
Healthier eating: The role of environmental cues

Breakfast seminar NMBU January 31, 2014

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How many calories are in this meal?

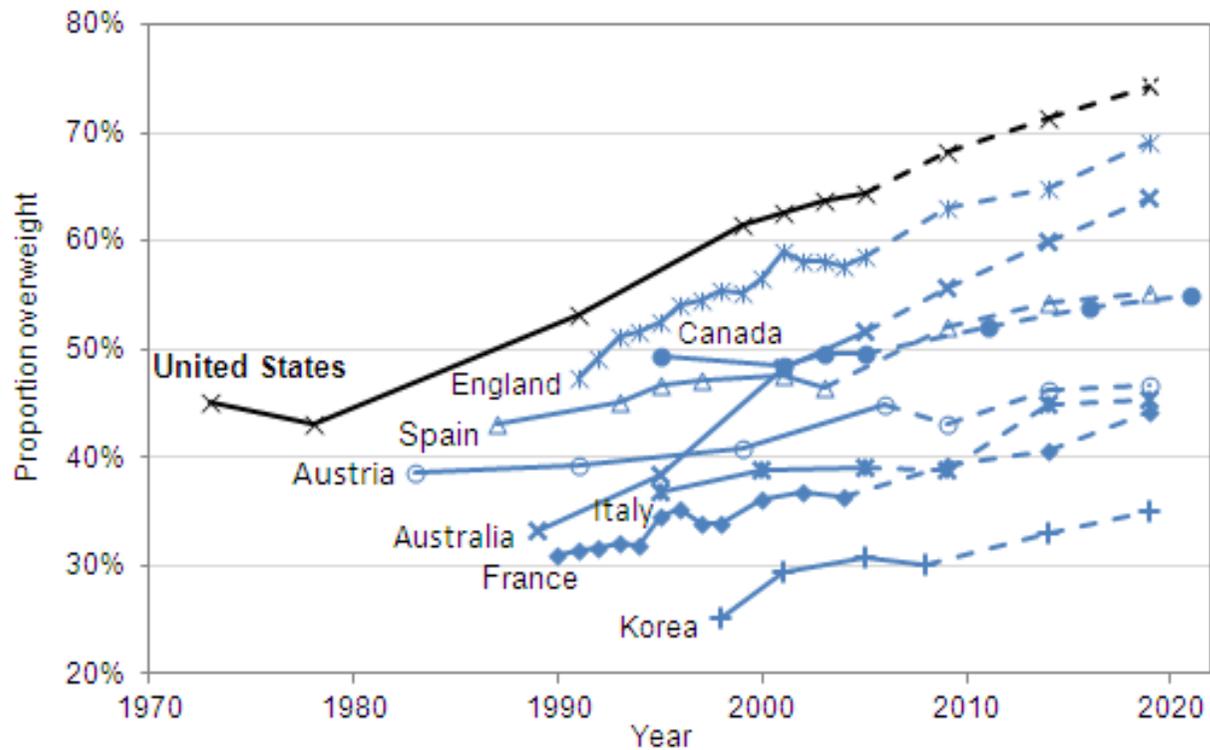
meal 1



meal 2



Increasing overweight rates



This morning

- 1) The power of food temptation
Nature or nurture?
- 2) Opposing viewpoints on what to do
'Food industry is evil' versus 'food industry can take the lead'
- 3) A few examples of win-win solutions

The power of food temptation

Shoe store in my home town



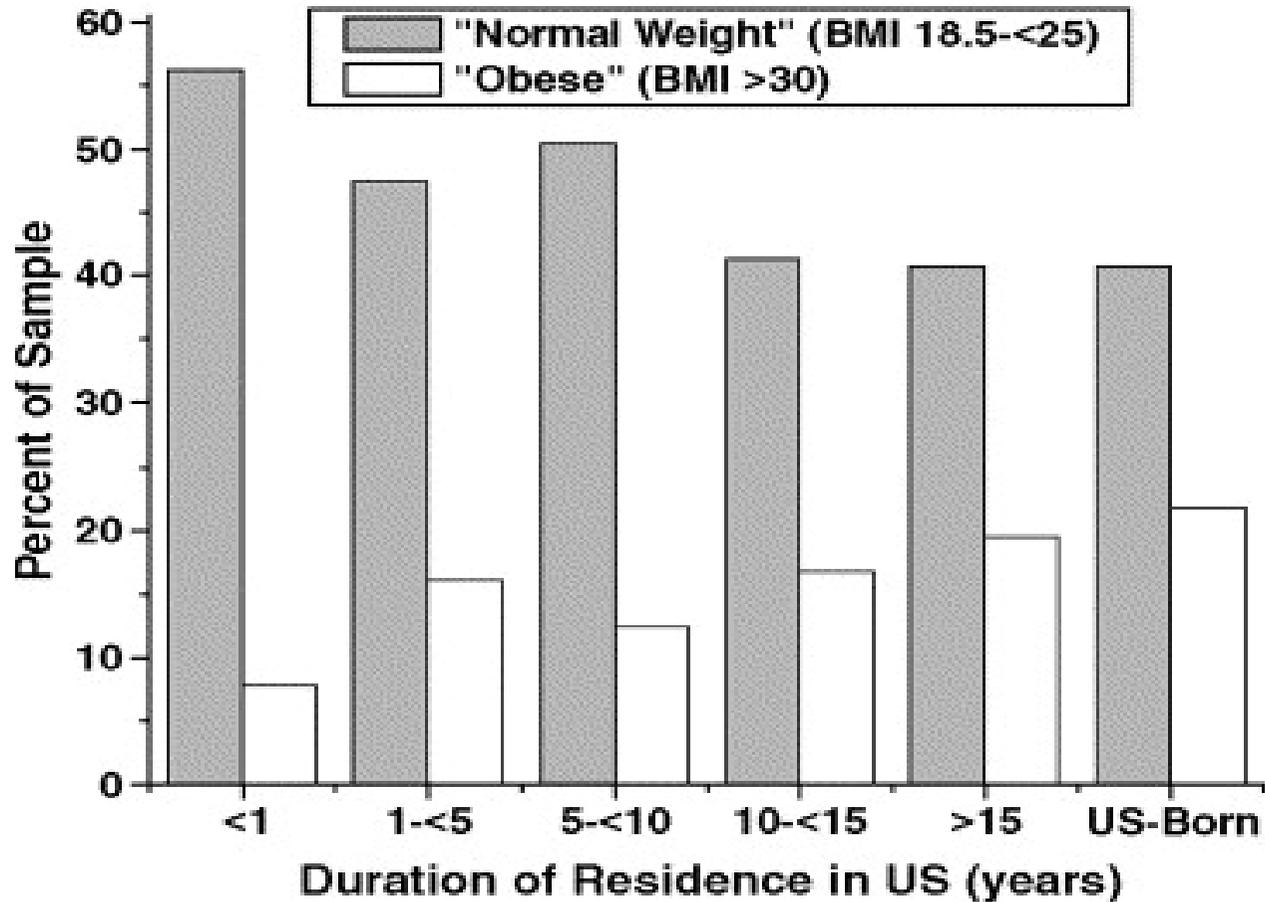
Nature or nurture?

Twin studies

- Physiological factors account for 14% of variance in daily *intake*, environmental factors for 86% (de Castro, 2010)
- Genetics account for 67% of variance in BMI (Ravussin & Bogardus, 2000)
 - Mainly because certain genes makes people hyperresponsive to food cues (Llewellyn et al., 2012)

'Genetics load the gun, environment pulls the trigger'

Human migration

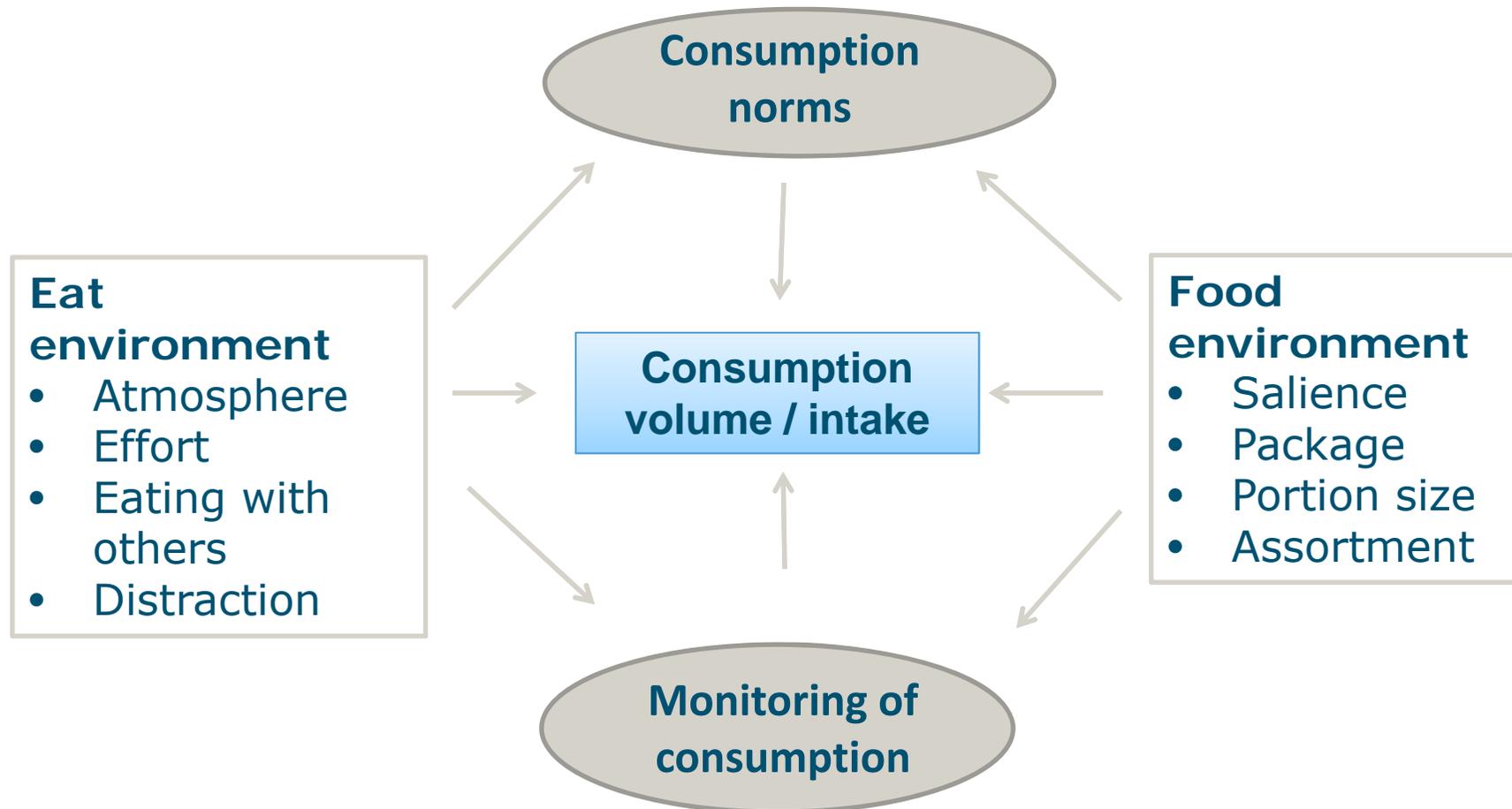


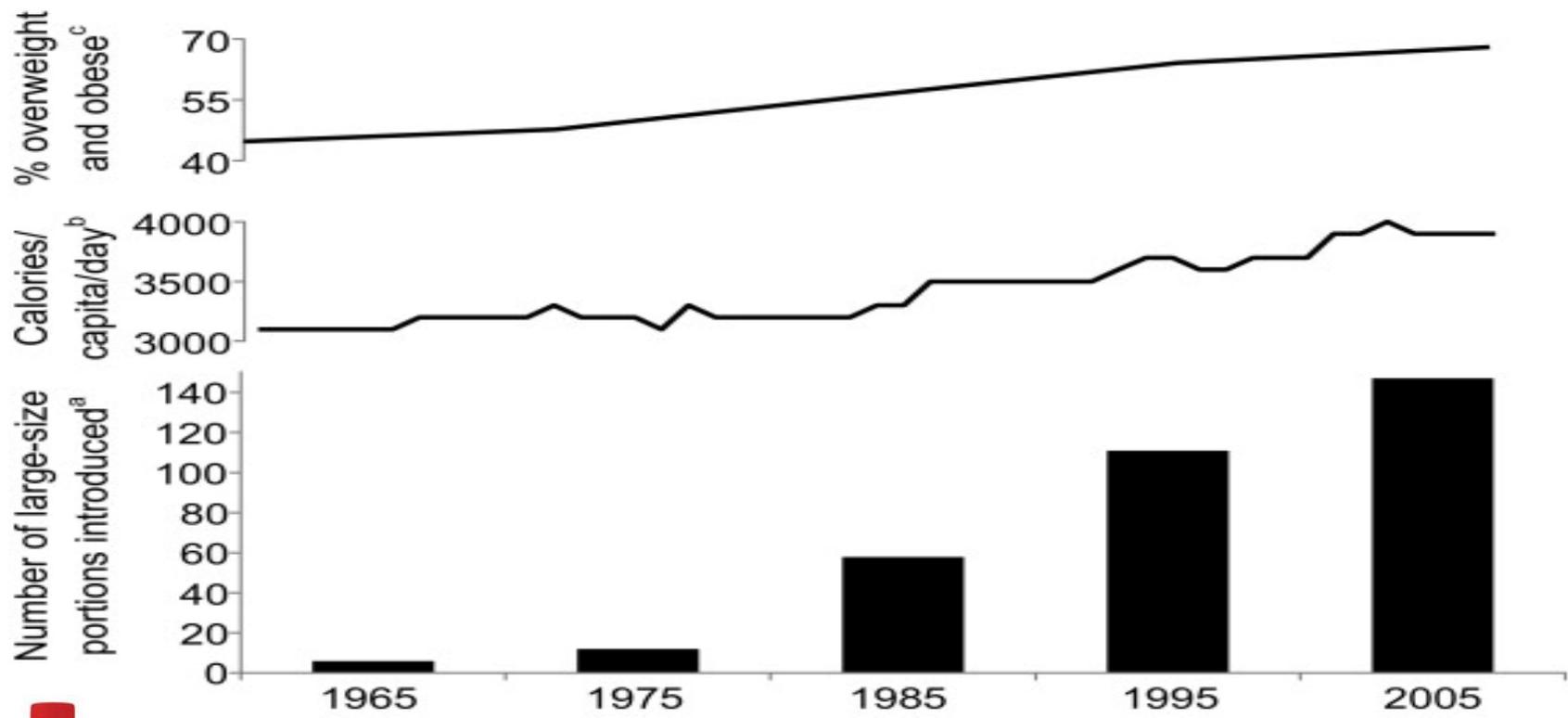
Why do you stop eating?

- Elderly with dementia ate a full second meal 10-30 minutes after they were told it time for dinner



What determines how much we eat?





Young & Nestle, 2012

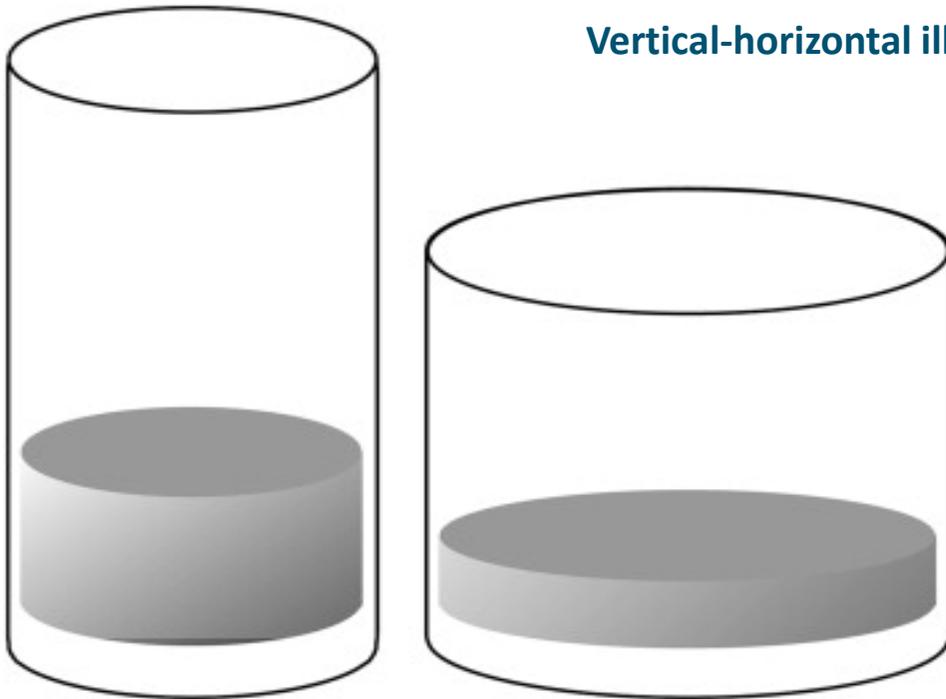
Explanations portion size effect

'Value for money'

Portion distortion

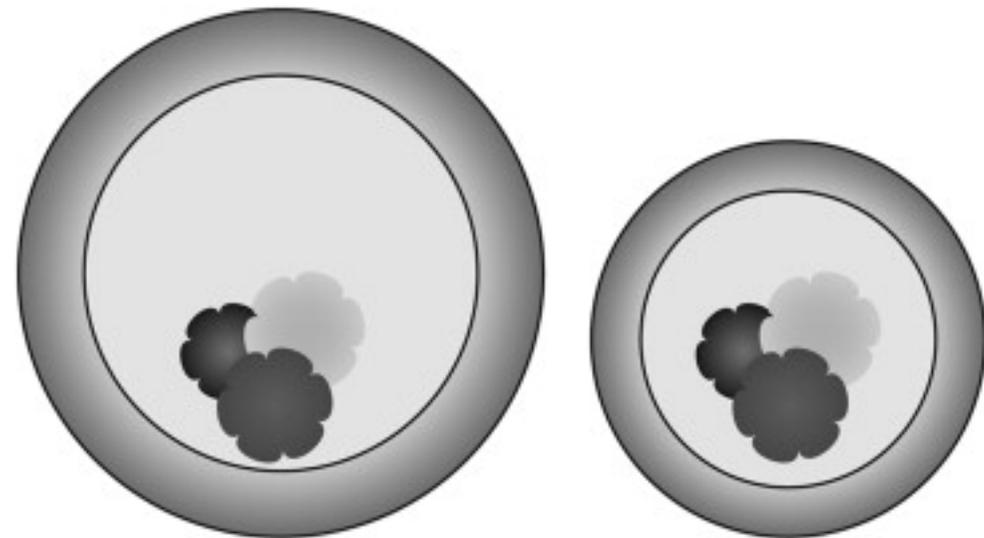
- Unrealistic labels
- 'Clean your plate' phenomenon
- Starts young (3-5 year)
- Unit size bias
- Consumption illusions

Vertical-horizontal illusion



Consumption illusions

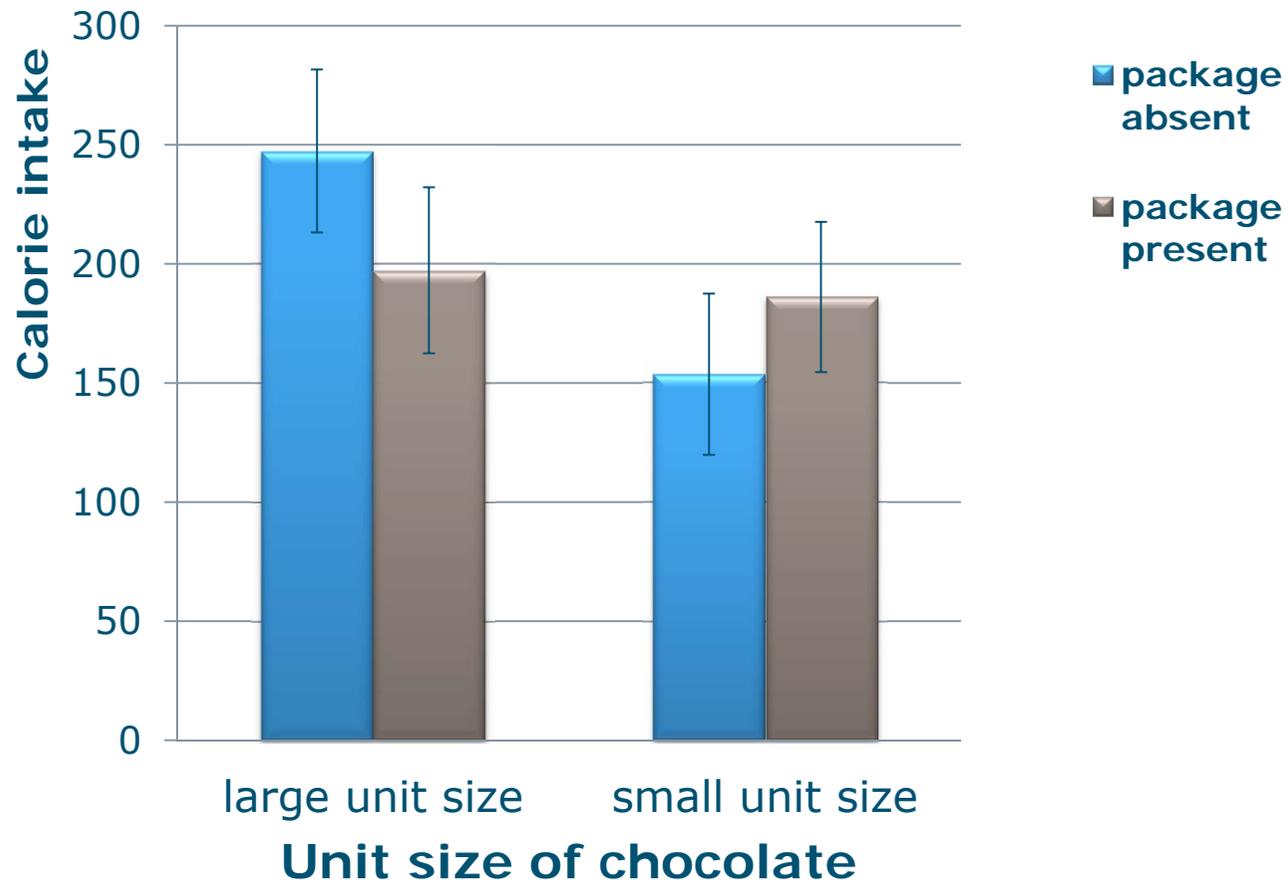
Delboeuf illusion



In which situation would you eat the most?



23% less chocolate small unit size



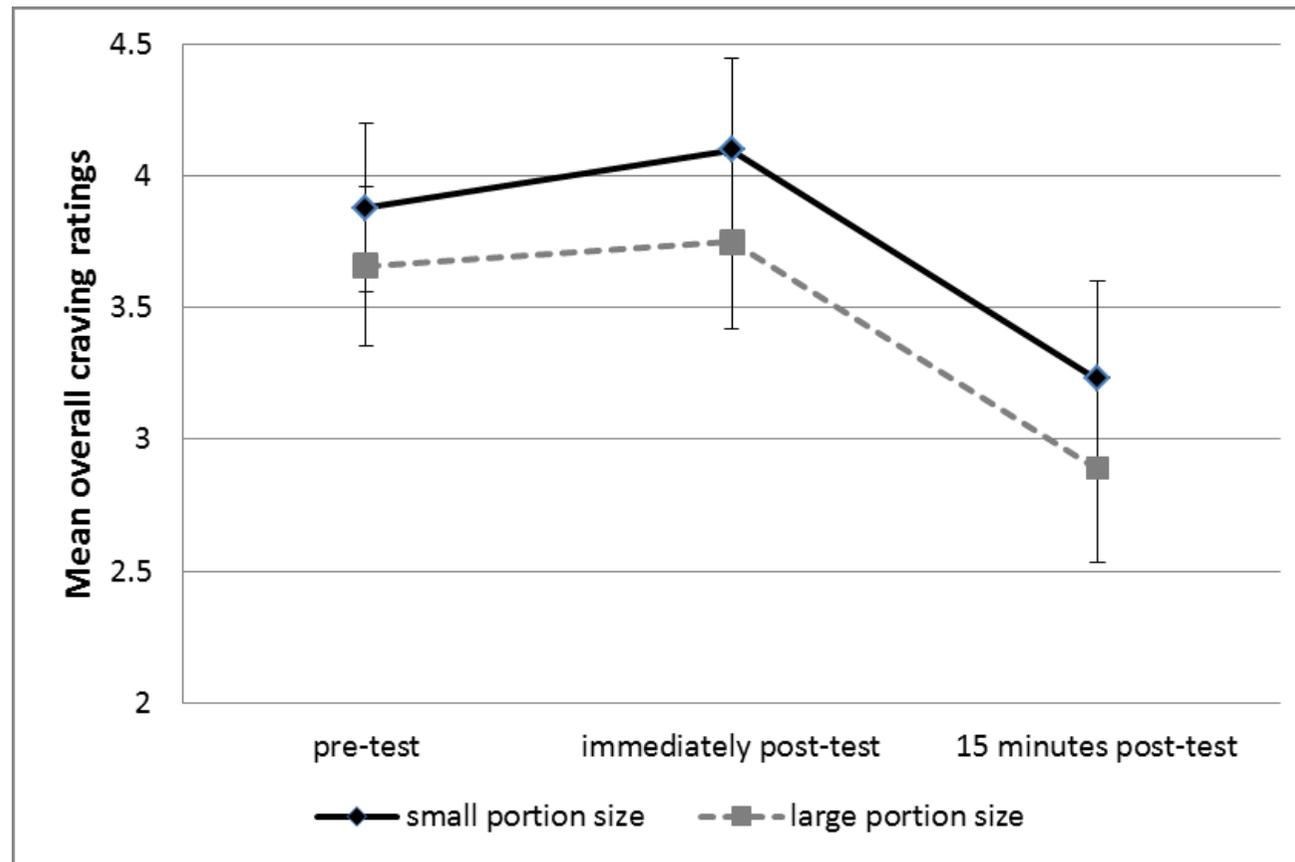
Larger portions usually not more satisfying and compensated

'Just a bite' study on snacks (n=105)

- Small vs large portion of chocolate, chips and apple pie
- Appetite / craving measured before, immediately after and 15 minutes after eating

Larger portions: 77% more calories

Satisfaction and craving: similar



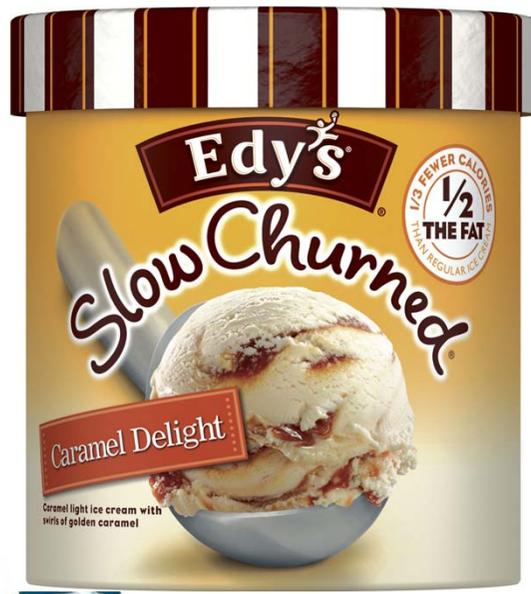
Halo effect

If a person is judged to be performing well on one aspect, this positive evaluation extends to other (unrelated) aspects



Health halos

- Claims as 'low fat', 'sugar-free'
- Words as 'diet', 'multi-grain' and 'fibers'
- Organic food



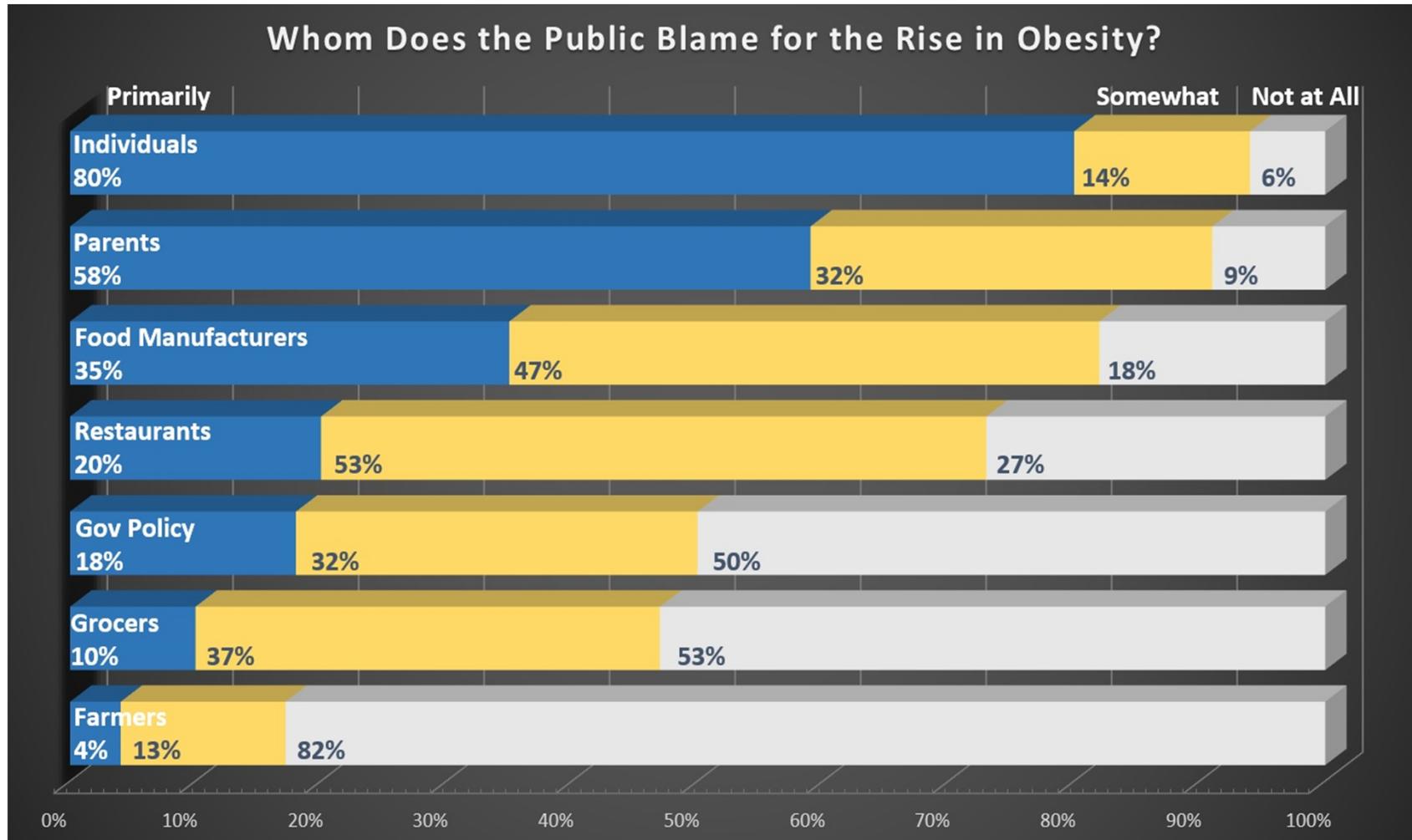
Expectations



If it sounds good, it tastes good

**Opposing viewpoints on
what to do about overweight problem**

Whom Does the Public Blame for the Rise in Obesity?

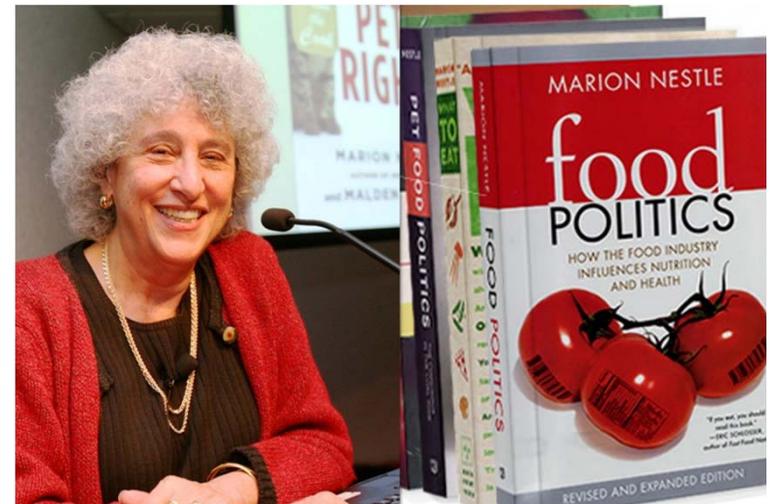


Opposing viewpoints

1) Food industry it to blame!

- Adding addictive substances
- Only look at share holder value at short-term
- 'Food industry is the new tobacco industry'
Emphasizing personal responsibility, lobbying

Response: strong regulation,
consumer empowerment
(revolution!)



foodwatch[®]

FOOD FIGHT

Lobbyists spent \$175 million. Congress made pizza a vegetable. And insiders say the Obamas backed off the food industry.

How Washington went soft on childhood obesity

BY DUFF WILSON AND JANET ROBERTS



SCHOOL YEAR: 20__ - 20__

NAME: _____

SCHOOL: _____

TEACHER: _____

REPORT CARD

Check your grades!

Reward yourself with a Happy Meal from McDonald's!

Check your grades in the current marking period and bring your report card **INSIDE A** Seminole County **MCDONALD'S® RESTAURANT**. Please present at the front counter to redeem your food prize. The food prize selection will be a Happy Meal® (Hamburger, Cheeseburger, or Chicken McNuggets) for any student who qualifies in any one of three ways:

1. All A's & B's in Academics (Grades 2-5)
2. Citizenship (no 'X's'—K-5)
3. Attendance (2 or less absences with no tardies—K-5)

Limit one Happy Meal per student per marking period. Offer valid for 30 days from marking period. Report Card **MUST** be presented at time of ordering.

A - 90-100	C - 70-79
B - 80-89	D - 60-69
F - 0-59	

McDonald's® Restaurants in Seminole County are proud supporters of various academic programs throughout Seminole County, Florida.

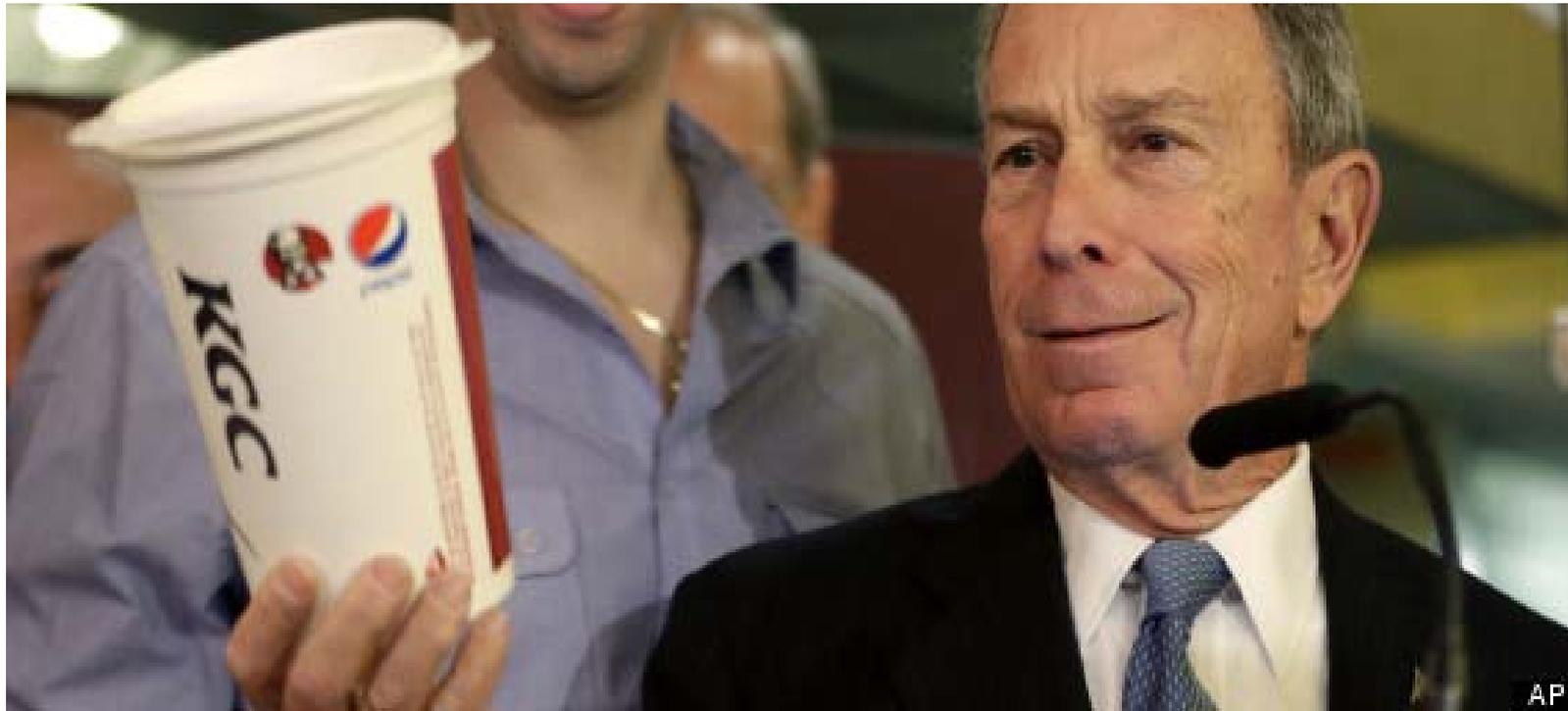


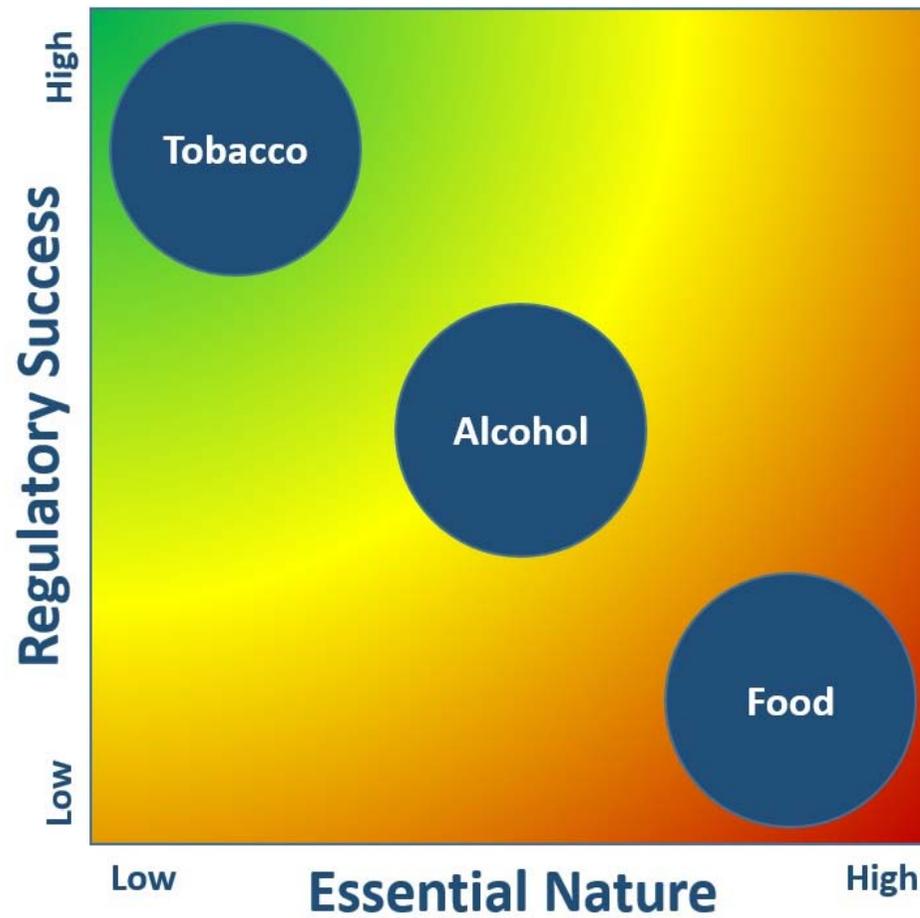
This report card incentive is a joint business partnership with McDonald's and The School Board of Seminole County, FL. McDonald's food prizes are not redeemable for cash, are not valid with any other offer, and are not transferable. Redemption is valid only during current marking period. Cash value 1/20 of one cent. Limit one offer per student per marking period. McDonald's offers Happy Meal choices (those pictured are not all included as one Happy Meal offer): Choose Fries or Apple Dippers, and choose Milk, Apple Juice or a Soft Drink. Offer valid at participating McDonald's Restaurants in Seminole County, Florida.



Revised 9/07

Bloomberg's soda ban





Opposing viewpoints

2) Food industry can make profitable win-win adjustments

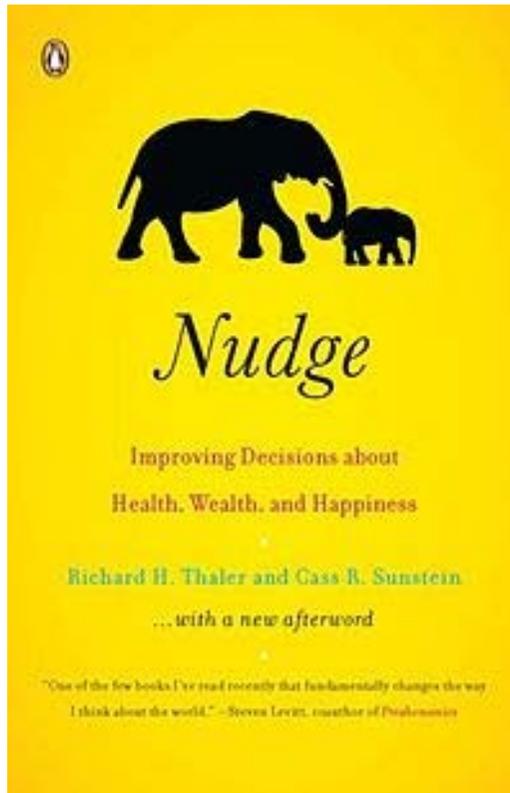
- Using marketing and sales techniques to sell healthy foods
- Recent hype; nudging research

Change the environment

- Consumers do not behave rational, but irrational at a predictable and systematic way
- Dual system thinking (Kahneman, 2012)
 - Automatic and reflective decision processes

Change the choice architecture

The hit among policy makers and researchers



Sunstein and his wife with Obama (2010)

What is a nudge?

- ... Every aspect of the **choice architecture** that **changes the people's behaviour in a predictable way, without**
 - **Banning products** or
 - **Changing economic triggers**
 - **Being expensive or hard to implement**

Is this a nudge?



Is this a nudge?

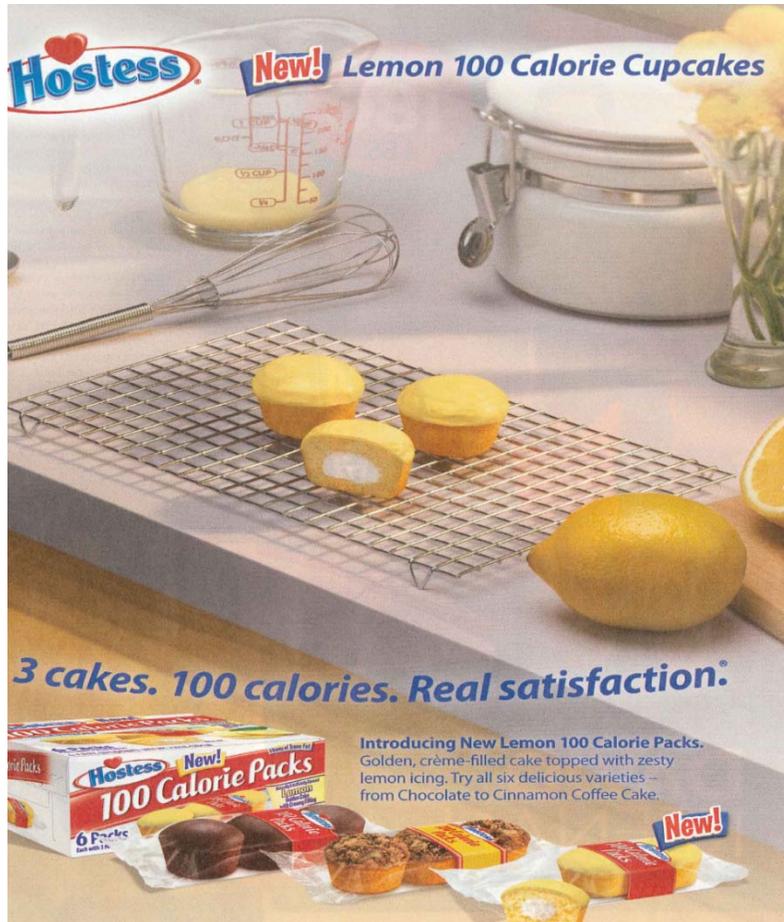


A few WIN WIN examples

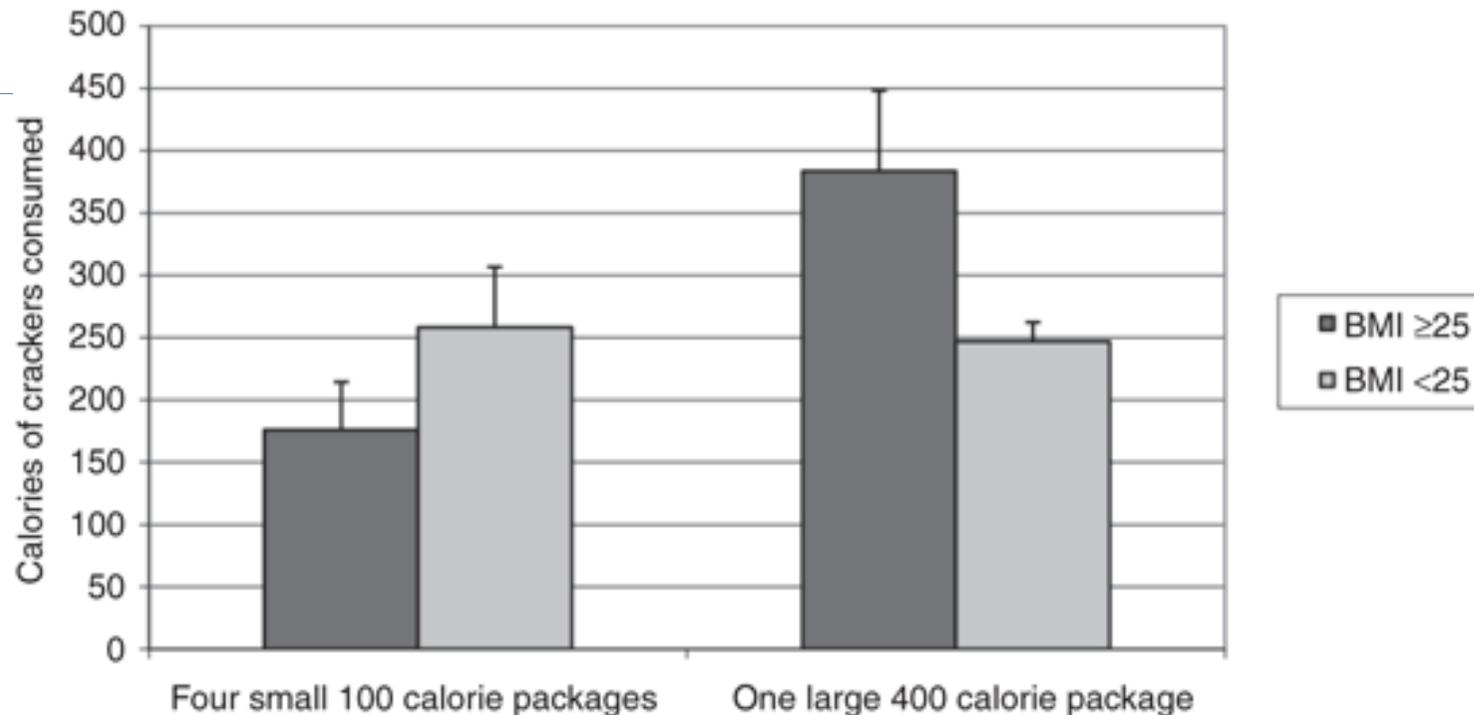
Nudges outside the food domain



100 calorie packs



100 calorie packs



Inconsistent findings

- Less intake (zie o.a. Raynor et al., 2009; Wansink et al., 2011)
- Small sizes may 'fly under the radar' (Coelho et al., 2008)

What's in a name?

28% higher sales of vegetables by changing expectations

- X-ray vision carrots, Power Punch Broccoli, instead of 'food of the day' of no name



Edible 'stop' signals?



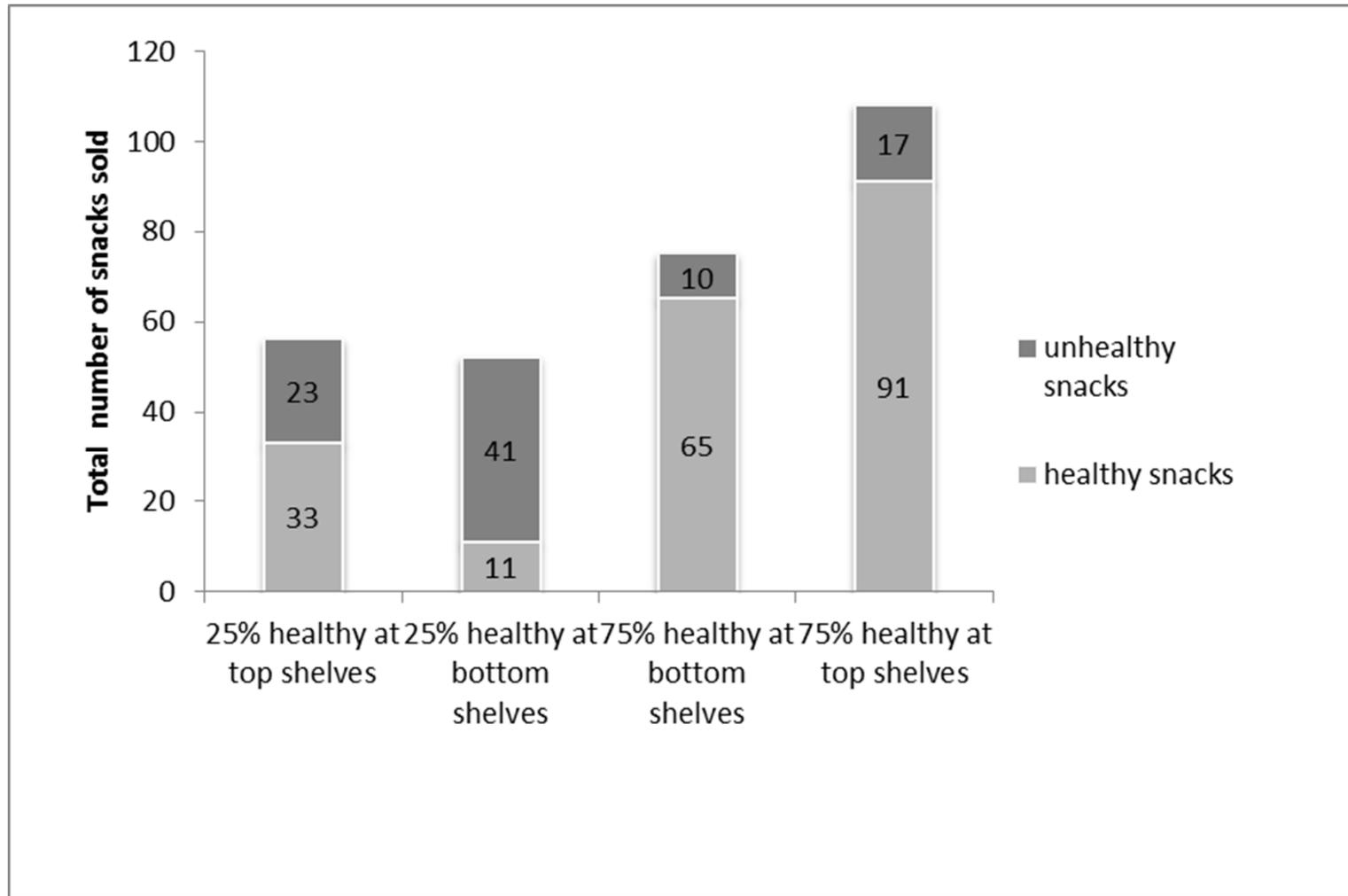
Nudge of the checkout snack assortment

- Snacks near checkout of hospital canteen
- We manipulated proportion and place of snacks
 - 25% vs 75% healthy snacks
 - Top vs lower shelves
- 4 weeks (every week another shelf)
- Daily sales data

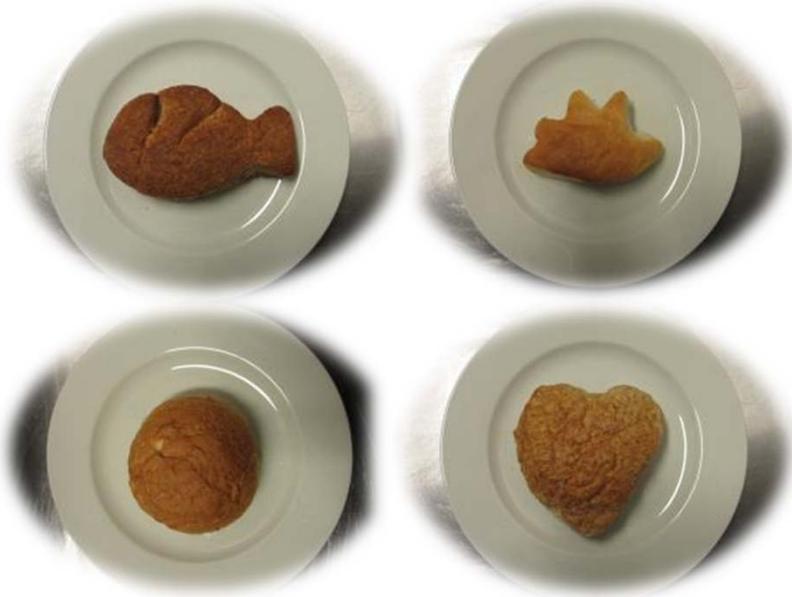
Van Kleef, Otten
and Van Trijp, 2012



Results



Nudging children towards whole wheat bread



Mirror in shopping cart



Suggestive selling

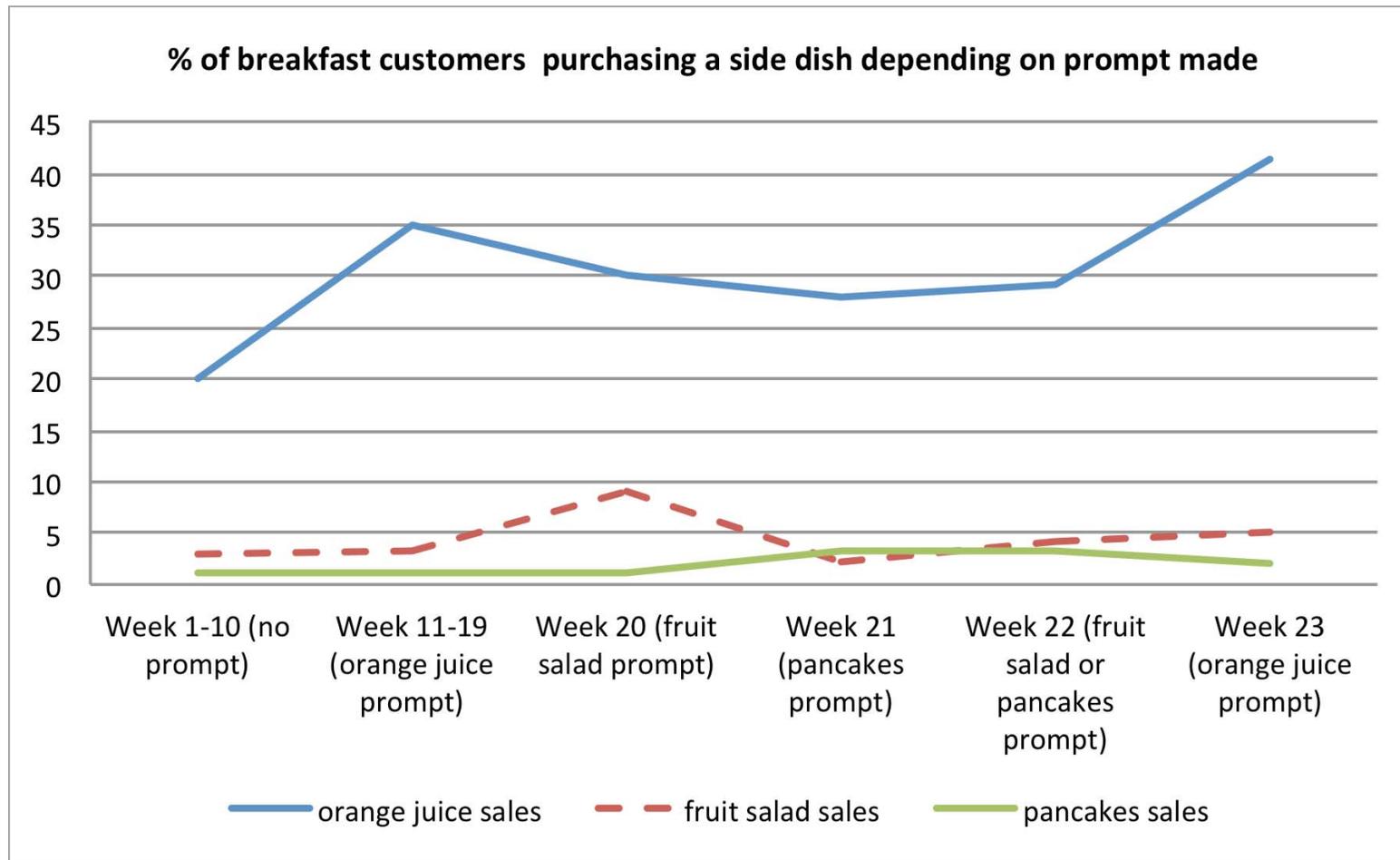
- Well-known marketing technique (Supersize me...), now a different goal
- Breakfast restaurant in Netherlands



Van Kleef, Van den Broek and Van Trijp, in preparation



Results



Concluding remarks

Healthy foods do not sell themselves

Various approaches are needed

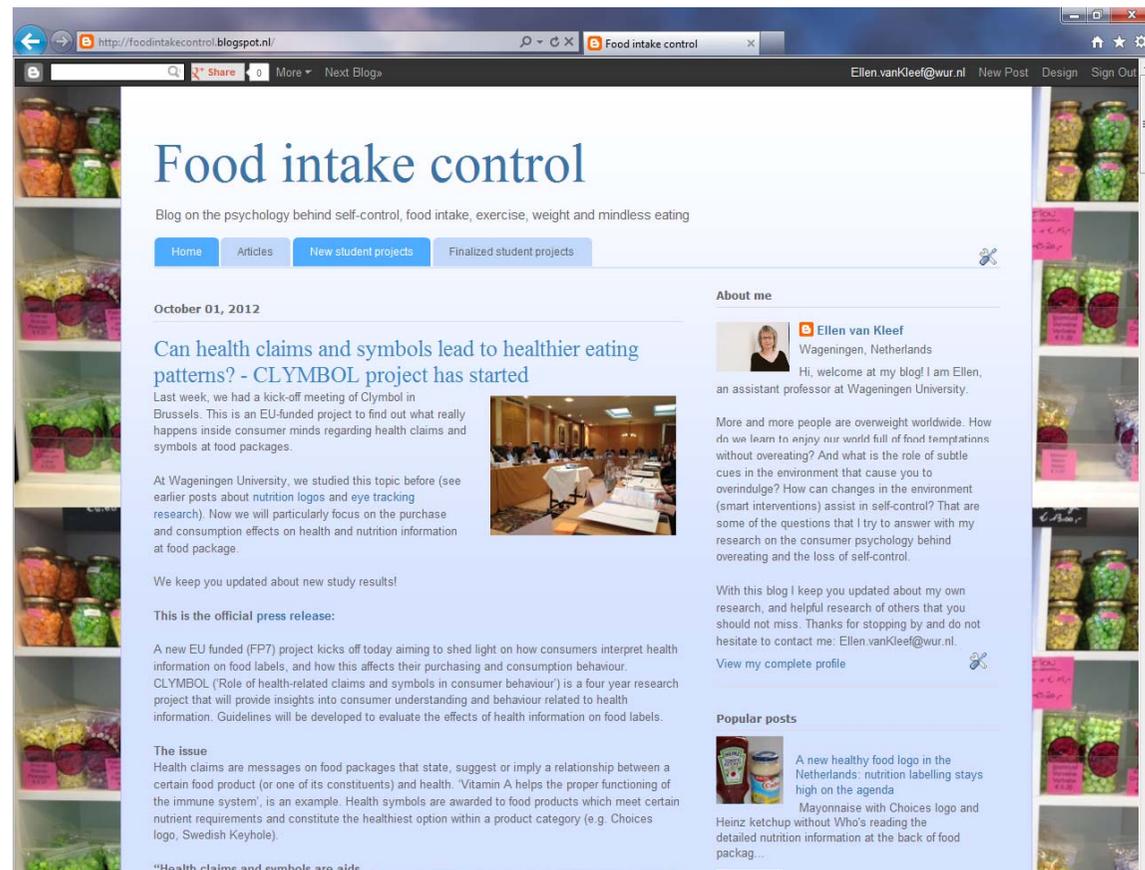
Food nudges are increasingly put to the empirical test



Thanks

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Blog Food Intake Control:
<http://foodintakecontrol.blogspot.com/>



The screenshot shows a web browser displaying the homepage of the 'Food intake control' blog. The browser's address bar shows the URL 'http://foodintakecontrol.blogspot.nl/'. The page features a navigation menu with 'Home', 'Articles', 'New student projects', and 'Finalized student projects'. The main content area is dated 'October 01, 2012' and features a post titled 'Can health claims and symbols lead to healthier eating patterns? - CLYMBOL project has started'. The post text discusses a kick-off meeting of the CLYMBOL project in Brussels, an EU-funded project to study health claims and symbols on food packaging. It mentions a study at Wageningen University and provides a link to an official press release. A sidebar on the right includes an 'About me' section for Ellen van Kleef, an assistant professor at Wageningen University, and a 'Popular posts' section with a link to a post about a new healthy food logo in the Netherlands.