An update: choice architecture as a means to change eating behaviour in self-service settings
A systematic review

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An update: choice architecture as a means to change eating behaviour in self-service settings: a systematic review

III World Congress of Public Health Nutrition

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Obesity Prevention/Treatment

Choice architecture as a means to change eating behaviour in self-service settings: a systematic review

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Summary
The primary objective of this review was to investigate the current evidence base for the use of choice architecture as a means to change eating behaviour in self-service eating settings, hence potentially reduce calorie intake. Twelve databases were searched systematically for experimental studies with predefined choice architecture interventions in the period of June 2011–March 2012. The 12 included studies were grouped according to type of interventions and underwent a narrative synthesis. The evidence indicates that (i) health labelling at point of purchase is associated with healthier food choice, while (ii) manipulating the plate and cutlery size has an inclusive effect on consumption volume. Finally, (iii) assortment manipulation and (iv) payoff option manipulation was associated with healthier food choices. The majority of studies were of very weak quality and future research should emphasize a real-life setting and compare their results with the effect of other more well-established interventions on food behaviour in self-service eating settings.

Keywords: Choice architecture, eating environment, nudging, obesity.

obesity reviews (2012) 14, 167–190

Background
Rates of obesity and overweight are increasing and the type and volume of food intake are crucial determinants of this development (1). With increasing rates of people eating outside home (2,3), public eating environments have been identified as venues well suited to health promotion (4–7). Traditional approaches for changing the health behaviour of individuals have primarily focused on the influence of individual factors rather than environmental factors (8). Thus, there is a growing interest in studying the effect of changes in food environments out of the home. The increasing evidence suggests that the environment impacts our behaviour not only through reflective and cognitive pathways, but that dietary behaviour and physical activity may also be influenced by non-reflective automatic pathways (9,10), hence individual health promoting strategies might fail. This recognition has fuelled a new research interest into the mechanisms and effects of interventions, assuming that human behaviour is shaped through mechanisms and pathways building on what is often referred to as dual process theories. Such intervention designs and principles have become known as nudging or choice architecture.

Theoretical framework
This study assumes that it is possible to influence consumers' behavioural preferences towards healthier options by redesigning the environment in which consumers make their food choices, and thereby taking into account the specific activation of the brain's automatic and reflective processes. This review focuses on studies that undertook these dual processes in an experimental manner in out-of-home self-service eating environments or laboratories.
**Figure 1** Illustration of the search process conducted between 15 July and 15 August 2011 and repeated in March 2012. Skov et al 2013, Obesity reviews
What we concluded...

- Altering container & cutlery size
  - Inconsistent
- Point-of-Purchase health info
  - Some effect
- Assortment and payment methods
  - Too few studies to conclude
- More research needed
Update: Methodology

• Rapid review
• PubMed
• Search on Nudging & CA with health outcomes
Update: What is new...

12 studies were included

Mainly US-based & from two research groups
<table>
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<td>van Kleef, E., Otten, K., &amp; van Trijp, H. C. (2012). Healthy snacks at the checkout counter: A lab and field study on the impact of shelf arrangement and assortment structure on consumer choices. BMC public health, 12(1), 1072.</td>
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Update: What is new…

Study design

- Quasi-experimental & field studies
- Cafeteria & school based
- Mix of reflective & automatic nudges
- Mix of short & long interventions
Update: What is new…

Effect

- Labeling: ± across SES & over time. + Adding taste testing but ÷ with price reduction
- Smarter lunchroom: + observed food choice & consumption
- Product placement: ±
- Assortment: + observed food choice
What is pending...

- VeggiEAT
  - www.veggieat.eu

- Registered trials
Noteworthy mentions...

- **Nudging in Policy**
Noteworthy mentions...

• Dual process theory

• Attitudes towards nudging
  o Nørnberg, T., Houlby, L., Skov, L.R., & Perez-Cueto FJA (in review) Choice architectural nudge interventions for increased vegetable intake in a school setting – A systematic review of attitudes and effectiveness *Perspectives in Public Health*
Thank you

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