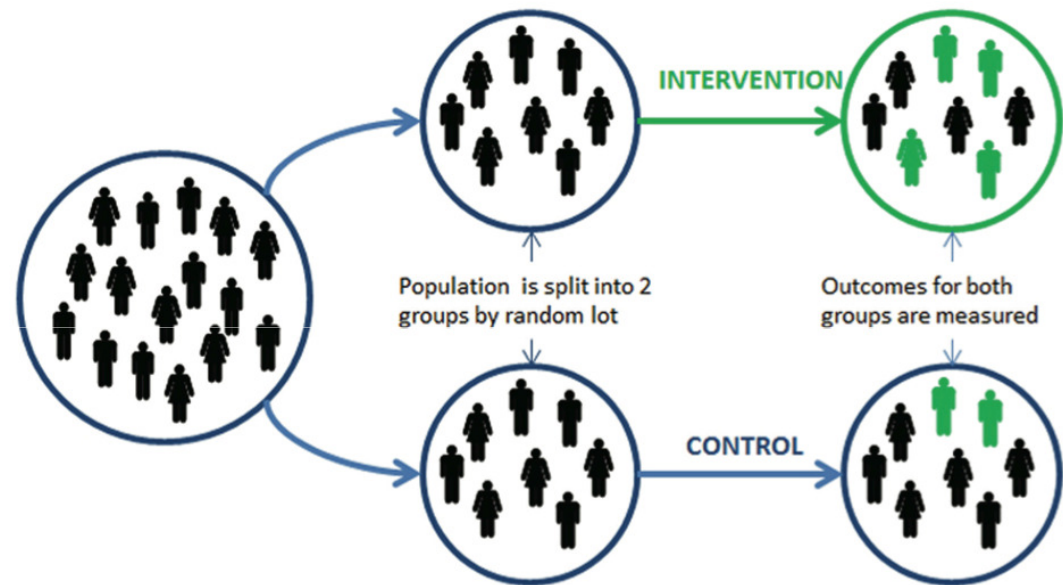
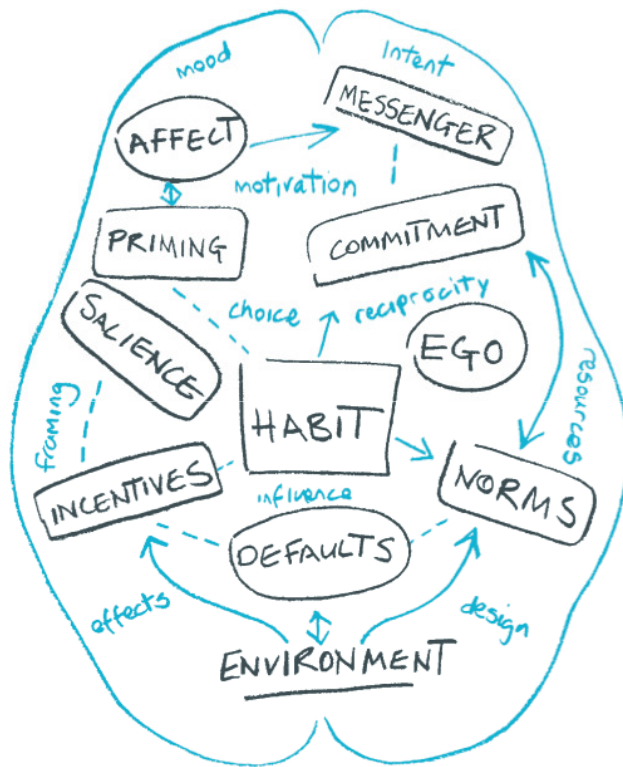
If people must pay for bednets,  
will they **purchase** them?



Source: Dupas (2010) National Bureau of Economic Research

Bonn, 12<sup>th</sup> December 2013

# Consultancy for Evidence Based Policy Design



## Example: Indoor Air Pollution (IAP)

- Individual Level (World Health Report):
  - Acute respiratory infection accounts for up to 20% of child mortality
    - **IAP thought to cause 1/3<sup>rd</sup> of cases**
- Global Level
  - Important contributor to climate change (Bond et al. 2004, Ramanathan & Carmichael, 2008)



## Example: Indoor Air Pollution (IAP)

- Low emission cook stoves marketed at low prices (US \$0-20)
- Successfully reduce fuel consumption and decrease respiratory infections (Bench & Peters, 2012)



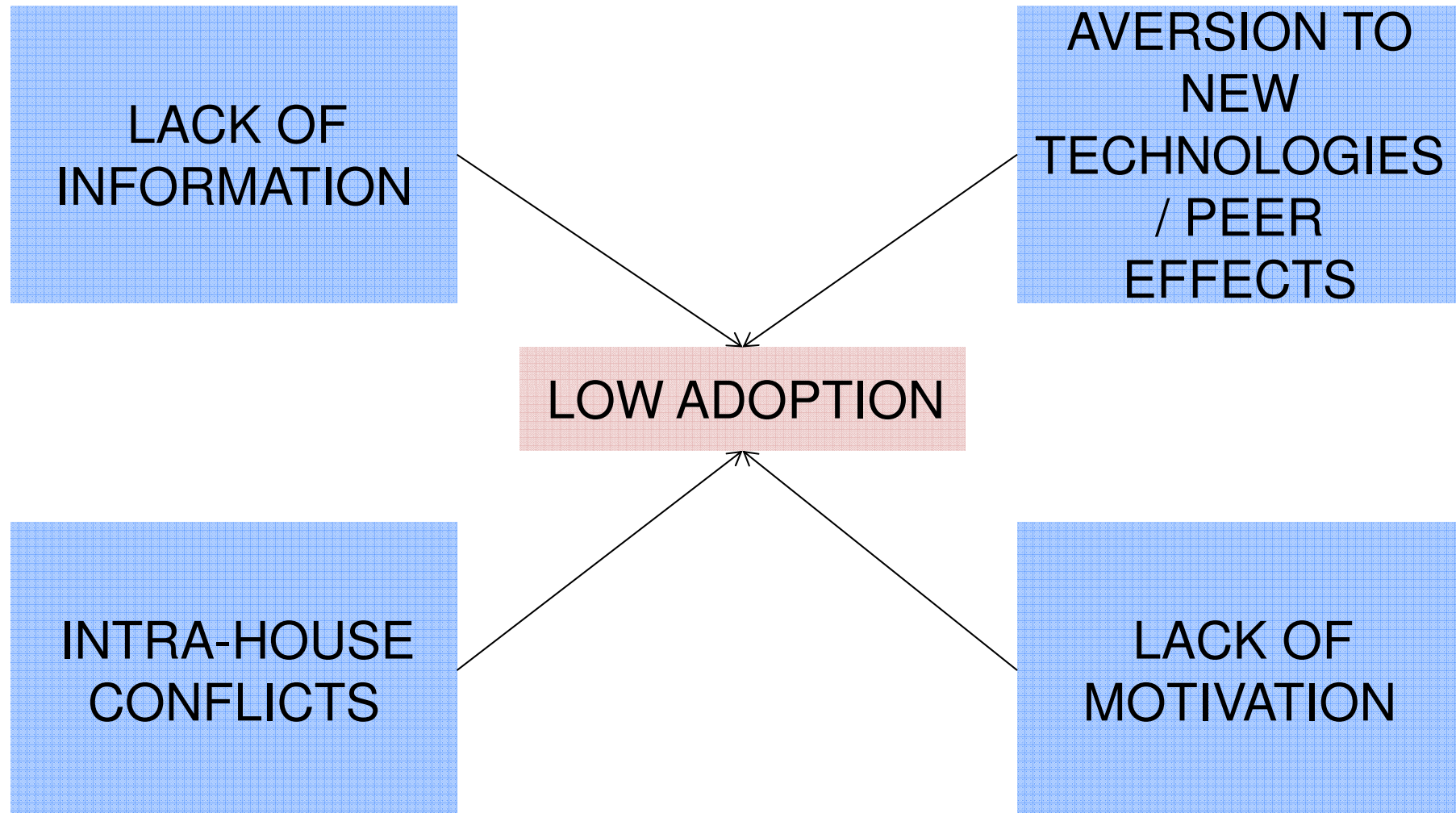
# Previous Efforts to Increase Uptake

- Gram Vikas: 2600 Indian households received cheap (\$0.75) low emission stove
- Hannah, Duflo & Greenstone (2012): stoves “up in smoke” after 4 years
  - No long term effect !
  - Failure to use the stoves regularly / appropriately
  - Did not invest in maintenance

# Previous Efforts to Increase Uptake

- Miller & Mobarak (2013): offered stoves for free or with a small charge to either males or females in Bangladesh

	Gender	Ordered	Purchased
Free	Men	94%	69%
	Women	100%	70%
Charge	Men	72%	26%
	Women	69%	29%



## **Lack of Information**

- Visualize mortality statistics
  - Show future outcomes with and without low emission cook stoves
- Overcome perceptual barriers

## Aversion to new Technologies / Peer Effects (1)

- Social Default
  - Comparative feedback
    - “most of your neighbours ordered the stove”
  - Possibility to publicly display adhering to the accepted norm
  - Positive cues, rewards



## Aversion to new Technologies / Peer Effects (2)

- Hands on opportunities (with experts)
- Foot in the door
  - arrange a taster session / pre-order
- Future visualization
  - Concrete information on how to buy stoves
  - Implementation intentions (“when”, “where”, “how”)



## **Aversion to new Technologies / Peer Effects (3)**

- Different frames :
  - Personal finance
  - Human health
  - Obligations for future generations
  - Economic growth

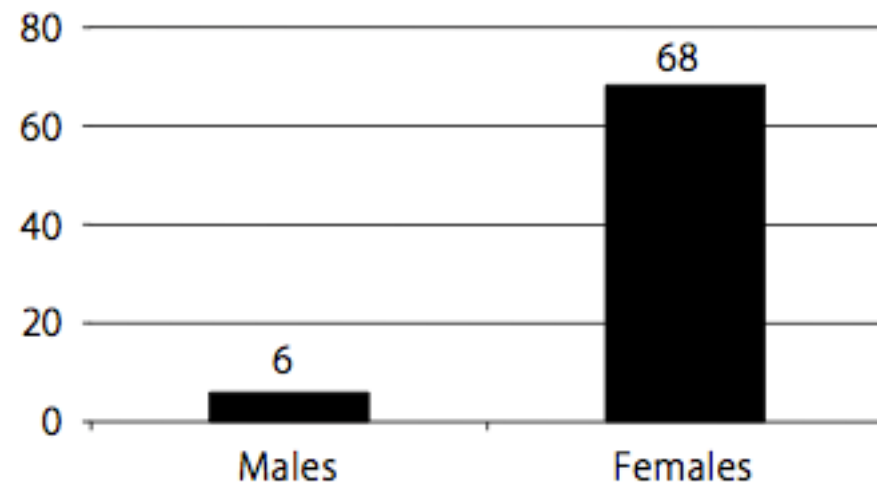
➔ Increase personal relevance!



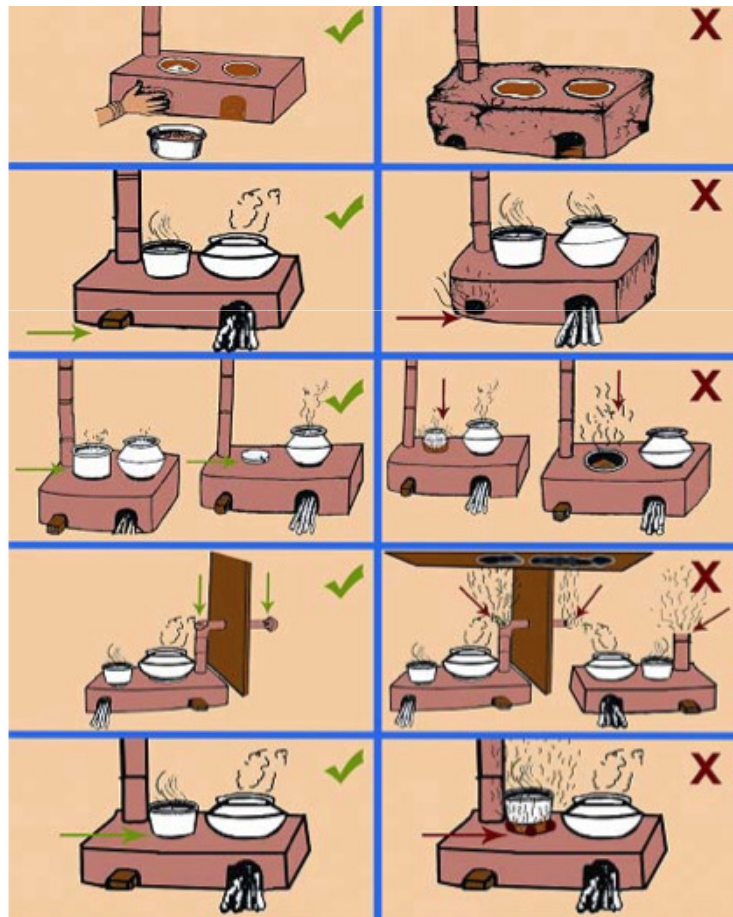
## Intra-House Conflicts

- Increase empathy
  - Perspective taking exercises
- Self-relevance (own health, finance)
- Bundle Technologies

**Figure 1: Who Cooked at Least Once in the Last Five Days, by Gender (in %)**



## Lack of Motivation for Maintenance / Usage



## **Lack of Motivation for Maintenance / Usage**

- Make it easy!
- Implementation intentions (When? How? What?)
- Inform about consequences if maintenance is not kept
- Low valuation: visualize health improvements, with quarterly updates

# East-Africa: Cultural Psychology

- 1. Collectivistic
- 2. High preference for avoiding uncertainty
  - Involve local counterparts
- 3. Short term orientation
  - Highlight immediate benefits / couple purchase with immediate (hedonistic) reward, frame as gain
- 4. Multi-Ethnic
  - Possibility to prime different identities (ethnic vs. national)

<http://geert-hofstede.com/>

# Conclusion

- Interventions based on behavioural insights are:
  - effective
  - easy to implement
  - cheap

# Conclusion

- Interventions based on behavioural insights are:
  - effective
  - easy to implement
  - cheap
- Consider behaviour beyond one-off purchasing decisions
- There is not a single factor which leads to behavioural change
- Take into account cultural differences

# Consultancy for Evidence Based Policy Design

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