

# Behavior change session

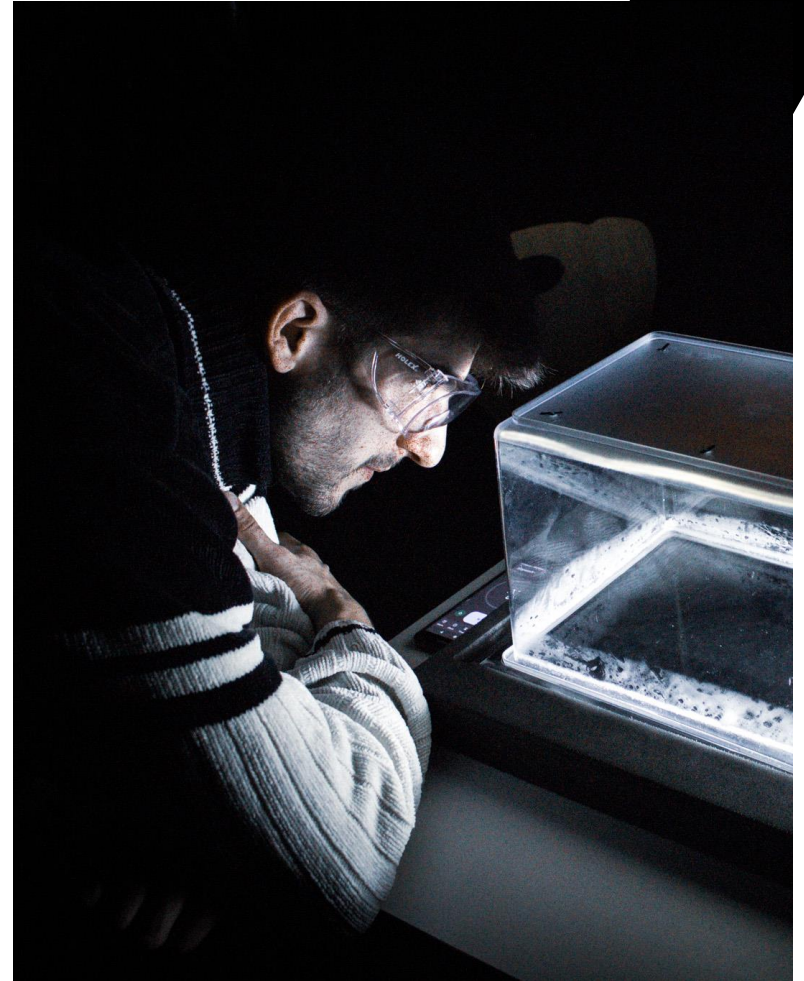
What psychology can teach us about the future  
Terraforming Pilot May 2023  
Ole Werner, M.Sc and Galactic Firefighter  
CERN IdeaSquare



# Who am I to talk to you

## Ole Werner

- Galactic Firefighter at CERN  
IdeaSquare (just emotional fires tho)
- BSc Psychology, MSc Behavior Change
- Love to engage people, want to understand your minds





# Agenda

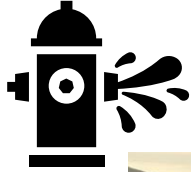


1. What is Behavior Change
  1. short history of behavior change
2. Models
3. Making the HMW to a reality
  1. Nudge vs. Boosting
4. Learnings/ What do you think?



**What is Behavior Change?**

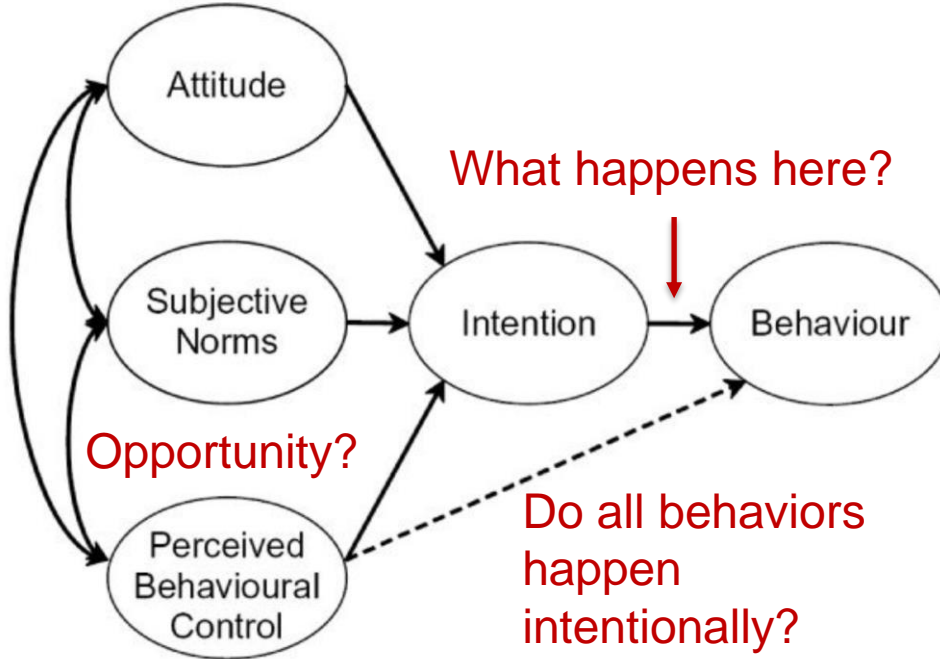
# History





**How is a decision made  
on an individual level?**

# Models of Behavior Change



## Theory of Planned Behavior

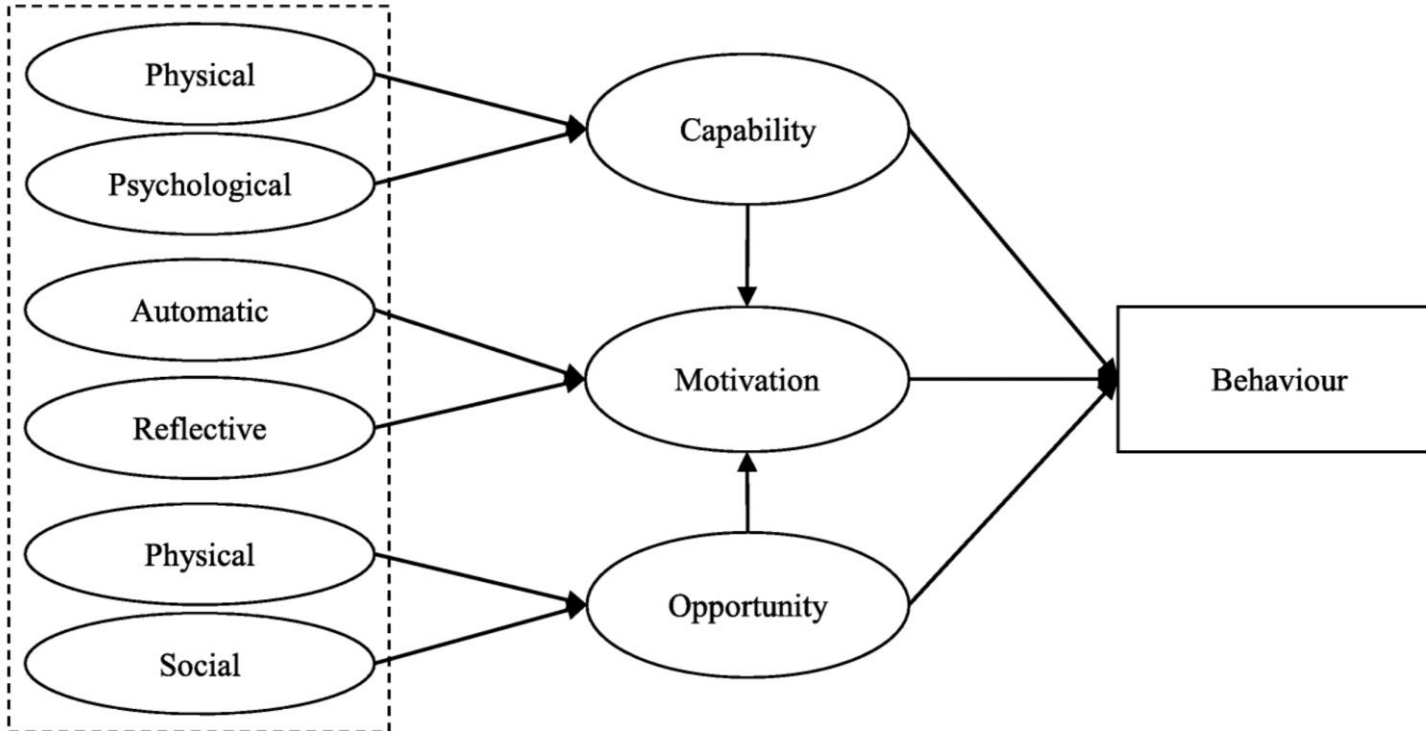
What do you think?

Are there elements Missing?

Would you Agree?

Discuss 2 min with neighbors

# Models Cont'd: COM-B Model



Discuss  
2 min

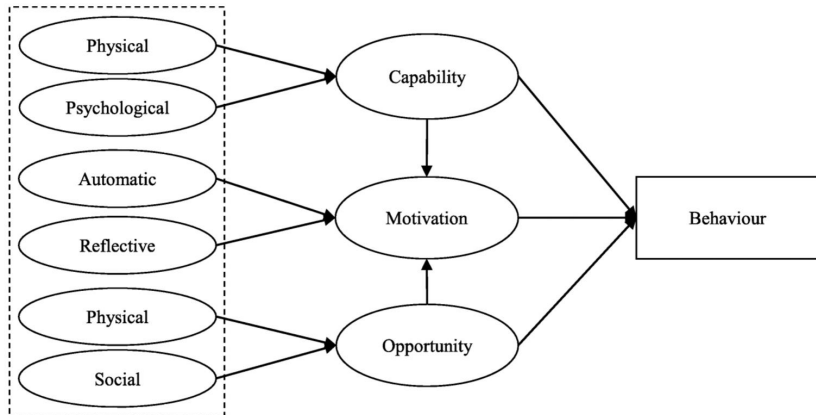
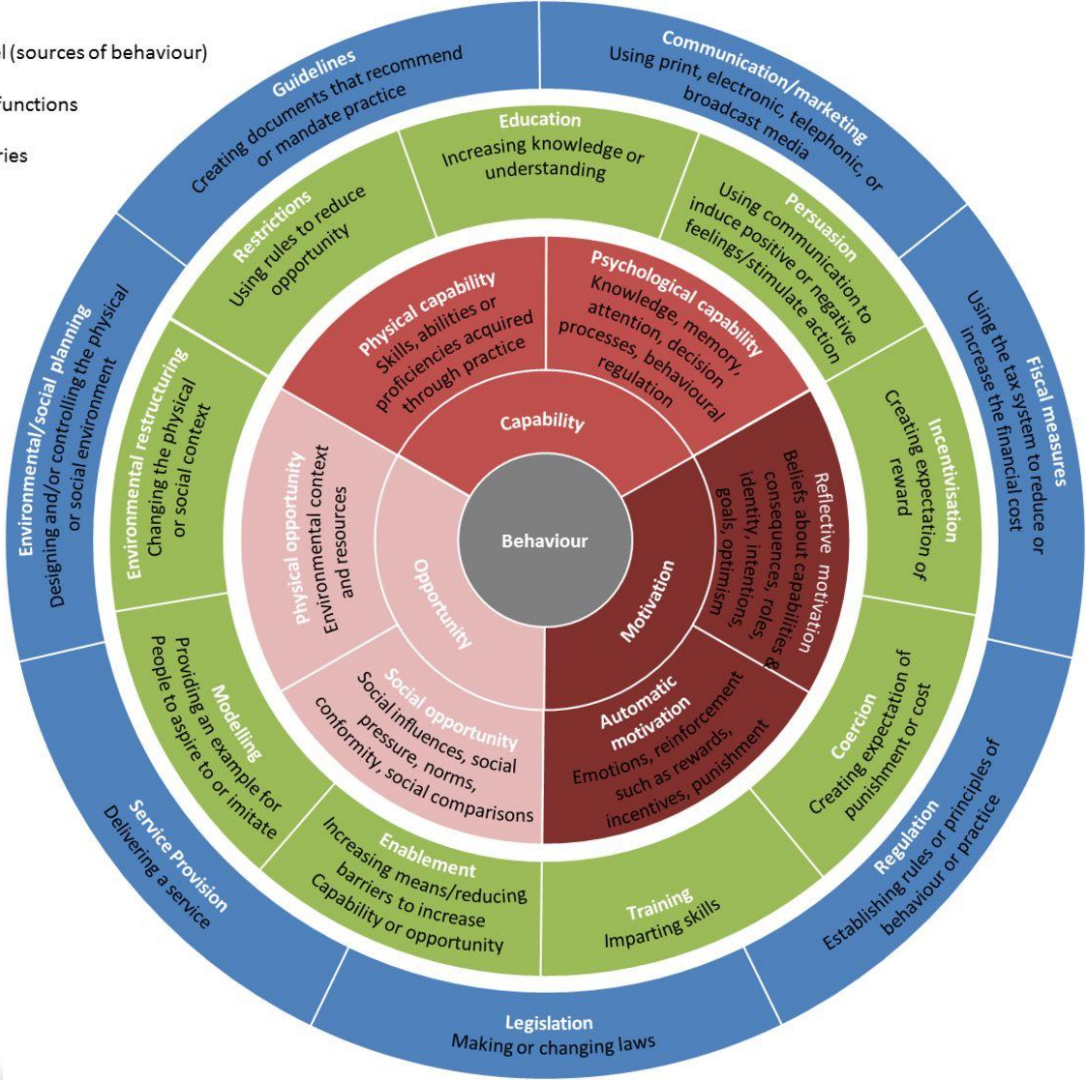
*Note.* Adapted from: “The behaviour change wheel: A new method for characterising and designing behaviour change interventions,” by S. Michie et al., 2011, *Implementation Science*, 6(1) p.42.



# The Behavior Change Wheel

( Michie et al., 2011)

- COM-B Model (sources of behaviour)
- Intervention functions
- Policy categories



Note. Adapted from: "The behaviour change wheel: A new method for characterising and designing behaviour change interventions," by S. Michie et al., 2011, *Implementation Science*, 6(1) p.42.



# Behavior Change



Like marketing... but good!

Also: Seeing (individual's) behavior as a driving component of change

# Divide & Conquer

"THE PROBLEM"

THE BEHAVIORAL SIDE OF THINGS



D

R

I

V

E



**WIIFY**





# Tackling huge (pot. wicked) problems with behavior change



## DRIVE

Define the Problem in behavioral terms

(Who/what/When/Where/How/With whom?)

Research the psychological concepts/literature

(What has been done in that area before)

Influence the behavior

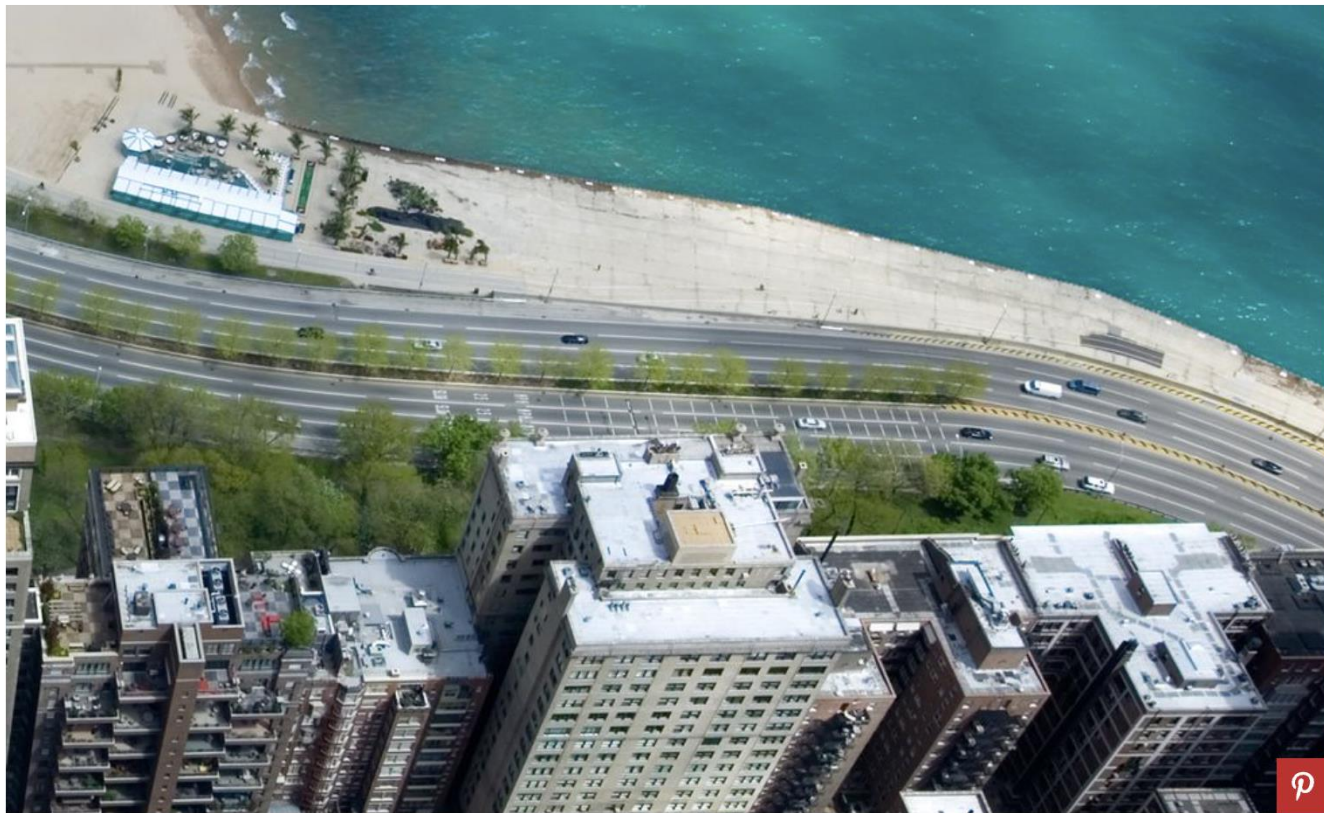
Combine problem definition, desired outcome & Stakeholders

Verify your effectiveness

What gets measured gets managed (experimental design)

Express your recommendations

Picture complete? Whats next?



GETTY IMAGES

**How do people regulate their speed while driving?**



# Problems in Behavior change

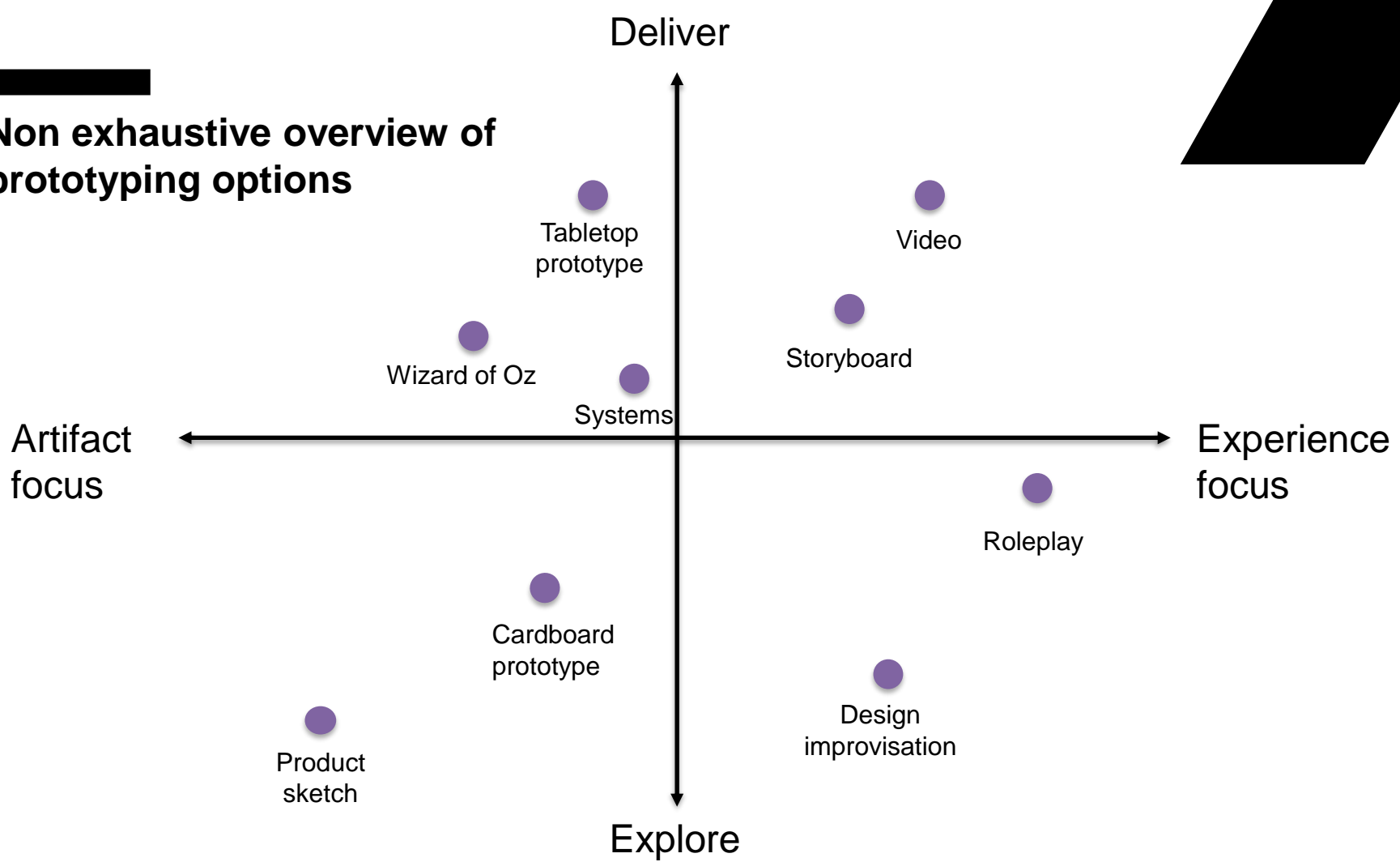
You can help to “make sense” of a big and systematic problem by looking at its **behavioral components on an individual level**. Meaning specific, quantitative acts (e.g. Instead of “More/Better interaction”: Number vs length of interactions)

Consider your HMW and try answering the following: (15 mins)

1. What is the behavioral part of problem, that you will focus on?
2. Why is it a problem?
3. For whom is it a problem?
4. What are possible causes for the problem?
5. What is the target group?
6. What are the key aspects of the problem?



**Non exhaustive overview of prototyping options**



# Nudging- Change through unconscious influence

- 1: the nudge should be transparent and never misleading.
- 2: the nudge should be easily opted-out of.
- 3: there should be good reason to believe that the behavior being encouraged will improve the welfare of those being nudged



More aim -> less cleaning costs



# Gamification, Salience

Hamari, 2014

Taylor & Fiske, 1978



## Protect your flight (recommended)

ⓘ Avoid change fees. Protect your trip.

Top 3 benefits of travel protection, get up to: ↕

1. 100% flight refund if you're sick and can't travel [See details](#)
2. \$1,000 for lost baggage, including laptop, phone or camera [See details](#)
3. \$15,000 for emergency medical transportation [See details](#)

[View terms, conditions and plan sponsors](#)

Select an option\*

Yes, I want to add the Total Protection Plan to my trip to Porto.

👤 35,755 customers protected their flight in the last 7 days

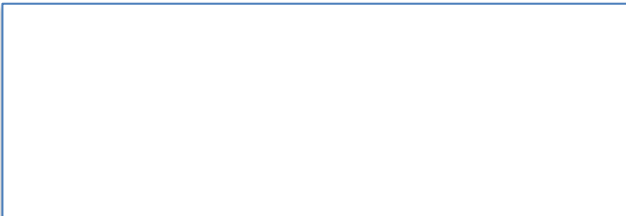
\$178.99

No, I'm willing to risk my \$4,393.76 trip.

Mary got \$468 back when she cancelled her flight to ... [Read more](#)

# Who decides the best interest?

In it, an airline booking website is using several behavioral tools to nudge us towards choosing to add flight insurance to our trip:



# Boosting – Change through Knowledge

The objective of boosts is to **foster people's competence** to make their own choices—that is, to **exercise their own agency**.

Mostly applied in

- health and medical decisions
- financial decision making
- weather- and climate related behavior

But arguably, any form of “traditional teaching” can be considered boosting

...Even this session 😊

Easy readings: <https://www.scienceofboosting.org/>



# Motivational boosts



**competence** : autonomously adjust one's motivation, cognitive control, and self-control through interventions such as

- growth-mindset or sense-of-purpose exercises,
- attention and attention state training,
- psychological connectedness training,
- training in precommitment and self-control strategies (Smile to get happier)
- ...
- Self-nudging (Crisps or Fruit bowl)

# Summary - Methods of influencing decisions

Generally there are many ways to influence behavior, some are more suited in certain settings than others, here is a small overview of nudging vs boosting

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	Skill Training => cross-situational Competencies
	Expensive (usually requires training, trainers etc.)
Unconscious exposure	
Short-term, no effect without nudge	

# Summary - Methods of influencing decisions

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Nudging	Boosting
Physically bound “choice architecture” => Only one situation	Skill Training => cross-situational Competencies
Cheap (poster, stickers or otherwise designing options)	Expensive (usually requires training, trainers etc.)
Unconscious exposure	Conscious participation
Short-term, no effect without nudge	Long-term, observable effect beyond end of training

# Rotterdam: Committing to keep clean

Illegal garbage disposals were a persistent and serious problem in Rotterdam, resulting in high cleaning costs and decreased satisfaction with the neighbourhood among residents.

Rotterdam, Oude West  
-densely populated  
(1,100 households)  
-social cohesion was high  
-illegal littering caused nuisance



→Rule: if trash is disposed outside of containers, 95-500€ fine



# How?

## 1st Week (Sticker)

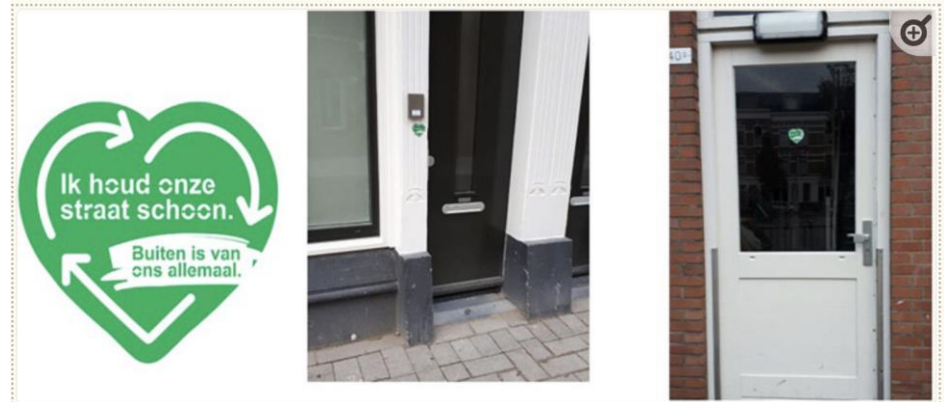
→ show commitment to keeping the neighborhood clean (72%)

## 2nd Week (Poster)

→ reminders were employed that depicted the desired behavior

→ emphasizing group membership and shared responsibility for the neighborhood

“Together we keep our street clean.  
Outdoors is for every one of us.”

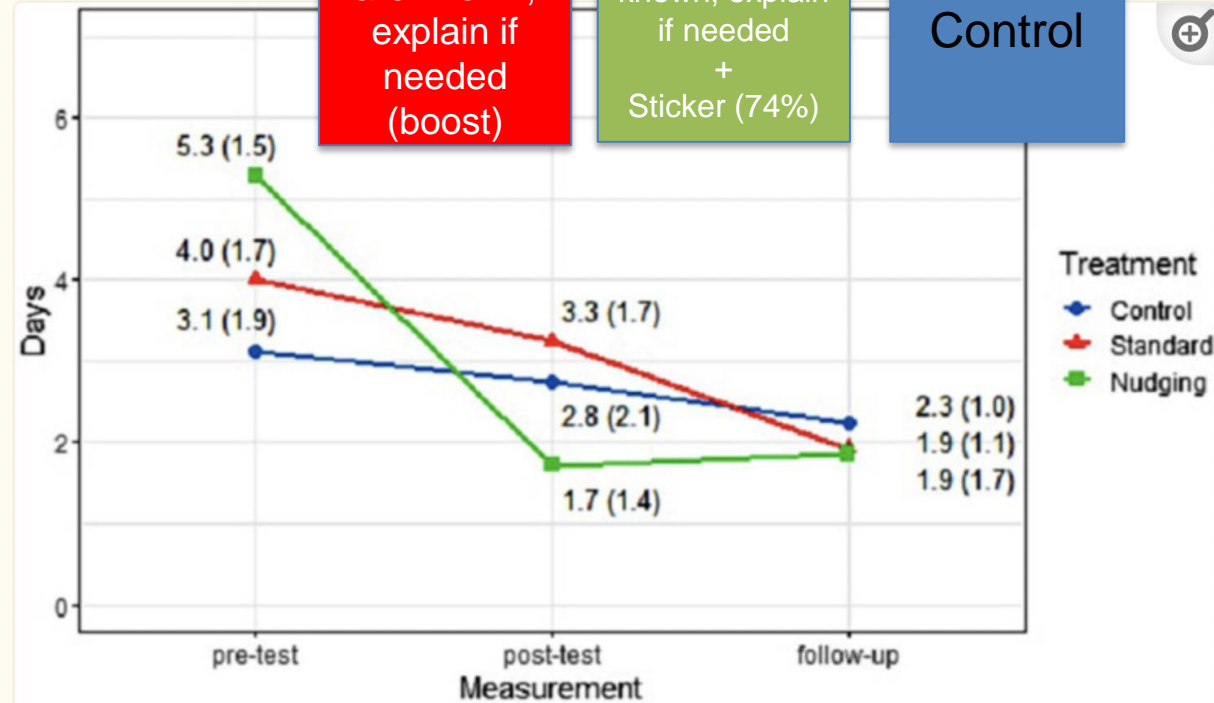


# Results

Ask if rules are known, explain if needed (boost)

Ask if rules are known, explain if needed + Sticker (74%)

Control



## BAU+Nudge:

two-third decrease of illegal garbage disposals when compared to the pre-test



# Got inspired? (15 min)



Design a Boost or a Nudge for your problem statement/HMW from before.

Look again at how you answered the six questions to define your problem. These answers should be reflected in the form of boost/nudge you design. (Where will you do it? For Whom? Why?)



# Discussion

# What do you think?

Do you think behavior change is “fair”?

Would you aim to incorporate behavior change in your new society?

If yes, in which areas?

Do you prefer boosting or nudging?

