


# Measuring and Reducing Consumer Food Waste



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 @c\_a\_gravert


UNIVERSITY OF COPENHAGEN



# Who I am

Economics Professor and Co-Founder Impactually



 @c\_a\_gravert

## **Dr. Christina Gravert**

- Associate Professor in Economics at University of Copenhagen
- PhD in Economics from Aarhus University
- Numerous scientific research studies on nudging
- Has trained hundreds of practitioners on nudging
- Teaching experimental methods to Master's students
- 2020 Forbes list of 10 behavioral scientists you should know



Most people have good intentions



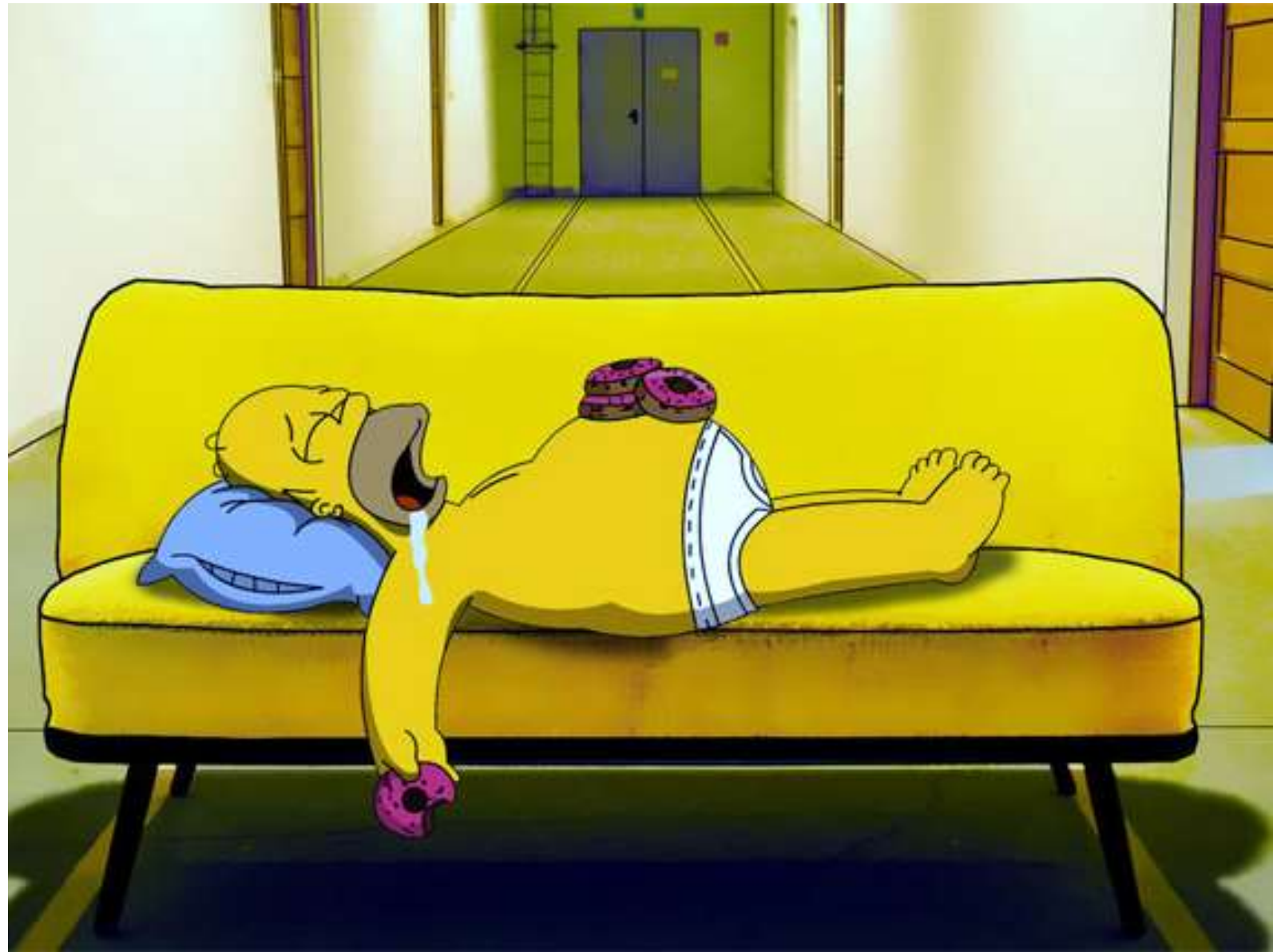
And we know what we need to do



This should result in  
an action



But that is  
not always  
the case...



# We all have two systems of thinking

## System 2

- Slow
- Reflecting
- Conscious
- Deductive
- Logical
- Rational



## System 1

- Fast
- Automatic
- Unconscious
- Simple
- Associative
- Emotional



# Our biases prevent us from making optimal decisions





# BOOST - The Impactually Framework of Behavior Change



# The BOOST model

## Our approach



### BEHAVIOR

Define the desired outcome and the most important behavior to get us there



### OBSTACLE

Understand the barriers that inhibit our users from engaging in the desired behavior



### OUTLINE

Identify potential interventions to promote the behavior based on science



### STUDY

Understand which intervention works best in our context by testing and quantifying the effect



### TAILOR

Adapt the winning intervention to your needs and implement across users and markets



# Nudging to reduce food waste



# Do multiprice offers affect household food waste?

Project for Livsmedelverket (2021)

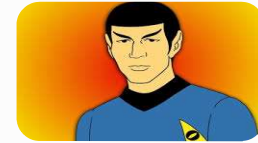
## System 2

- Slow
- Reflecting
- Self-aware
- Deductive
- Logical



## System 1

- Fast
- Automatic
- Subconscious
- Easy
- Emotional



Same!

2 för <b>30 kr</b> <small>Ord. pris 15,95 kr</small>	1 för <b>15 kr</b> <small>Ord. pris 15,95 kr</small>
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Different!



# Do multiprice offers affect household food waste?

Project for Livsmedelverket (2021)



*Buy 2 for 30kr*



*Buy 1 for 15kr*



*Buy 2 for 30kr – 1 costs 16*



*Buy 2 for 30kr – Don't buy more than you can eat*



1. Consumer decide to buy groceries

2. Consumers go to their regular store where we measure sales

3. Different stores will randomly have different types of offers and messages on the same products

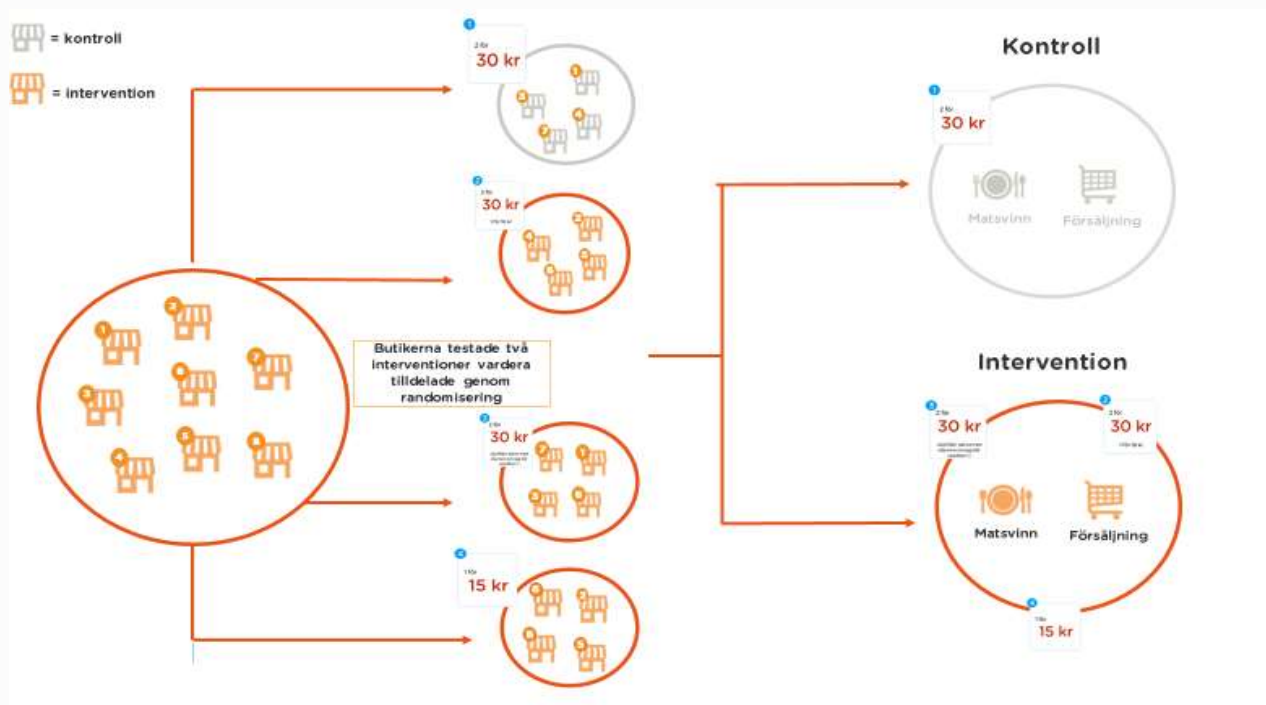
4. The shopping behavior of consumers is analysed

5. A week later we follow up with consumers via a survey



# Do multiprice offers affect household food waste?

Project for Livsmedelverket (2021)

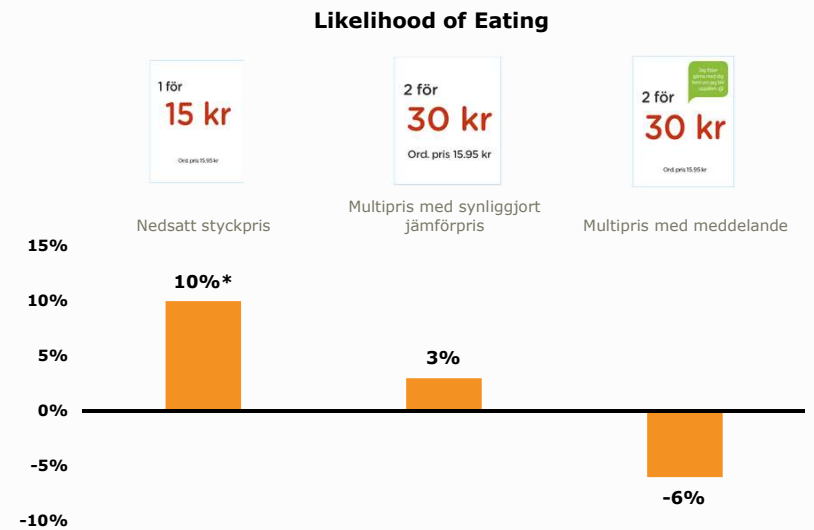


# Do multiprice offers affect household food waste?

Project for Livsmedelverket (2021)



Measurement: Sales Data



Measurement: Survey Data



# Can we nudge kids to reduce food waste?

Experiment with Karlstad (2016)



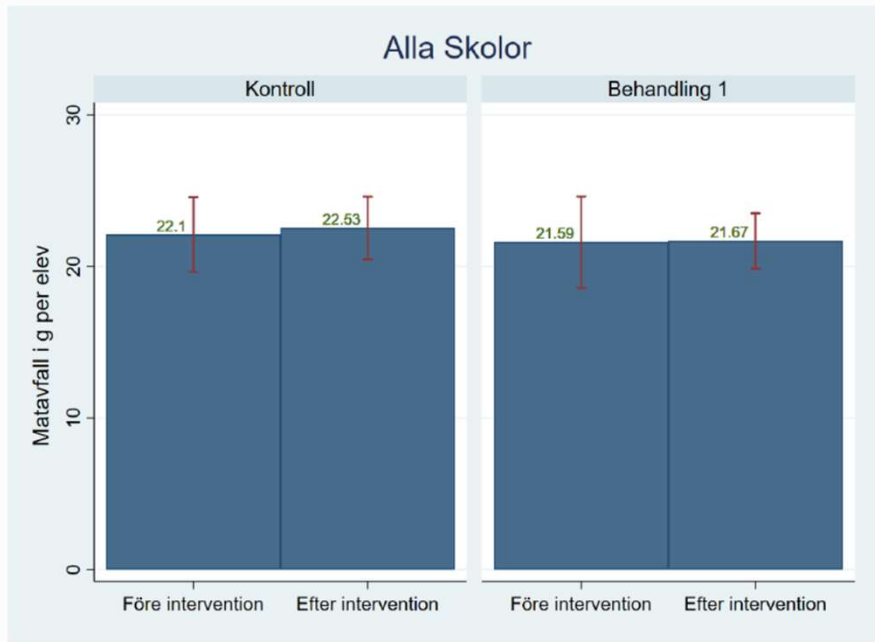
- All 30 schools in Karlstad participated in the experiments over 4 3-week periods
- We did three different experiments
  - Information on Food Waste on Posters
  - Nudges next to the food
  - Feedback on progress with food waste



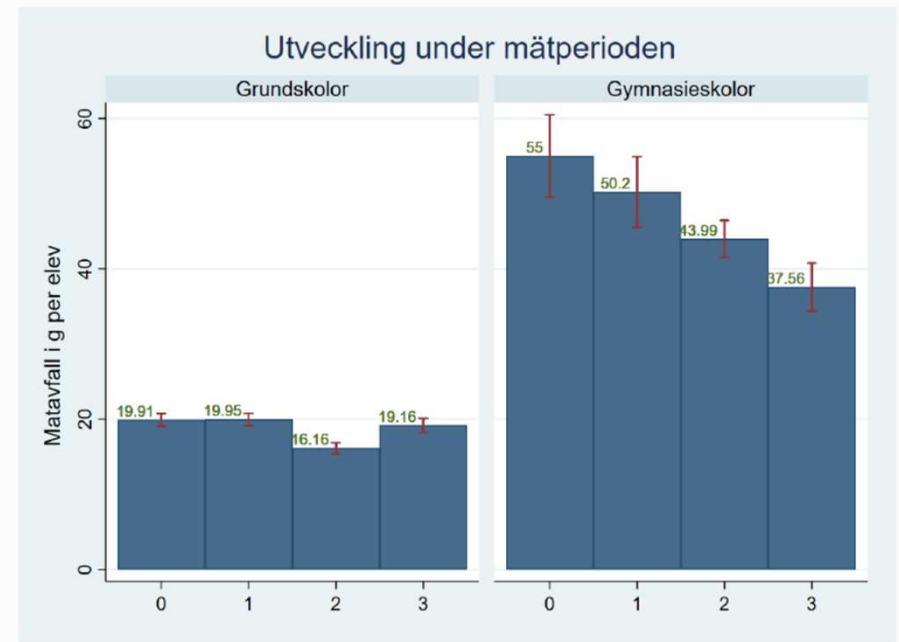


# Can we nudge kids to reduce food waste?

Experiment with Karlstad (2016)



Experiment 3



Food waste over time



# Can we nudge canteen staff to reduce food waste?

Experiment with Gothenburg (2016)



- All school kitchen staff in Gothenburg municipality participated in trainings (415 kitchens)
- Food waste was not measured directly, so we measured 54 activities to reduce food waste before the training and after.
- We randomized kitchens into three groups
  - Control
  - Incentive (free dinner)
  - Nudge (Implementation Intention)
- We followed up with an online survey



# Can we nudge canteen staff to reduce food waste?

Experiment with Gothenburg (2016)



The training had a positive effect – more food waste reducing measure were implemented

Figure 1. Changes in implementation of all 54 steps aggregated, whole city of Gothenburg

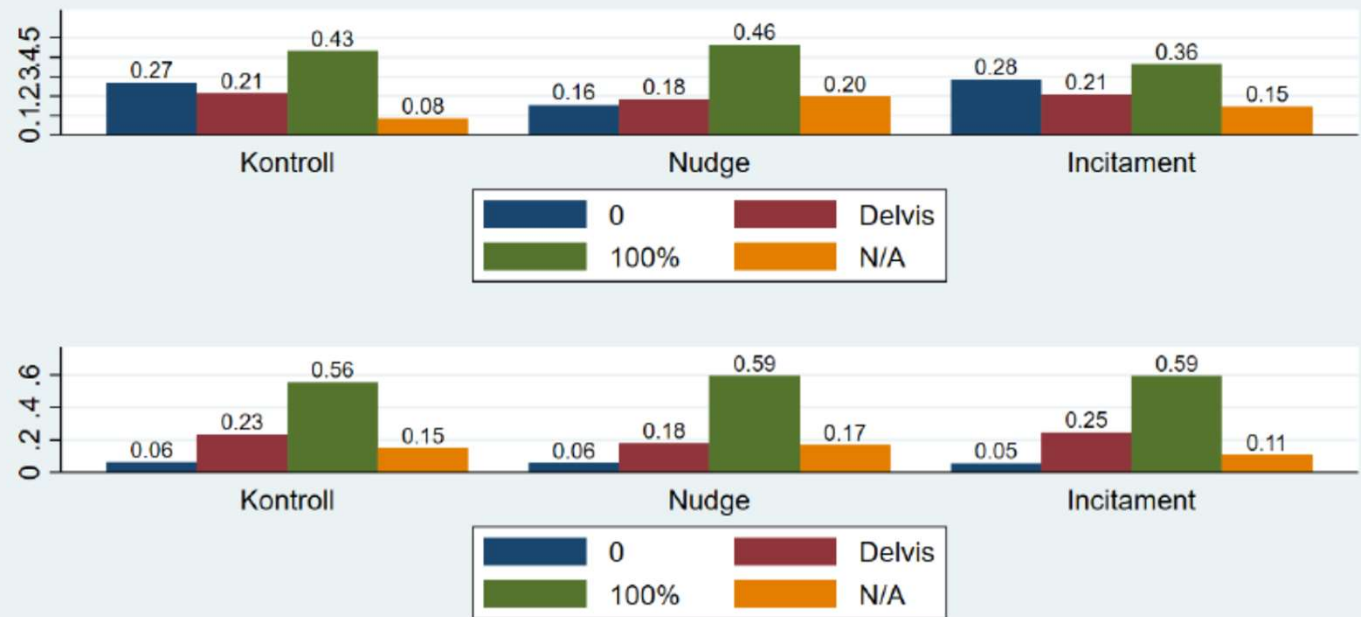


# Can we nudge canteen staff to reduce food waste?

Experiment with Gothenburg (2016)



Our interventions had no differential effect on the measures implemented

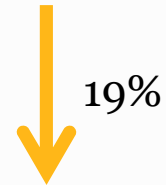
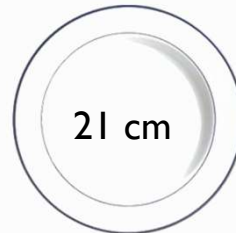
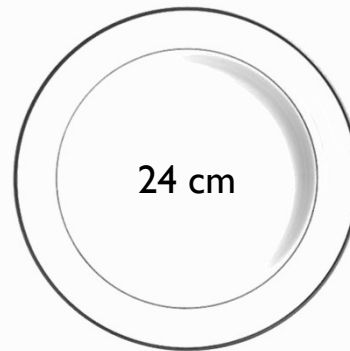


Figur 9: Jämförelse mellan olika grupper



# Can we decrease food waste at hotel breakfasts?

Experiment at Nordic Choice Hotels in 2013 (not mine)



# Results from the literature and my studies

## Which interventions reduce food waste?

- Food waste is the result of a multi-step process. Consumers do not think about it in advance.
- High share of awareness about food waste being a problem, but awareness does not lead to behaviour change.
- Repeated “mistakes” of buying too much.
- Food waste varies strongly by product category.
- Moral nudges and feedback can backfire.



# Want to learn more about how to design nudges?

Impactually.se

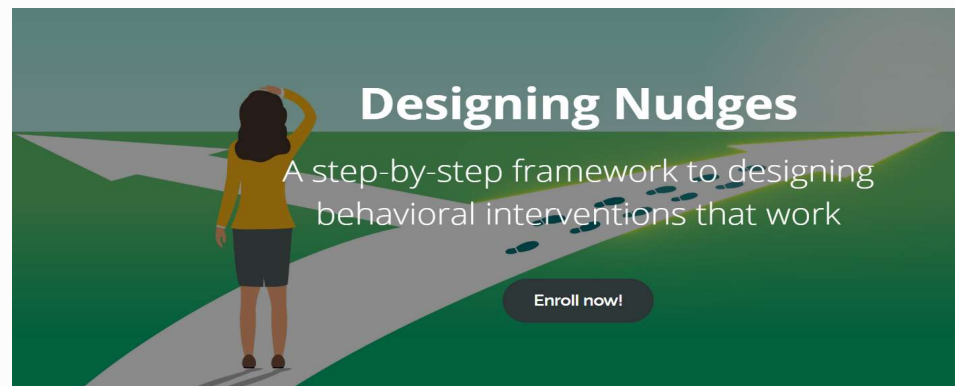
**The course was fantastic and certainly provided me with invaluable information, tools, and resources to enhance my current skills. I look forward to future courses and literature from Impactually.** - Melissa C. Monney

Online course with over 2 hours of video lectures for just 75 USD + VAT



<https://impactually.teachable.com/>

**"I took the Impactually Designing Nudges course last year and thought it was really great! Since then, I frequently use the learnings from the course as inspiration when working with our clients in process and product design."** - Remo Bebié Gut



## Kursusbeskrivelse

1-DAGS KURSUS

Økonomi og klimapolitik:  
**VALG AF DISKONTERINGSRENTE,  
INSTRUMENTER OG VIRKEMIDLER**

26. april, kl. 9-16

Undervisere:  
Frikk Nesje, Christina Gravert,  
Peter Kjær Kruse-Andersen, Peter Birch Sørensen

ØKONOMISK INSTITUT  
KØBENHAVNS  
UNIVERSITET

*Hvad betyder valg af diskonteringsrente for klimapolitiske prioriteringer på kort og lang sigt? Hvad er de bedste instrumenter og virkemidler for at reducere udledningen af drivhusgasser?*

## Tilmelding

Antal

1

### Tillægsydelser

Foretag tilvalg til tilmeldingen

#### Catering\*:

Lunch, coffee and other refreshments

Vælg fra listen

Billetter

6.620,00 kr.

**Totalpris**

**6.620,00 kr.**

**START TILMELDING**



<https://samf.nemtilmeld.dk/32/>






IMPACTUALLY  
Creating impact through behavioral science

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