MOTIVATING SUSTAINABLE FOOD CHOICES: THE ROLE OF NUDGING

Asso. Prof. Armando Perez-Cueto, PhD
Design & Consumer Behaviour Section – Future Consumer Lab
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Conflicts of interest regarding this presentation
Food Consumer Research Team
2018-2019

Counteracting Age-Related Loss of Skeletal Muscle Mass (CALM)
Previous research showed

- Healthy eating is associated with lower risk and incidence of chronic disease, longer life expectancy, and a general better quality of life.
  - MedDiet, DASH, etc. the more plant based the diet is the better the score. (JADA http://dx.doi.org/10.1016/j.jand.2017.08.024 Nutrients 2017, 9, 1226; doi:10.3390/nu9111226)

- Small changes towards healthier eating can have large health benefits!
  - Each 2-points increment in the MedDiet Score reduces the risk of CVD by 11% (Nutrients 2017, 9, 1226)
  - Never too late to change! CHANCES.EU Nicole Yankovic, & Am J Epidemiol. 2014 Nov 15;180(10):978-88

- Interventions towards healthy eating have had modest results:

- Effect mainly at the level of knowledge, attitudes, social norms, but NOT in actual behaviour.
  - OK from consumer “rights” perspective (Nutr Rev. 2012 Mar;70(3):188-200. )

- Liking and taste of healthy foods has not been taken into account!

- Documented success of community-based interventions, with multi-stakeholder involvement.
  - Lonely riders fail (Obes Rev. 2006 Feb;7 Suppl 1:7-66)
Consumer power one purchase at the time


http://orig05.deviantart.net/f92c/f/2012/031/4/c/consumer_power_club___by_narkalmasy-d4oac9r.jpg
Is a healthy diet also sustainable?


Time for action is now

patterns, and health outcomes. This healthy reference diet largely consists of vegetables, fruits, whole grains, legumes, nuts, and unsaturated oils, includes a low to moderate amount of seafood and poultry, and includes no or a low quantity of red meat, processed meat, added sugar, refined grains, and starchy vegetables. The global

Food in the Ant

healthy diets from

Paradigm change: From individual burden to working together for common goals

Traditional Behaviour Models
- Theory of planned behaviour
- Stages of change model
- Health belief models

Centered on individual choices
Assumptions of rationality!
Focus on provision of information!

Behavioural economics: psychological, social, cognitive, and emotional factors on the economic decisions of individuals and institutions.

Assess the impact of different kinds of behaviour in response to different environments
Choice architecture & nudging

Definition of a Choice Architecture:

“A choice architecture is designed by a choice architect who frames or presents various options for making choices, that may end up nudging a person towards a desired choice”

Definition of a nudge:

“A nudge is any aspect of the choice architecture that alters people’s behaviour in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid”

Nudging as science:

_Nudging is the systematic and evidence-based development and implementation of nudges in creating behavior change._ Hansen 2016

https://behavioralpolicy.org/what-is-nudging/
Choice architecture

• Choice architectural techniques fall within three broad levels of implementations:
  • Changes in the environment (e.g. décor, light, equipment)
  • Social re-configuration (e.g. new norms, situations)
  • Individually oriented re-focusing (e.g. new cues, priming)
PROVIDING EVIDENCE SUPPORTING BEHAVIOUR CHANGE THROUGH NUDGES
This research will focus on vegetable acceptability and consumption through product exposure across age groups and institutional settings (schools, workplace and elder care) for the development of a platform for predictive modelling of the determinants of vegetable intake in foodservice.

- Time frame: 10/2013 – 9/2017
- Budget: 343.246 € = 2.574.345 DKK
- Modality: Secondments – Staff Exchange
- PI at KU: Armando Perez-Cueto (apce@food.ku.dk)
From systematic reviews & consumer surveys

• Manipulation of food product order or proximity can influence food choice.
  • GAP: High quality studies that quantify the magnitude of positional effects on food choice in conjunction with measuring the impact on food intake, particularly in the longer term. Bucher et al, 2016 Br J Nutr 115, 2252-2263

• Environmental, educational and multi-component interventions are more effective
  • Appleton et al 2016 Eur J Nutr DOI: 10.1007/s00394-015-1130-8

• Publications specifically on plant-based diets are still scarce!
  • Healthy eating nudges were mostly on fruits and vegetables Nielsen et al 2018 Complem Med Res 25 (Suppl 1), 16

• Although the political debate is hot, concerned people don’t really mind nudging as accompanying measure to help achieving healthy & sustainable eating goals!
  • Nørnberg et al. Fam Consum Sci Res J 44 (3), 264-279
Evidence from experimental studies

BEHAVIOUR STUDIES IN BEHAVIOR LAB
Nudging men to eat veggies?

Control n=32
Intervention n=33:
altering the serving sequence and serving the F&V components in eight separate bowls

Total Energy lower in the intervention (-1326.3 kJ, p=.010)
Total serving weight was not statistically different

5. Concluding remarks

This study demonstrated that a nudge design consisting of changing the placement of F&V to the beginning of the serving sequence, and presenting the F&V components in separated bowls increased the self-served quantity of F&V and simultaneously decreased the quantity of non-F&V components in the intervention group and total energy intake. This study suggests that choice architectural nudges can be effective to promote healthy eating.
Comparison of three nudge interventions (priming, default option, and perceived variety) to promote vegetable consumption in a self-service buffet setting

Rasmus Friis†a, Laurits Rohden Skov‡b, Annemarie Olsen1, Katherine Marie Appleton3, Laure Saulais4,5, Caterina Dinnella6, Heather Hartwell7, Laurence Depezay8, Erminio Monteleone6, Agnès Giboreau6, Federico J. A. Perez-Cueto1∗

1 Department of Food Science, University of Copenhagen, Frederiksberg C, Denmark, 2 Institute for Planning & Development, Aalborg University, Copenhagen SV, Denmark, 3 Research Centre for Behaviour Change, Department of Psychology, Faculty of Science and Technology, Bournemouth University, Poole, Dorset, United Kingdom, 4 Centre for Food and Hospitality Research, Institut Paul Bocuse, Chateau du vivier, Ecully Cedex, France, 5 UMR GAEL, CNRS, INPG, INRA, Université Grenoble-Alpes, Saint Martin d’Hères, France, 6 Department of Management of Agricultural, Food and Forestry Systems, University of Florence, Florence, Italy, 7 School of Tourism, Foodservice and Applied Nutrition Research Group & Health and Wellbeing, Faculty of Management, Bournemouth University, Bournemouth, United Kingdom, 8 BONDEUELLE Corporate Research & Communication, Food & Behaviours department, Fondation Louis Bonduelle, Villeneuve D’Ascq, France

† Current address: Aarhus University, Aarhus, Denmark
‡ Current address: Danish Competition and Consumer Authority, Vælby, Denmark
* apce@food.ku.dk

https://doi.org/10.1371/journal.pone.0176028
Control
Priming
Increased variety
Increased variety
Results

Increased variety n=31
Conclusion

• If your objective is to reduce total intake → priming and increased visual variety.
• To increase total vegetable intake → give a default serving.
SCALING UP NUDGES FROM LAB TO FIELD: THE DISH OF THE DAY

When we need to accept the null-hypothesis
Promotion of novel plant-based dishes among older consumers using the ‘dish of the day’ as a nudging strategy in 4 EU countries


European Journal of Nutrition
https://doi.org/10.1007/s00394-019-01903-y

Impact of a nudging intervention and factors associated with vegetable dish choice among European adolescents


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Why “dish of the day”? 

• Our previous work: Status-quo bias/default works well to increase vegetable intake  
  • At lab PLoS One. 2017 May 31;12(5):e0176028 
  • In living lab setting (submitted) 

• HECTOR Stakeholders: Dish of the day suggested by catering as strategy towards healthy eating  
Design & participants

• Independent samples
  • Compare control vs. intervention groups

• Present the plant-based option as “dish of the day”
  • Rationale for dish selection: A dish that would not be spontaneously consumed, but is likely to be consumed with the help of choice architecture (nudging).

• Min N=44 of each group (adolescents, active older) in each centre and each condition

• And WP5 modelling consumer choices with or without nudging

For older people we served rice instead of pasta.
Younger & older participants

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<tr>
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<th>Meat balls</th>
<th>Veggie balls</th>
<th>Fish cakes</th>
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<td>Younger</td>
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Proportion of consumers choosing each option

Meat balls  | Veggie balls | Fish cakes
---          | ---          | ---
9%          | 12%          | 13%          |
24%         | 20%          | 15%          |
67%         | 67%          | 72%          |
74%         | 74%          | 65%          |
65%         | 62%          | 62%          |
30%         | 35%          | 19%          |
19%         | 14%          | 19%          |
19%         | 14%          | 19%          |
14%         | 14%          | 14%          |
Lessons

• We found no difference in dish choice between control and intervention situation for both adolescents and older people;

• The dish-of-the-day nudging strategy did not work under the study conditions;

• Familiarity seemed to be an important driver for the choice of the animal-based dishes (meatballs and fish cakes are dishes that are well known by our sample, and the veggie balls were something “new”).

• Both populations – high food neophobia.
Are there ways ahead? Consider facilitators

Drivers towards Plant-Based Consumption

- Ethics, animal rights, environmental sustainability
- Taste, variety and satiety
- Health and wellbeing
- Social support
- Availability, accessibility, price and convenience

Barriers and facilitators towards adopting a more plant-based diet in a sample of Danish consumers

Malou F.S. Reipurth, Lasse Hørby, Charlotte G. Gregersen, Astrid Bonke, Federico J.A. Perez Cueto

University of Copenhagen, Department of Food Science, Future Consumer Lab, Rolighedvej 26, 1958 Frederiksberg C, Denmark
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Thank you very much for listening