

USING BEHAVIOURAL ECONOMICS TO DESIGN MORE SUSTAINABLE FOOD CHOICE ENVIRONMENTS



6th E3S Symposium

*Challenges for Sensory and Consumer Science
in a Changing Society*

L'Oréal R&I, Paris Clichy

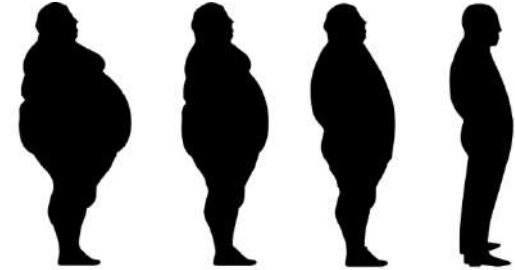
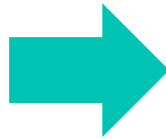
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UNSUSTAINABLE FOOD DECISION-MAKING?

The Consumer's POV



Food choice:

- ✓ Quantity
- ✓ Quality

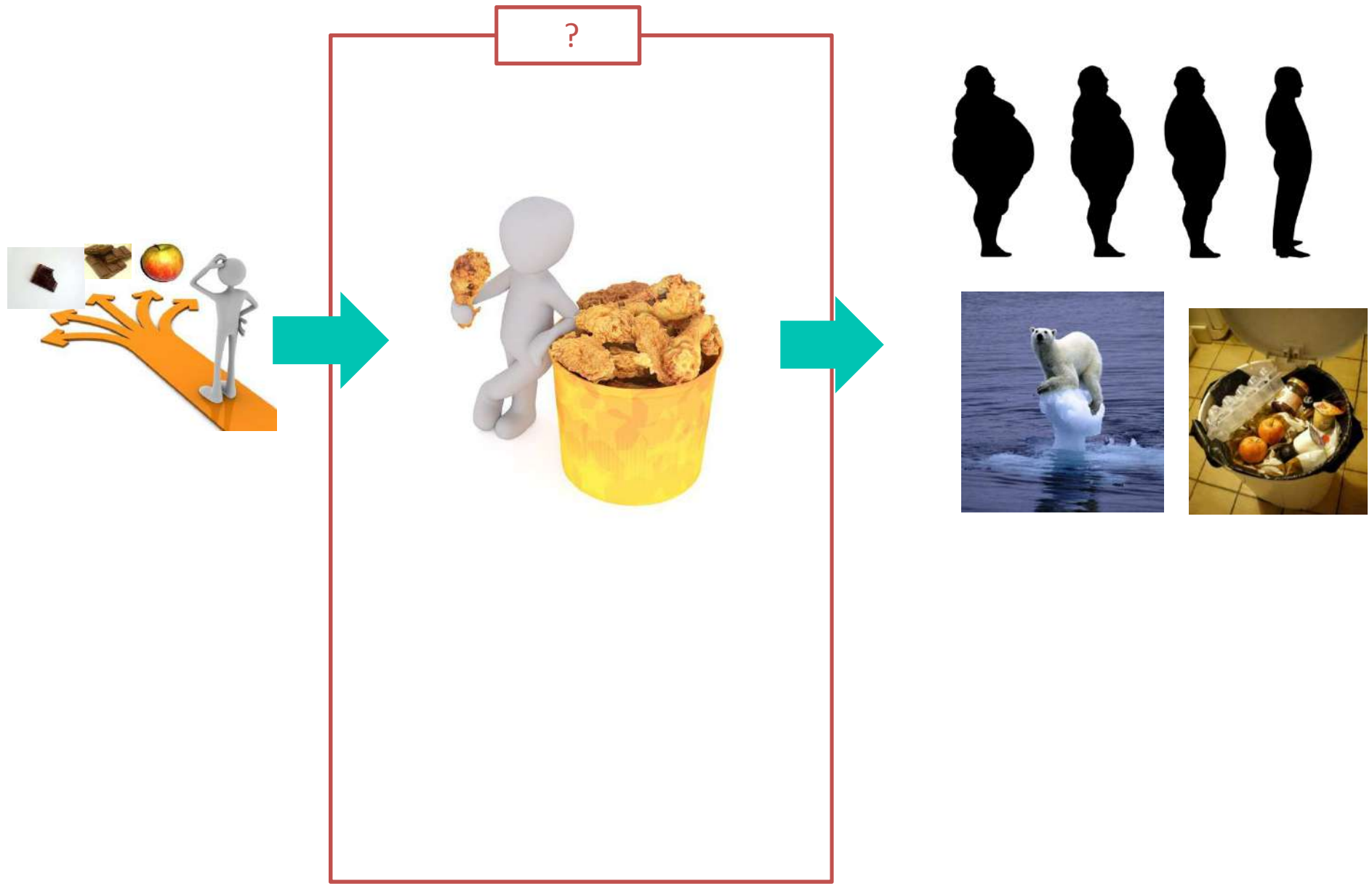
Misevaluation

- ✓ Overestimation of quantities selected
- ✓ Over/under consumption
- ✓ Selection of inadequate level of quality

Collective and individual consequences

- ✓ Overweight, micronutrient deficiencies, chronic diseases
- ✓ Overproduction & waste
- ✓ Environmental impact
- ✓ Hunger
- ✓ Overspending...

CAN BEHAVIOURAL ECONOMICS HELP TO UNDERSTAND AND PREVENT THESE MISEVALUATIONS ?



BOUNDED RATIONALITY IN CHANGING FOOD CHOICE ENVIRONMENTS

Bounded rationality (Simon, 1978):



Shortcuts to make decisions: *heuristics*



Importance of context

Why do errors occur?

- Changing choice environments
- Confusing framing of choice tasks
- Accuracy/effort trade-off

CONSEQUENCES for intervention and for research: importance of context

- Behavioural change program: “choice architecture” (nudges, boosts...)
- Methods to study decision-making
 - Controlled experiments to study the effect of specific factors
 - Field experiments to take context into account (List & Harrison, 2004)



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A UNIQUE EXPERIMENTAL PLATFORM



The Living Lab enables the study of behaviors in **real-life dining environments**: dining room, restaurant, school canteen, bar/pub... as well as the study of **real-life culinary production environments**.

- *Professional kitchen*
- *Domestic kitchen*
- *Modular restaurant*
- *Modular platform for service*





CHARACTERISTICS OF « DISH OF THE DAY » INTERVENTIONS TO PROMOTE THE CONSUMPTION OF A TARGET VEGETABLE-BASED DISH?

- “Dish of the day”, a widely recommended intervention for foodservice (Lachat et al. 2010)
- Can “dish of the day” induce more choices of the target dish?
- Under which conditions ?

DISH RECOMMENDATION AND DEFAULT EFFECTS

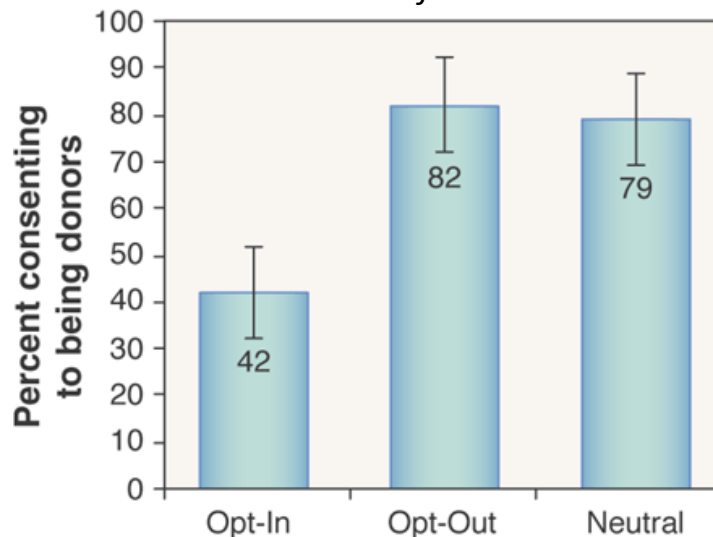
“Dish of the day” recommendations can act as an implicit **default** (Downs et al., 2009)

Default heuristic: preference for current situation (status quo) or default/recommended options (when no previous choice). “Status Quo bias”

➔ Stronger for **unpopular options** and large **number of** alternatives.

Samuelson & Zeckhauser, 1988

Favours organ donation when opt-out is the default



Johnson, E. J., & Goldstein, D. G. (2003).
Do defaults save lives?
Science, 302, 1338-1339.

Defaults in food choice?

- Unclear evidence in foodservice (Giesen et al. 2003; Just & Price 2013; Wisdom et al 2010 ; List & Samek 2015; McCluskey et al. 2012)
- No systematic study of potential factors of variation

Objectives

Characteristics of « dish of the day » intervention to promote the consumption of a target vegetable-based dish?

TARGET





Vegetable-rich dish



Popular cafeteria dish (meat balls)



Alternative vegetable-rich dish (sweet pea pie)

- Does the “nudge” induce more choices of the target dish?
- What are the factors influencing its effect ?
 - **Number of alternatives**
 - **Type of dish**
- Are participants better off (or not worse off) when nudged ? liking, waste and satiety.

THE EXPERIMENT



- **Location :** Experimental Restaurant (Living Lab), Food and Hospitality Research Center, Institut Paul Bocuse.
- **Type of restaurant :** Self-service
- **Price:** 10€ for meal (excluding beverages)
- **Consumption occasion :** lunch, Monday to Friday, 2 weeks of test (10 days)
- **Participants:** 293 participants, general population. Homogenous samples across treatments.
- **Factor:** menu presentation of the target dish. “NEUTRAL” vs “DISH of the DAY” vs “alternative to default” x 2 or 3 dish options



Choice of main dish : treatments

Nature of default “dish of the day”



Number of alternatives



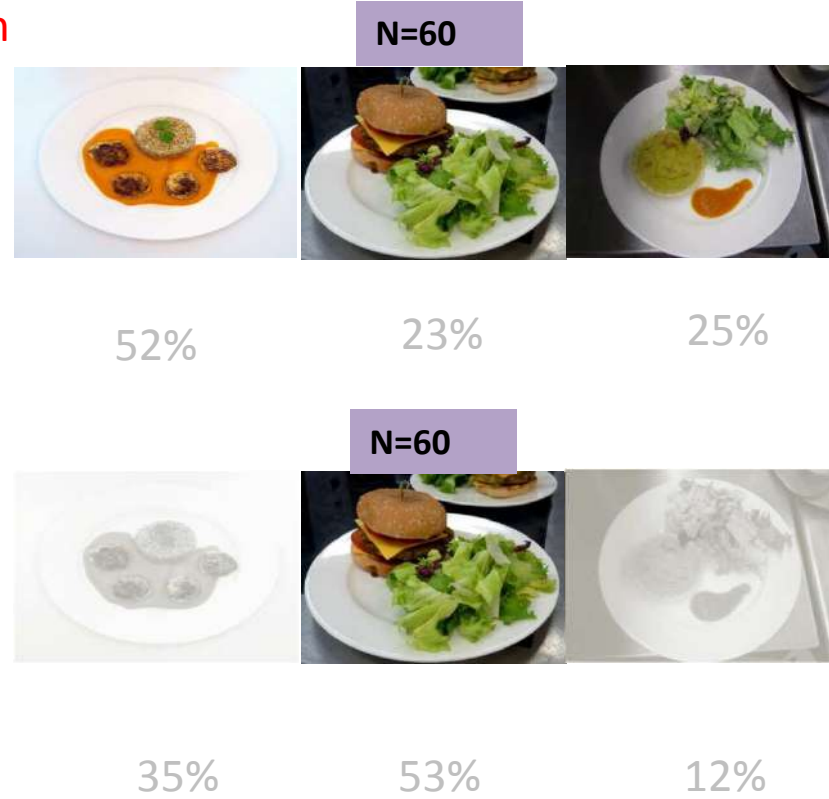
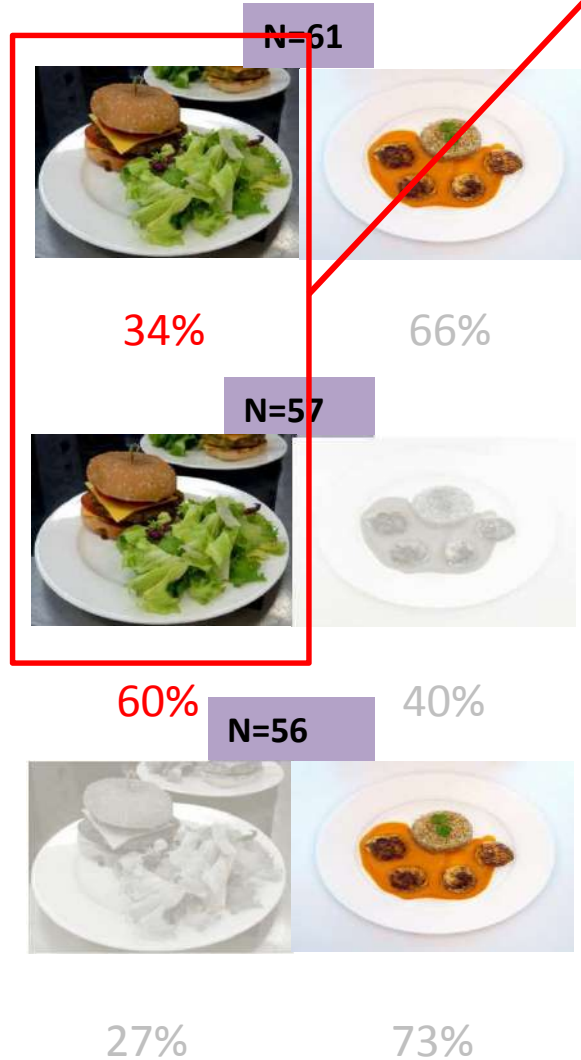
2 sessions per treatment

Measures :

- Choices
- Liking, Hunger, Satiety
- Intake (weights)

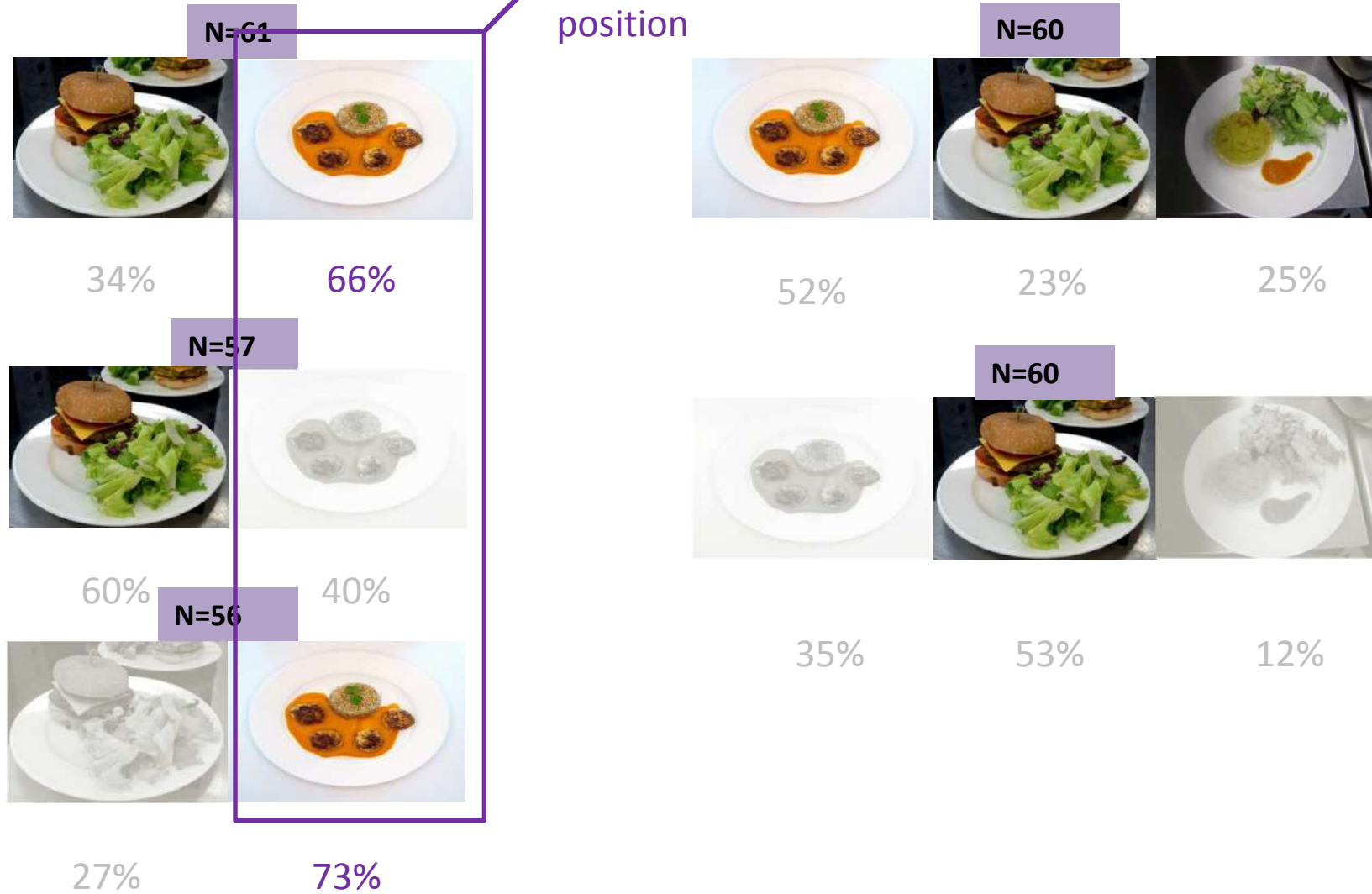
Choices of main course

26% more go for the burger when placed in default position

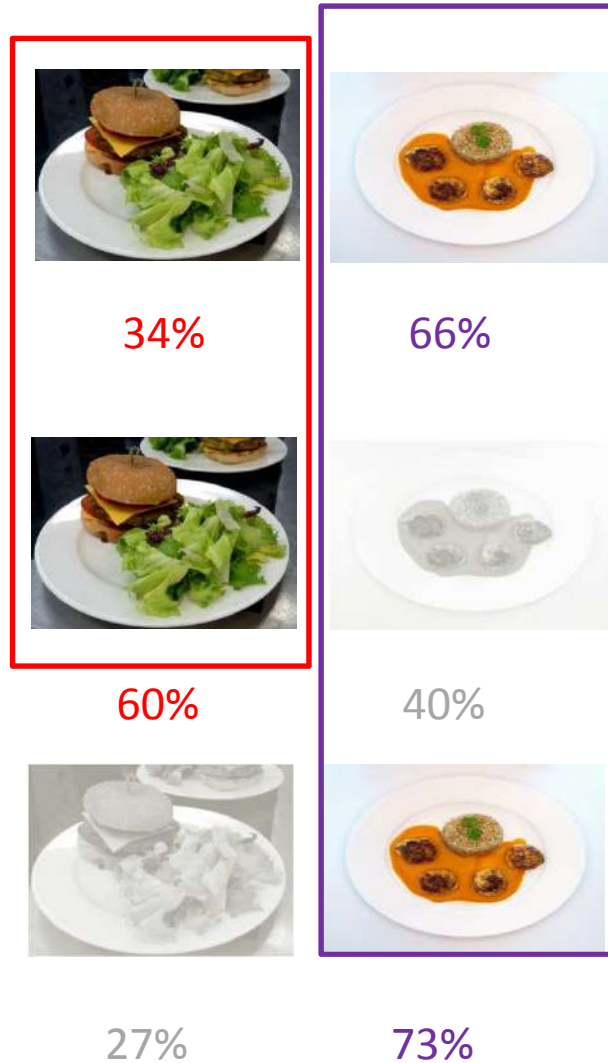


Choices of main course

7% more go for the burger when placed in default position



Consequences of nudging

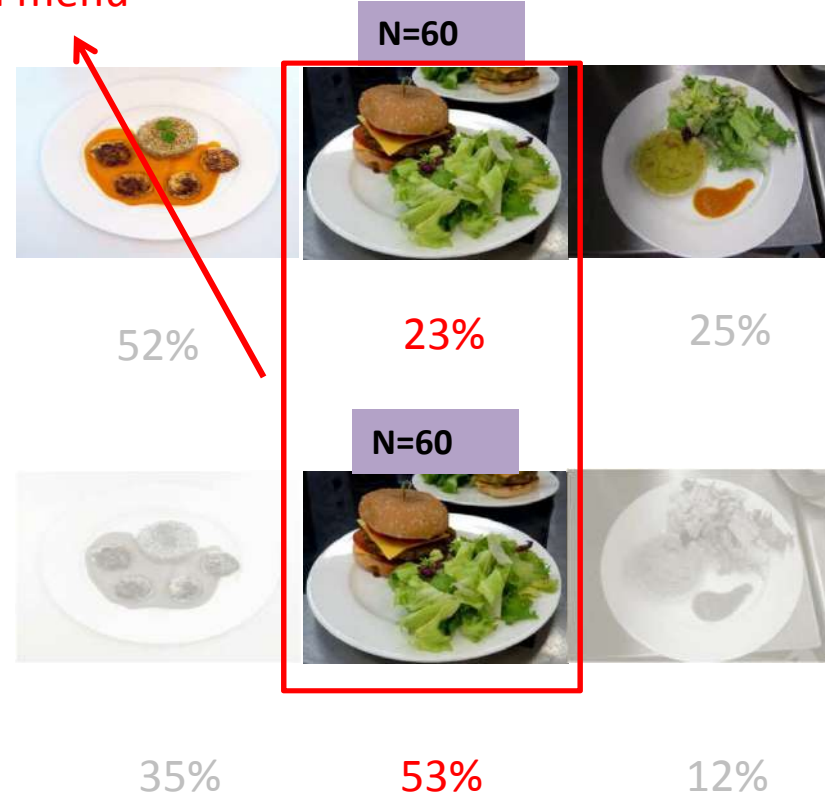
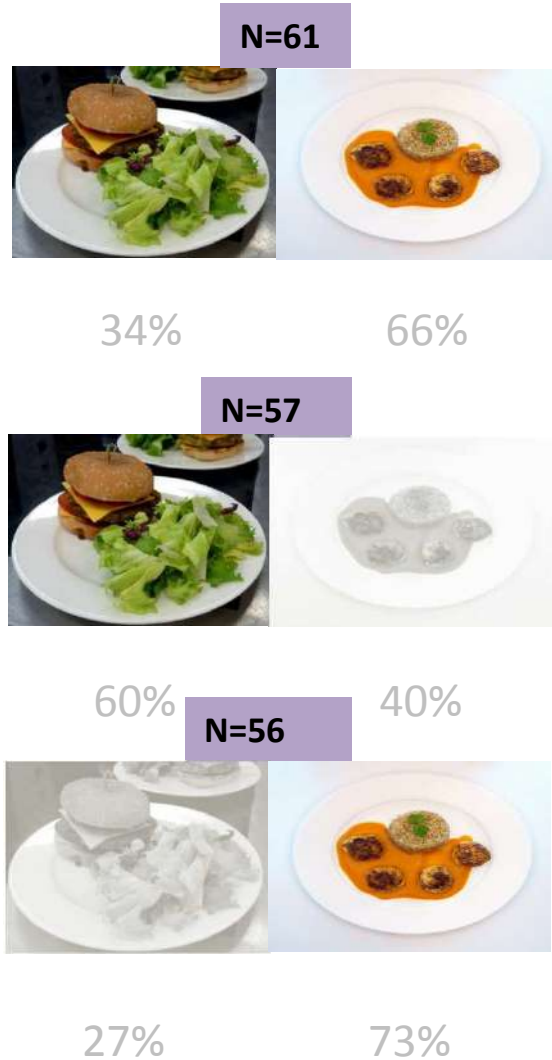


No significant differences in food waste

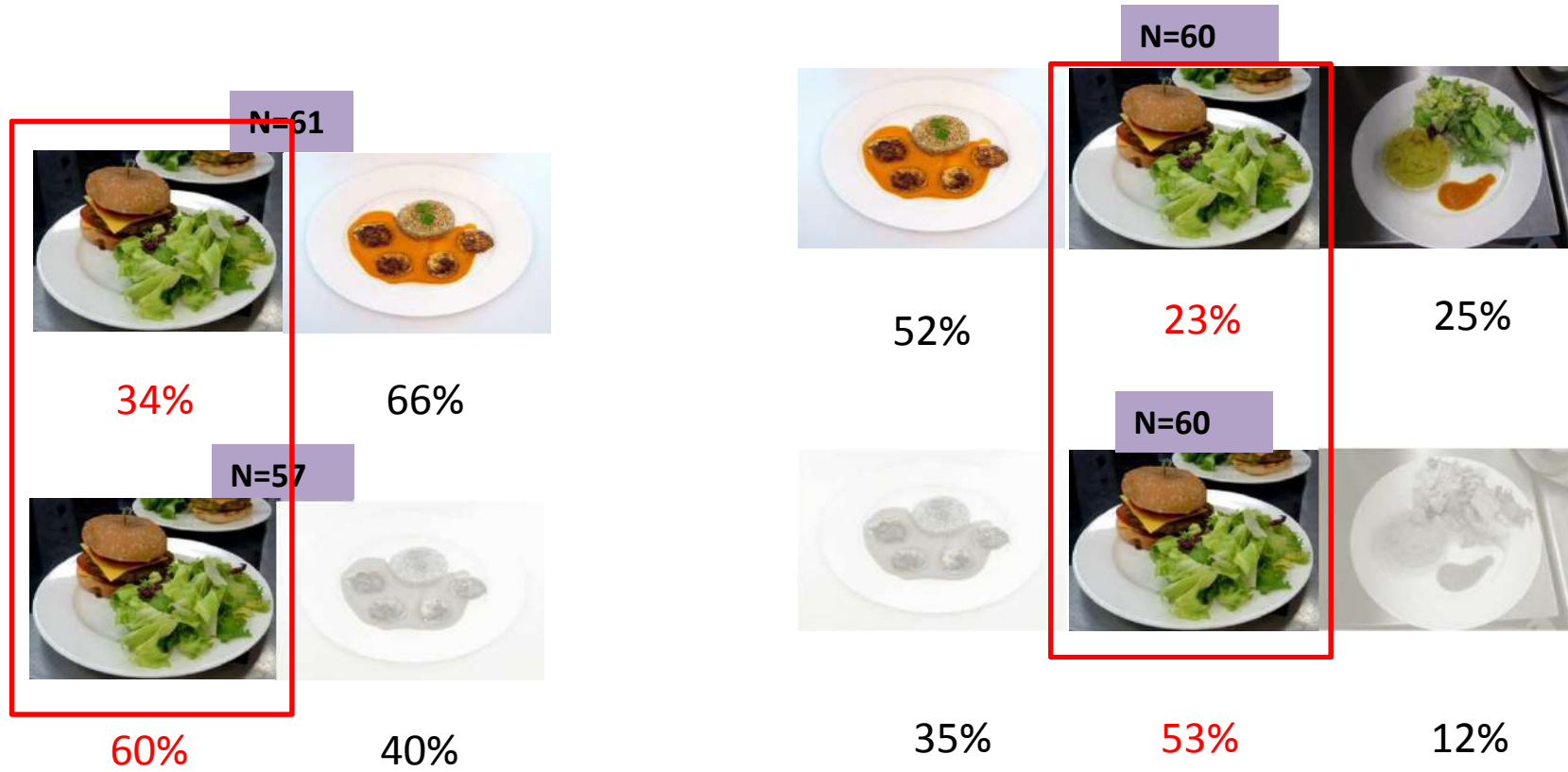
No impact on consumer satisfaction

Choices of main course

30% more go for the burger when placed in default position on a 3-option menu



Choices of main course



No impact on food waste and satisfaction

SUMMARY OF RESULTS

- We observed and measured an effect of “dish of the day” recommendation
 - Effect of **familiarity & variety**
 - Similar effect than observed in other economic tasks despite *a priori* specific properties of food choices
- Possible explanations for the observed effect :
 - **Default heuristic** : choosing default as a strategy adapted to the choice task. Eg. Avoiding transition costs/search costs. Effect higher when variety. Endorsement effect
 - **Bias/deviation from “rational norm”**: reference-dependence

CONCLUSION: HOW CAN BEHAVIORAL ECONOMICS CONTRIBUTE TO SUSTAINABLE CONSUMPTION?



- “Nudges” under the spotlights... challenges for research:
 - Weak theoretical grounds
 - Acceptability, legitimacy, consistency
 - Complementarities of policies
- Building a Behavioural Change program from decision-making models: some gaps to bridge...
 - The “nudge vs boosts” debate
- Controlled field experiments, a useful tool for investigation?

