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Obesity-Related Policy, Systems, and
Environmental Research in the US

Panel Discussions

 NCCOR
National Collaborative on Childhood Obesity Research



Food and Physical Activity Environments: Thinking Beyond Food Retail and Green Space



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Maximizing the Influence of Choice-Architecture and Marketing-Mix Strategies for Healthy Diets and Physical Activity in Diverse Settings

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Disclosures

- Dr. Kraak receives funding from the USDA NIFA Hatch Project VA-160189 focused on sustainable healthy diets, food systems and socially normalizing healthy portions in the U.S. using a I-PSE approach.
- No other financial or non-financial conflicts or competing interests to declare.

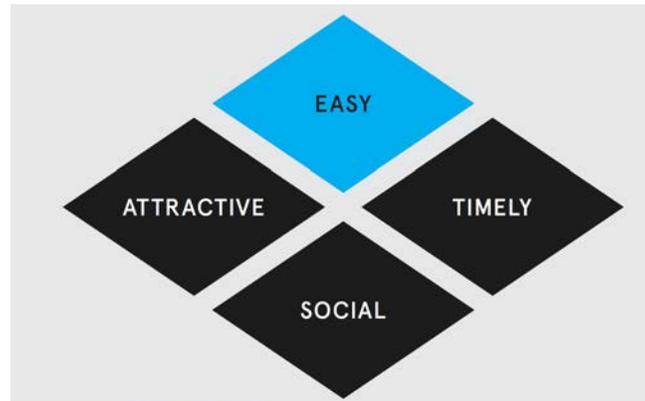
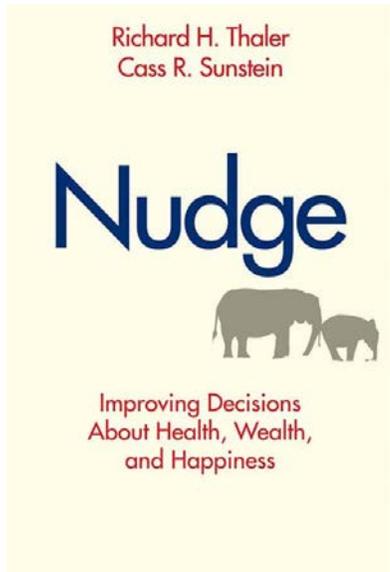


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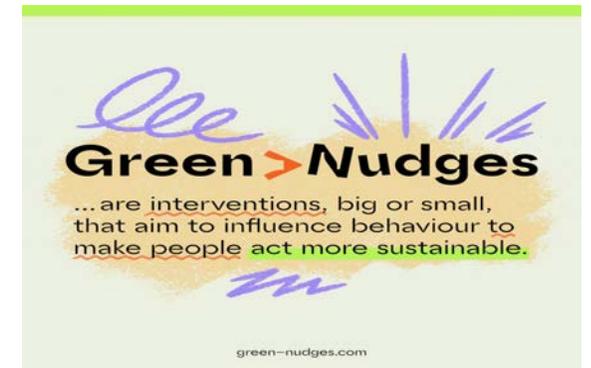
Nudge vs Nudging

“Any aspect of **choice architecture** that alters people’s behavior without restricting any options or significantly changing their economic incentives.” Thaler and Sunstein, 2008



Nudge: “Any attempt to influence people’s judgment, choices or behaviors in a predictable way by using cognitive boundaries, biases, routines and habits.”

Nudging: “Systematic and evidence-based development and implementation of nudges to create behavior change.”

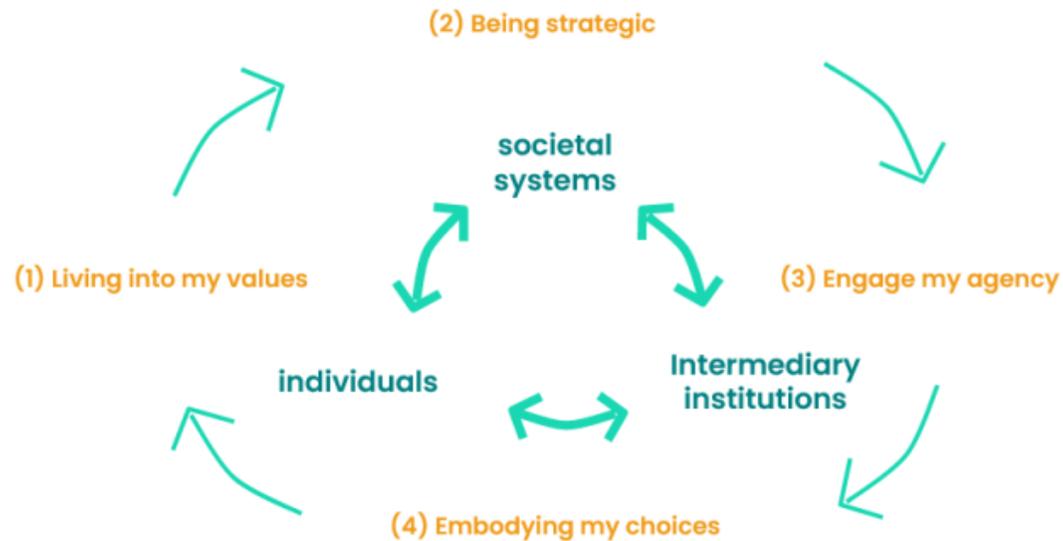


Behavioral Scientist View

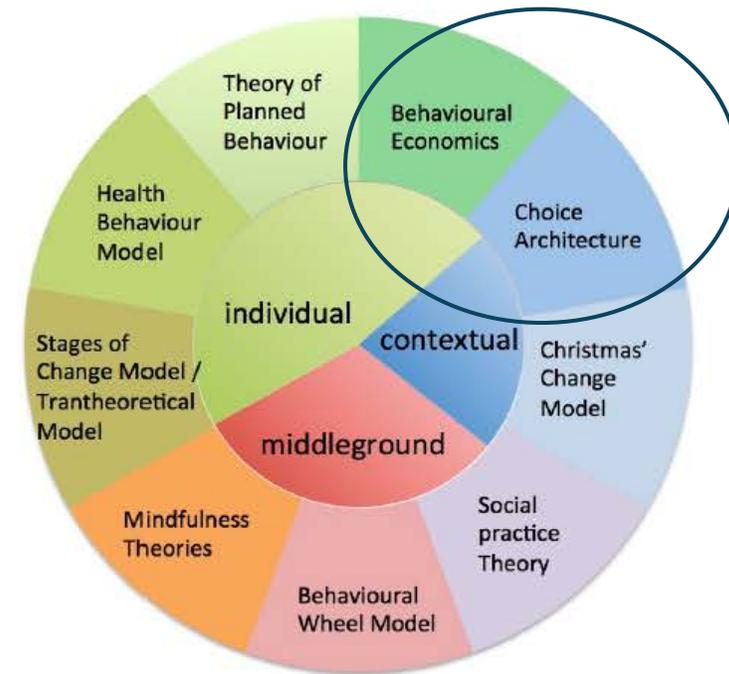
- **Nudge theory** is rooted in behavioral economics, consumer psychology and philosophy of **preserving a person's freedom of choice** (*libertarian paternalism*) without the need for government interventions (i.e., legislation, regulation, or litigation).
- **Choice** (*relational*) vs. **Agency** (*directional*) align with our values, beliefs, interests, and identity.
- **Nudges** alter choice architecture in microenvironments to influence people's judgment, choice or behavior in **predictable ways** because of cognitive biases, routines and habits through automatic processes (limited consciousness) but does not exclude reflective processes.
 - **Nudge strategies** alter the properties or placement of objects or stimuli in environments and settings to cue or change health-related behaviors.
 - Nudge strategies may influence peoples' default choices to encourage healthy-lifestyle behaviors.
 - **Nudge strategies exclude pricing** that research shows is a powerful marketing-mix strategy (i.e., product, price, place, and promotion) to reduce socioeconomic inequities to reduce health risks.
- **Nudge effectiveness** based on three assumptions
 - People will choose options that require the least amount of mental or physical effort
 - People will align their behaviors with prevailing social norms
 - People will identify with peer or cultural groups that reinforce specific behaviors

Conceptual Frameworks

Choice (relational) vs. **Agency** (directional)



Behavioral change across individual vs. context



Summary Report

September 2014

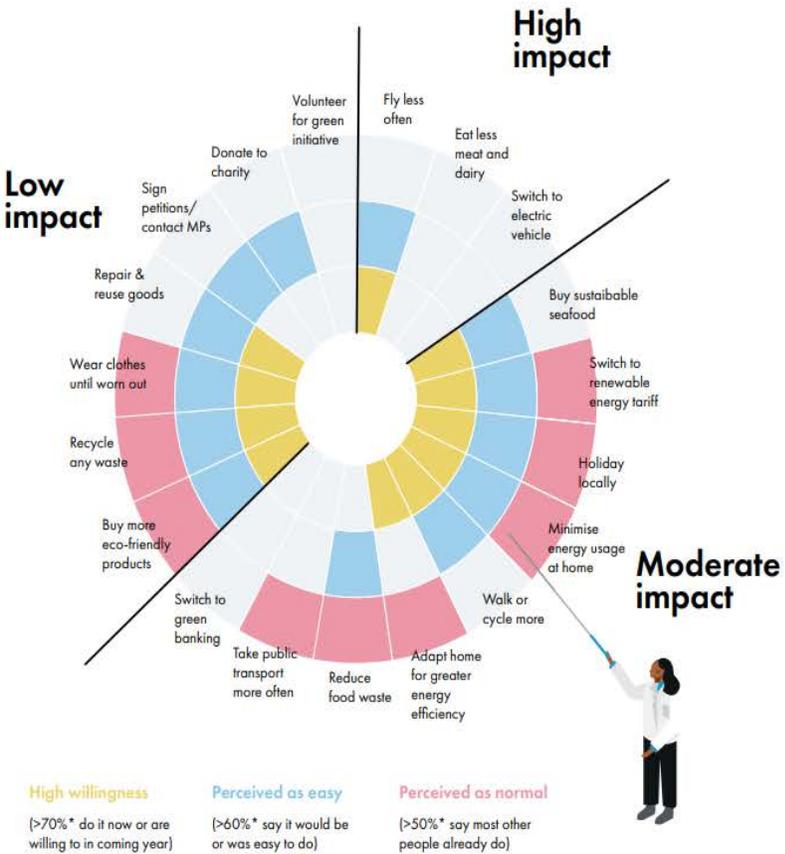


Conceptual Frameworks



Figure 1. Where to focus - willingness, perceived ease, and normality of green actions

We want this figure to be filled with pink, blue and yellow. Where cells are grey, we need to explore what broadcasters can do to make those actions seem more normal, easy, and desirable.



TIPME for changing selection, purchase and consumption of food, alcohol and tobacco.

Marteau et al. BMC Public Health (2021) 21:1531
<https://doi.org/10.1186/s12889-021-11382-8>

BMC Public Health

COMMENTARY

Open Access

Beyond choice architecture: advancing the science of changing behaviour at scale

Theresa M. Marteau^{1*}, Paul C. Fletcher², Marcus R. Munafò³ and Gareth J. Hollands⁴

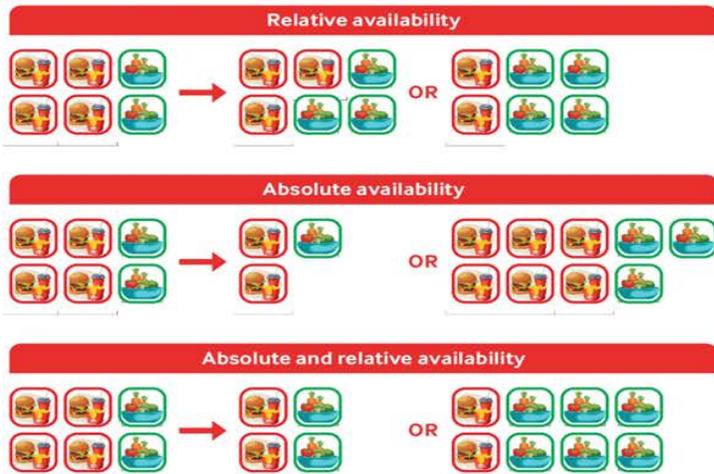
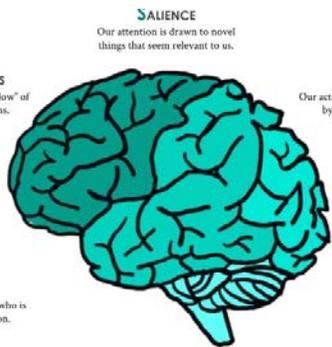
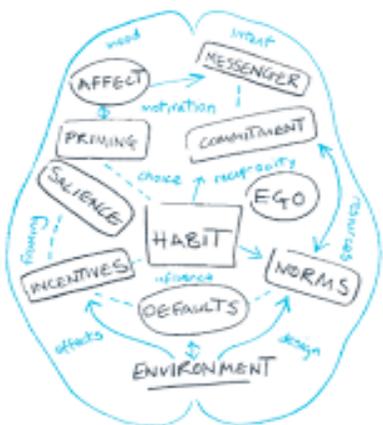


Fig 1 | Availability interventions. Burger and salad images are used to represent any option of less healthy or healthier foods, respectively.



SALIENCE
Our attention is drawn to novel things that seem relevant to us.

DEFAULTS
We "go with the flow" of pre-set options.

NORMS
We are heavily influenced by what others do.

INCENTIVES
Our responses to incentives are shaped by predictable mental shortcuts, such as the strong desire to avoid losses.

MESSANGER
We are heavily influenced by who is communicating information.

PRIMING
Our actions are often influenced by subconscious cues.

AFFECT
Our actions can be powerfully shaped by our emotional associations.

COMMITMENTS
We seek to be consistent with our public promises and to reciprocate actions.

Ego
We act in ways that make us feel better about ourselves.



Nudge Unit (2010-2024)



Changing Minds About Changing Behavior



Nuffield Policy Intervention Ladder



The misconceptions around the effectiveness of **obesity interventions**

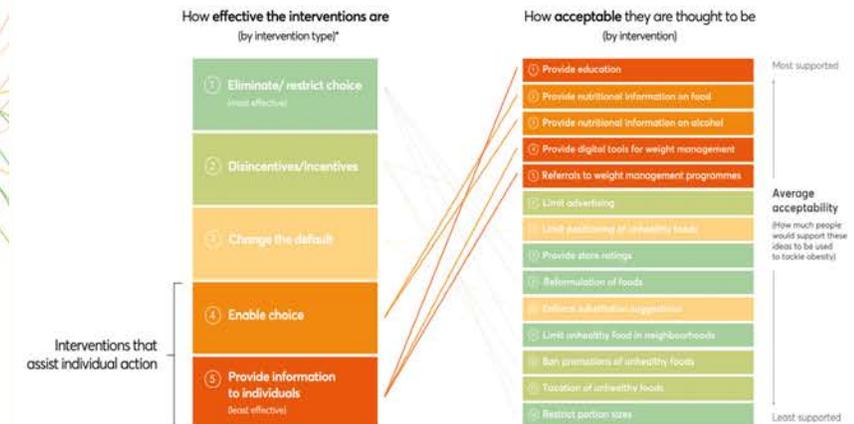
How effective the interventions are (by intervention type)*



*These categories and associated rankings are based upon the Nuffield Intervention Ladder. Source: Nuffield Council on Bioethics, Public health ethical issues. London, Nuffield Council on Bioethics, 2007.

82% of participants said that they agreed that: **'Maintaining a healthy weight is a person's own, individual responsibility.'**

This view is reflected in the misconceptions of **obesity interventions**



- Government non-intervention promotes individual liberty the most over eliminating unhealthy choices.
- People are unwilling to support government policies that target higher-level ladders strategies.

Types of Nudges

- **Blue nudges**
 - Encourage diet, physical activity, and health behaviors across sectors and settings
- **Green nudges**
 - Encourage environmentally sustainable behaviors across sectors and settings
- **Algorithmic or digital nudges**
 - AI-driven technology that influences what we buy online (i.e., groceries, meals, products)
- **Dark nudges**
 - Marketing vague or misleading information that encourages unhealthy foods, sugary beverages, alcohol, tobacco, and gambling

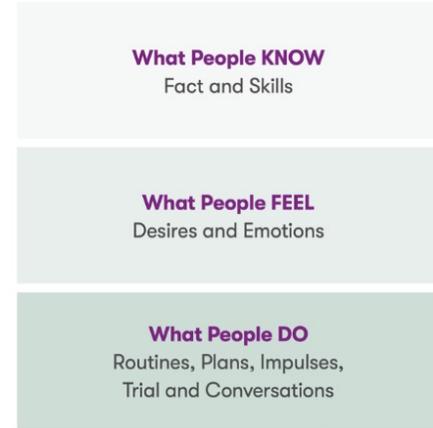
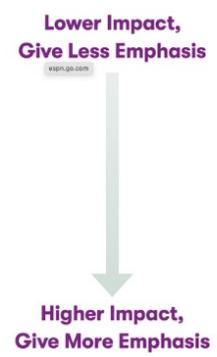
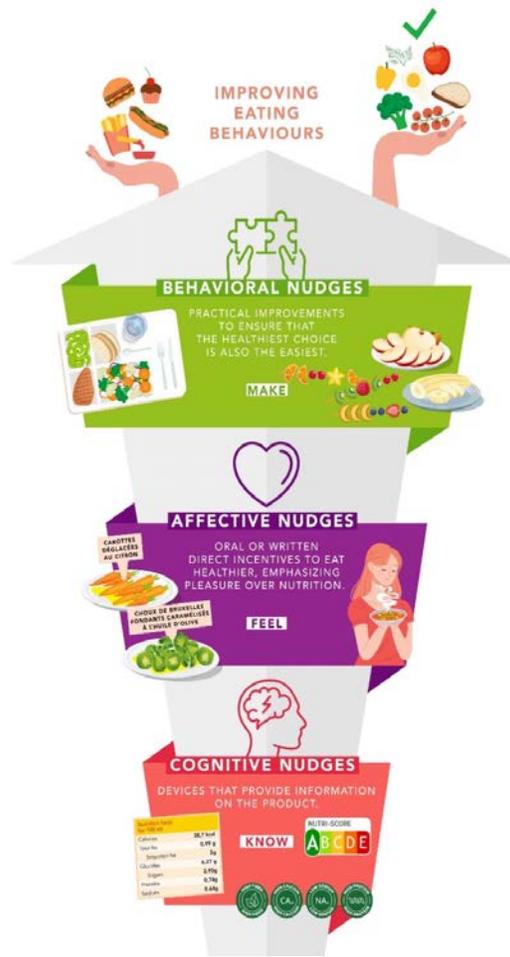
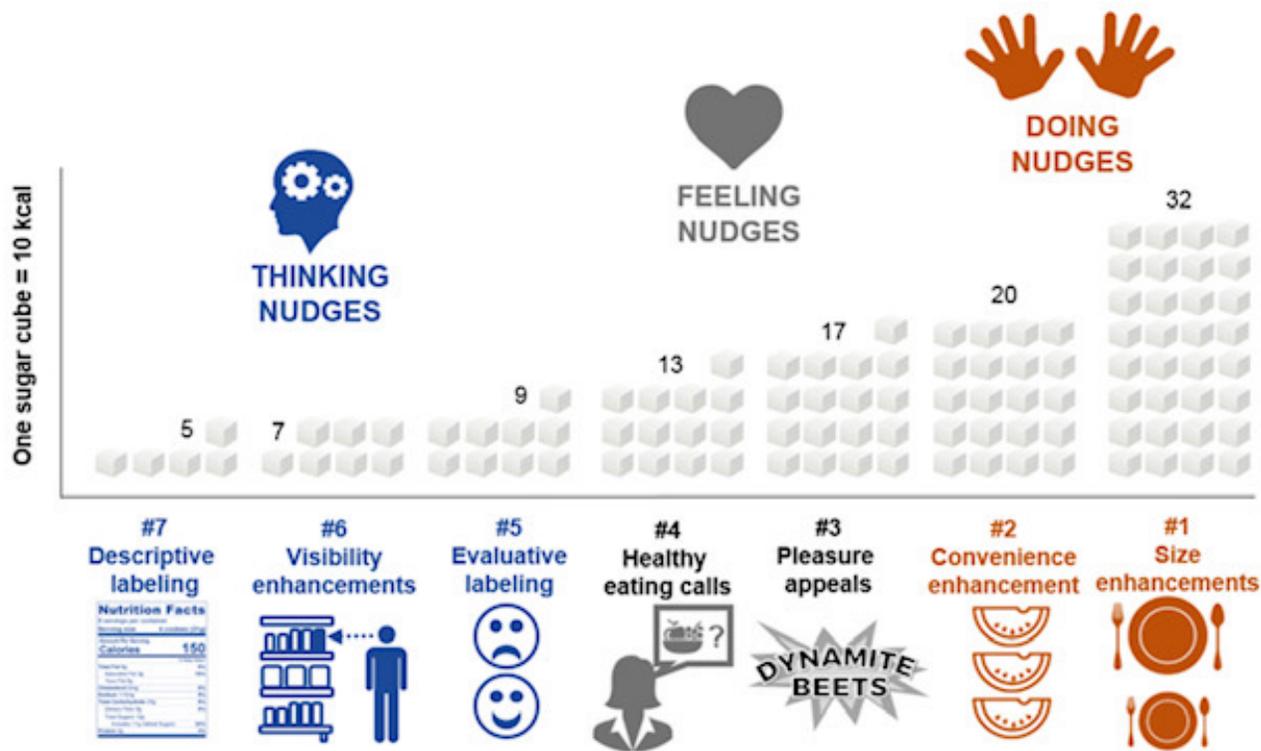


From 'algorithmic nudging' to virtual cross-selling: Is ecommerce changing the rules in grocery?

By Elaine Watson
17 Jul 2018 - Last updated on 17 Jul 2018 at 04:19 GMT



Healthy Eating Nudges



informatics
http://pubsonline.informs.org/journal/mkac

MARKETING SCIENCE
Vol. 38, No. 3, May-June 2020, pp. 465-486
ISSN 0732-2399 (print), ISSN 1526-548X (online)

Which Healthy Eating Nudges Work Best? A Meta-Analysis of Field Experiments

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Symposium four: Protein sources: impact on environment and sustainability.

A nudge in the right direction: the role of food choice architecture in changing populations' diets.

H. Ensaff, Nutritional Sciences and Epidemiology, School of Food Science and Nutrition, University of Leeds, Leeds LS2 9JT, UK

COMMENTARY Open Access

Beyond choice architecture: advancing the science of changing behaviour at scale

Theresa M. Marteau^{1*}, Paul C. Fletcher², Marcus R. Munafo³ and Gareth J. Hollands⁴

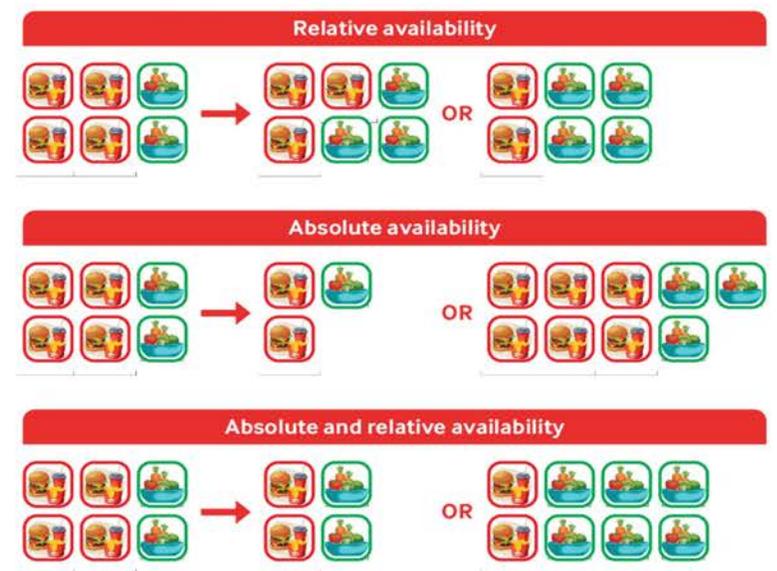


Fig 1 | Availability interventions. Burger and salad images are used to represent any option of less healthy or healthier foods, respectively.

Strategies to Address Unhealthy Food and Beverage Marketing to Children



Retail Environment

- Healthy zoning
- Improving the in-store marketing environment
- Improving the in-restaurant marketing environment
- Taxation and tax incentives

Childcare & Schools

- Improving the food environment in childcare and schools
- Nutrition standards for government procurement and vending

Government Property

- Nutrition standards for government procurement and vending
- Reducing unhealthy marketing on government property and public transit
- Adopting a policy to guide government sponsorship

Community-Wide

- Improving the outdoor advertising environment
- Reducing unhealthy advertising in broadcast media
- Reducing unhealthy marketing in digital media
- Improving the print media advertising environment

Voluntary Marketing Mix and Nudge Strategies to Promote Healthy Restaurants¹



Healthy Meals for Kids < 13 years

January 22, 2019
Water, Milk Now the Default Drinks on Kid's Menus in California



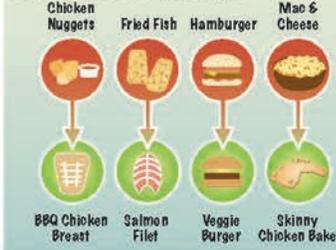
1 Place

Use lighting and visual clues to highlight healthy food and beverage choices



2 Profile

Use fresh and healthy ingredients to ensure that 50% or more of meals meet recommended nutrient targets²



3 Portion

Reduce and standardize meal portion sizes to meet recommended nutrient targets²



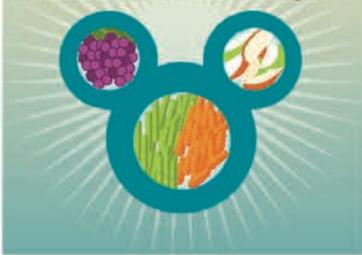
4 Pricing

Use pricing strategies to increase sales and revenue for healthy choices that meet recommended nutrient targets²

Healthy Menu * Half portions are half price every day!	
WRAPS \$6/\$3 (1/2 portion) Asian Chicken Vegetarian Tuna Melt	SALADS \$8/\$4 (1/2 portion) Kale Caesar Asian Sesame Mediterranean
PANINIS \$8/\$4 (1/2 portion) Turkey Bacon Avocado Spicy Chicken Tuna Melt	

5 Promotion

Use responsible marketing practices to promote healthy food and beverage products that meet recommended nutrient targets²



6 Picks

Establish *healthy default* choices for side dishes and beverages for all bundled meals sold to children, teens and parents



7 Priming or Prompting

Offer menu labeling and contextual info to help customers make healthy choices³



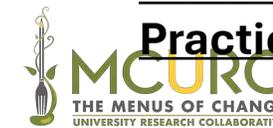
8 Proximity

Place healthy choices at eye level and physically closer to customers at point-of-purchase



QDesign

Sustainable Dining Practices



¹ Quick-service, fast-casual and full-service chain restaurants and non-chain restaurants.

² Recommended nutrient targets: calories (≤ 600 calories/meal for children and ≤ 700 calories/meal for teens and adults); fat ($\leq 35\%$ calories), saturated fat ($\leq 10\%$ calories), added sugars ($\leq 35\%$ calories) and sodium (≤ 210 mg–450 mg/meal item).

³ For children: 1,200 to 1,400 calories a day is used for general nutrition advice for ages 4 to 8 years and 1,400 to 2,000 calories a day for ages 9 to 13 years, but calorie needs vary. For adults: 2,000 calories a day is used for general nutrition advice, but calorie needs vary.

Upon customer's request, restaurants must provide written nutrition information for total calories, fat, saturated fat, *trans* fat, cholesterol, sodium, protein, carbohydrates, fiber, and added sugars.



Article
Progress Evaluation for the Restaurant Industry Assessed by a Voluntary Marketing-Mix and Choice-Architecture Framework That Offers Strategies to Nudge American Customers toward Healthy Food Environments, 2006–2017

Vivica Kraak ^{1,*}, Tessa England ¹, Sarah Miyaski ² and Elena Serrano ³

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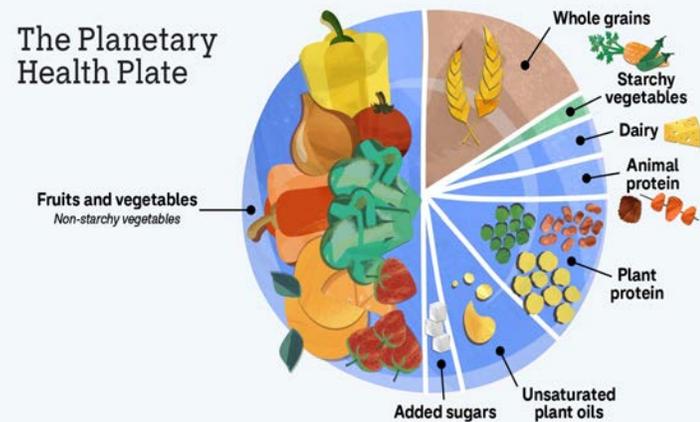
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The Planetary Health Plate



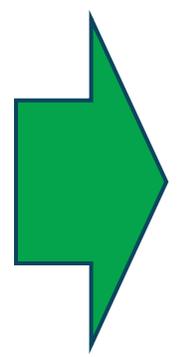


Apply the I + PSE Framework for Action to Establish Healthy Portion Size Norms to Help Americans Achieve a Healthy Weight

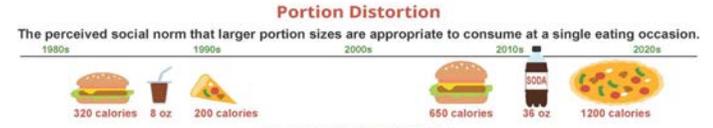
I + PSE Framework



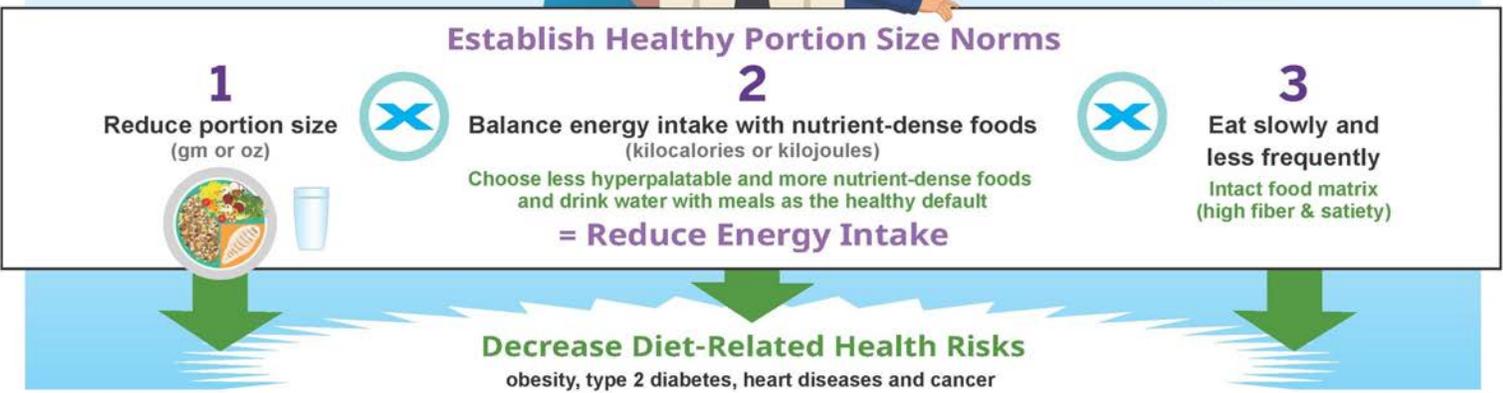
Build Resiliency Factors



Portion distortion vulnerabilities in U.S. eating environments linked to diet-related health risks



Vulnerability Factors



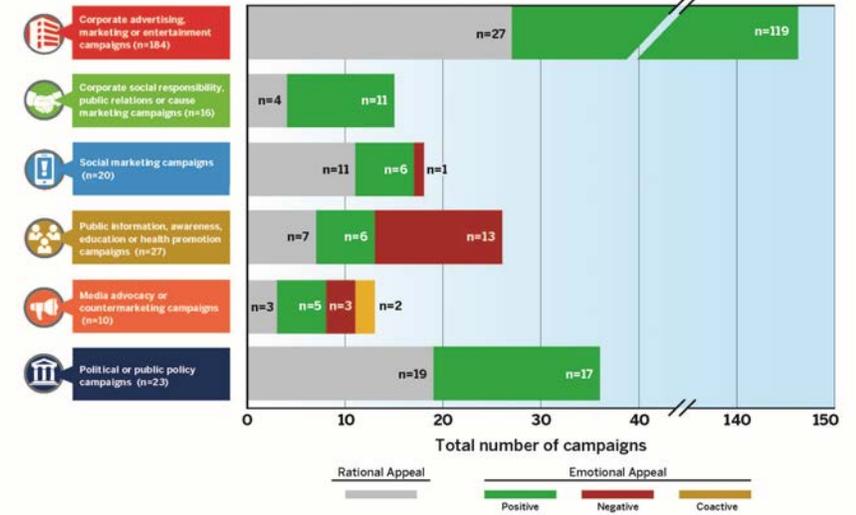


Competing Persuasive Marketing (IMC) Messages

A Typology of U.S. Media Campaigns Used to Promote or Discourage Sugary Beverages and Encourage Water to Americans



Frequency of Persuasive and Rational Appeals Used in 280 Media Campaigns to Promote or Discourage Sugary Beverages and Promote Water Across the Six Categories of the Media Campaign Typology



International Journal of Environmental Research and Public Health



Article

A Content Analysis of Persuasive Appeals Used in Media Campaigns to Encourage and Discourage Sugary Beverages and Water in the United States

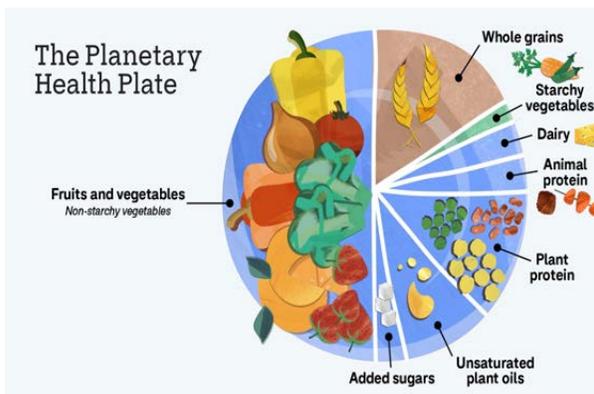
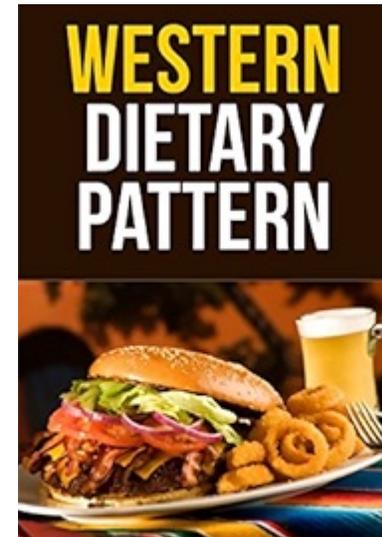
Vivica I. Kraak^{1,*}, Adrienne Holz², Chelsea L. Woods², Ann R. Whitlow² and Nicole Leary¹

Adapted from: Kraak VI, Consavage Stanley K. A systematic scoping review of media campaigns to develop a typology to evaluate their collective impact on promoting healthy hydration behaviors and reducing sugary beverage health risks. Int J Environ Res Public Health. 2021;18:1040. <https://doi.org/10.3390/ijerph18031040>.

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Competing Persuasive Marketing (IMC) Messages



Conclusion

- Choice architecture nudges are **most effective** when:
 - Behaviors require small and subconscious changes
 - Behaviors are frequent and habitual for targeted populations
 - Behaviors are perceived to be positive (not negative or neutral)
 - Use pricing strategies (marketing-mix) and policies (taxes and subsidies)
 - **Behaviors are socially normalized, incentivized and reinforced by I-PSE change strategies, at scale, across settings and sectors and persuasive messages reinforce healthy and sustainable diet and activity choices.**
- Choice architecture nudges are **least effective** when:
 - Behaviors require complex multi-step decision-making
 - Target a long-standing habit or perceived to be negative
 - Require significant effort or expense (time, money or resources)
 - **Behaviors are NOT socially normalized, incentivized and reinforced by I-PSE change strategies, at scale, and persuasive messages compete with healthy and sustainable diet and activity decisions.**
- **Future research**
 - Combine PSE change strategies and evaluate for feasibility, acceptability and effectiveness for targeted populations in real-life settings, scaled up and sustained as the social norm.



Choice Architecture Conceptual Frameworks

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Thank you!