



**AALBORG UNIVERSITY**  
DENMARK

**Aalborg Universitet**

## **Smaller plates, less food waste**

*A choice architectural experiment in a self-service eating setting*

Schmidt, K; Skov, Laurits Rohden; Jespersen, A M; Hansen, Pelle Guldborg; Perez-Cueto, Armando; Mikkelsen, Bent Egberg

*Published in:*

Annals of Nutrition and Metabolism

*Publication date:*

2013

*Document Version*

Early version, also known as pre-print

[Link to publication from Aalborg University](#)

*Citation for published version (APA):*

Schmidt, K., Skov, L. R., Jespersen, A. M., Hansen, P. G., Perez-Cueto, A., & Mikkelsen, B. E. (2013). Smaller plates, less food waste: A choice architectural experiment in a self-service eating setting. *Annals of Nutrition and Metabolism*, 63(Suppl1), 1754. Article PO3080. <http://www.karger.com/Article/Pdf/354245>

### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

### **Take down policy**

If you believe that this document breaches copyright please contact us at [vbn@aub.aau.dk](mailto:vbn@aub.aau.dk) providing details, and we will remove access to the work immediately and investigate your claim.

---

**PO3079****THE SMALLER THE PIECE THE HEALTHIER CONSUMPTION – A CHOICE ARCHITECTURAL EXPERIMENT IN BEHAVIOURAL NUTRITION**

L. Rohden Skov<sup>1</sup>, K. Schmidt<sup>2</sup>, P. Guldborg Hansen<sup>3</sup>, K. Lund Skov<sup>2</sup>, B. Egberg Mikkelsen<sup>1</sup>, F J A. Pérez-Cueto<sup>1</sup>

<sup>1</sup>Meal Science & Public Health Nutrition, Department of Development & Planning, Aalborg University, Copenhagen, Denmark

<sup>2</sup>Roskilde University, Roskilde, Denmark

<sup>3</sup>Initiative for Science, Society & Policy, Department for Marketing and Management, University of Southern Denmark, Denmark

<sup>4</sup>Roskilde University, Roskilde, Denmark

**Background and objectives:** Unhealthy dietary habits influence individual and societal well-being, since they are associated with the rise of chronic non transmissible diseases worldwide. Although several campaigns promoting healthier lifestyles have been implemented in Northern Europe, and consequently people are more conscious about nutritional recommendations, low intake of fruit and vegetables remains an issue in Scandinavia, calling for innovative ways of intervention. The aim of this pilot study was to investigate the influence of the portion sizes on the consumption levels of apples and cakes presented during the snack breaks. The hypothesis was that consumers could be nudged to healthier food choices by improving accessibility to sliced apples and make a “healthier” cake portion (small) the default.

**Methods:** The sample consisted of 391 people attending a congress in Copenhagen, Denmark. People were divided in two groups for snacking during breaks, and were informed that this was for logistic reasons. Two snack tables were set up, one with normal sized pieces of cake (usual sizes provided by the caterer) as well as whole apples (control N=189), and a table with halved pieces of cake as well as apples served in quarter pieces (intervention (N=202)). Four students did observation using electronic counting system. Outcome was measured in quantity of cake and apples consumed.

**Results:** Total consumption of cake was 30.2% lower per person and apple consumption was higher by 83.9% per person in the intervention site when compared to control.

**Conclusions:** This pilot study supports the hypothesis that the presentation of snacks plays an important role in the consumption of fruit and cake among Danish adults. Further, it suggests that such approach could become a supportive tool set for achieving PHN objectives.

**Key words:** nudging, fruit and vegetables, snacks, healthy eating, consumer behaviour.

---

**PO3080****SMALLER PLATES, LESS FOOD WASTE – A CHOICE ARCHITECTURAL EXPERIMENT IN A SELF-SERVICE EATING SETTING**

K. Schmidt<sup>2</sup>, L. Rohden Skov<sup>1</sup>, P. Guldborg Hansen<sup>3</sup>, A. Maaløe Jespersen<sup>3</sup>, F J A. Pérez-Cueto<sup>1</sup>, B. Egberg Mikkelsen<sup>1</sup>

<sup>1</sup>Meal Science & Public Health Nutrition, Department of Development & Planning, Aalborg University, Copenhagen, Denmark

<sup>2</sup>Roskilde University, Roskilde, Denmark

<sup>3</sup>Initiative for Science, Society & Policy, Department for Marketing and Management, University of Southern Denmark, Denmark

**Background and objectives:** With roughly one-third of food produced for human consumption lost or wasted globally (about 1.3 billion tons per year), the impact on the environment cannot be anymore neglected. Actions at all points in the production chain are now urgent, including reductions in food waste at home, by retailers and producers. Northern European consumers are among the most environmentally concerned consumers, however, their concerns do not always translate in more sustainable food-related behaviours. Furthermore, food choices are not always rational and could be non-reflective. Hence, the objective of this pilot study was to investigate whether the size of the dishware would non-reflectively influence the amount of foods taken from an “ad-libitum” buffet and the resulting amount of waste.

**Methods:** Sample consisted of Danish business leaders that took part in a congress in Copenhagen, Denmark. Two buffet tables were set up on two separate floors; one with normal sized plates (usual sizes provided by the caterer, 27cm) that served as controls (N=75), and a table with smaller sized plates (24cm) that served as the intervention (N=145). Participants were allocated to each of the two floors, and informed that this was for logistic reasons. All food waste was collected in designated trash bags (different colour in each floor) and weighted in bulk by students.

**Results:** Smaller plates appear to have decreased food waste by 26% compared to the standard sized plates at a single serving in a self-service eating setting.

**Conclusions:** This pilot study supports the hypothesis that dishware size plays an important role in the amount of food wasted among Danish adults in a self-service eating setting. This finding has PHN implications: slight changes in the foodscape can contribute to sustainable food consumption goals.

**Key words:** nudging, buffet, sustainable consumption, environment, consumer behaviour.