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

A systematic review

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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 inconclusive effect on consumption volume. Finally, (iii) assortment manipulation and (iv) payment 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.

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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. But increasing evidence suggests that the environment impacts our behaviour not only through reflective and cognitive pathways, but that dietary behaviours 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 undertake these dual processes in an experimental manner in out-of-home self-service eating environments or laboratories. For

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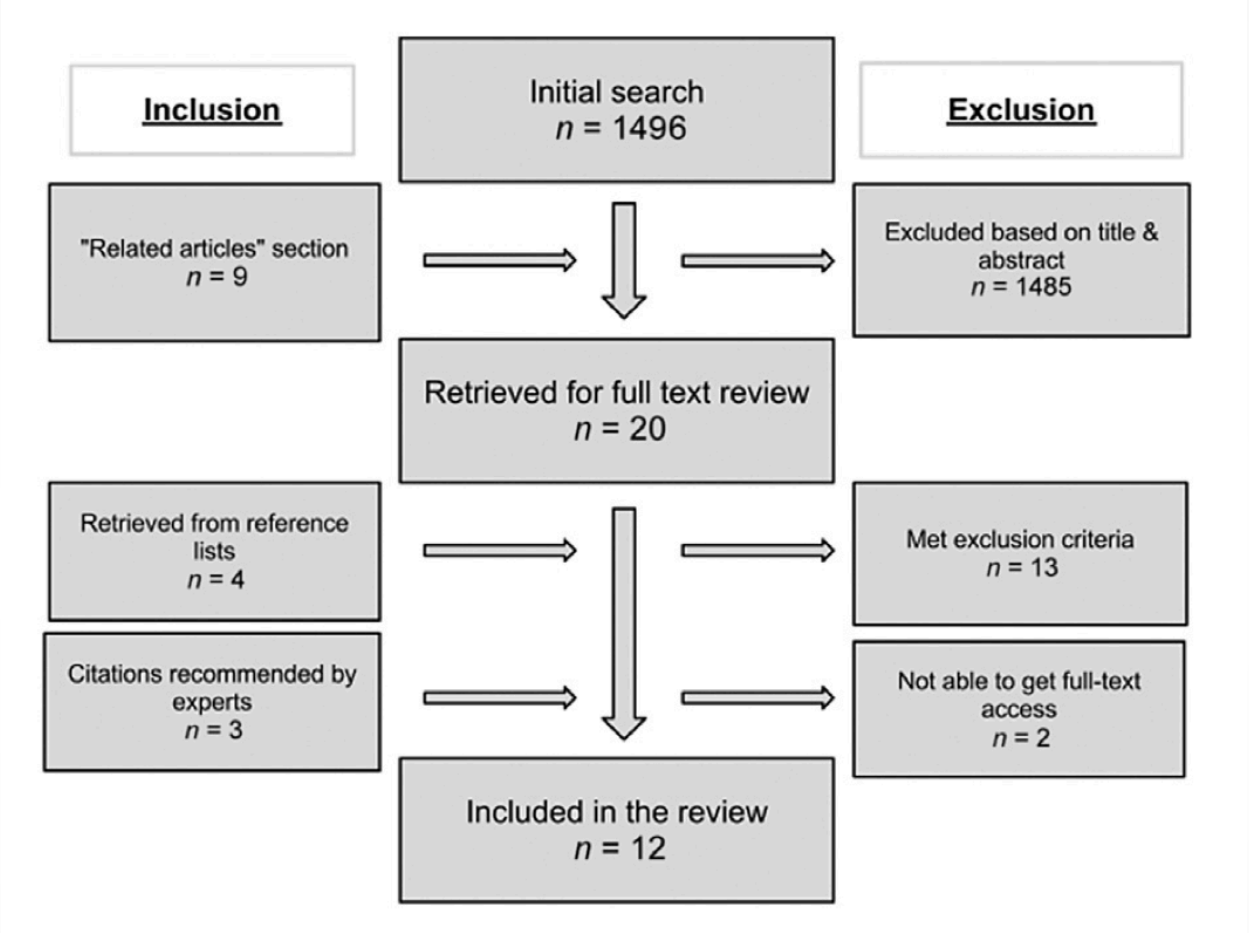

Figure 1 *Illustration of the search process conducted between 15 July and 15 August 2011 and repeated in March 2012.* *Skov et al 2013, Obesity reviews*

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

Reference

Crockett, R. A., Jebb, S. A., Hankins, M., & Marteau, T. M. (2014). The impact of nutritional labels and socioeconomic status on energy intake: an experimental field study. Appetite vol 81, p 12-19

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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
  - Geaney, F., Di Marrazzo, J. S., Kelly, C., Fitzgerald, A. P., Harrington, J. M., Kirby, A., ... & Perry, I. J. (2013). The food choice at work study: effectiveness of complex workplace dietary interventions on dietary behaviours and diet-related disease risk-study protocol for a clustered controlled trial. *Trials*, *14*(1), 370.


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Noteworthy mentions…

- Nudging in Policy
  - Oliver, A & Ubel, P (2014) Nudging the obese: a UK-US consideration. *Health Economics, Policy and Law,* 9(03), 329-342)
  - Hansen, P. G., & Jespersen, A. M. (2013). Nudge and the Manipulation of Choice: A Framework for the Responsible Use of the Nudge Approach to Behaviour Change in Public Policy. *Eur. J. Risk Reg.*, 3.

Noteworthy mentions…

- Dual process theory
  - Cohen, D. A., & Babey, S. H. (2012). Contextual influences on eating behaviours: heuristic processing and dietary choices. *Obesity Reviews, 13*(9), 766-779.
- Attitudes towards nudging
  - 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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