How to help children make healthy food choices by emphasizing pleasure: The French way?
Sophie Nicklaus

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How to help children make healthy food choices by emphasizing pleasure: The French way?

Sophie Nicklaus
Centre des Sciences du Goût et de l’Alimentation, Dijon, France

Stoke-on-Kent, Research Seminar
Psychological Perspectives in Healthy Eating in Children
April 25th, 2018
Public health campaigns to promote healthy eating: strong focus on nutritional information

- Waters et al. Cochrane Database of Systematic Reviews, 2011
- Review of 55 intervention studies for the prevention of childhood obesity
- Most of them include a component to increase children’s nutritional knowledge

The effect of health-promotion messages is, at best, limited
The functions of eating

- Nutrition
- Pleasure
- Identity
- Socialisation
Pleasure of eating

Pleasure could be a **valuable tool** in promoting healthy eating, because **it drives food choices**

Children must learn what when how how much to eat

But pleasure can be a **foe as well as a friend**, in terms of both **what people choose to eat** and **how much they eat**

Pleasure plays a central role in this learning process
Three dimensions of pleasure

Sensory pleasure
- Rep. Exposure → Pleasure → Liking

Interpersonal pleasure
- Social interactions → Pleasure → Liking

Cognitive pleasure
- Credence → Pleasure → Liking

Pleasure from foods

Marty L, Chambaron S, Nicklaus S, Monnery-Patris S., Appetite, 2017
Study of children’s explicit and implicit attitudes towards foods

**Game 1. Implicit pairing task**
Nutritional Association vs. Hedonic Association
(10 triplets)

**Game 2. Explicit categorization task**
Nutritional Categorization vs. Hedonic Categorization
(48 food items)

**Game 3. Liking task**
Continuous scale
(48 food items)

Scoring:
- **Game 1. Hedonic Pairing Score:** percentage of hedonic associations
- **Game 2. Hedonic Categorization Score:** percentage of hedonic categorizations
- **Game 3. Liking Scores:** calculated by food groups [0;10]

- *N= 184*
- *M Age = 8 y (5-11)*

Monnery-Patris et al., *Appetite*, 2016
Attitudes and food choices

Choice of 5 plates among 20
- 10 energy-dense foods
- 10 healthy foods

Liking

Perceived healthiness

- Similar liking

- Energy-dense foods perceived less healthy

Marty et al., Int J Behav Nutr Phys Act, 2017

- N = 63
- M Age = 9 y (6-11)
Attitudes and food choices

Choice of 5 plates among 20
- 10 energy-dense foods
- 10 healthy foods

- On average 2.2 healthy foods were chosen
- Chosen foods were more liked (9.1) than non chosen foods (7.3), but similar healthiness perception

- Children with low explicit and implicit hedonic attitudes (i.e., with high nutritional attitudes) chose fewer healthy foods!

Marty et al., *Int J Behav Nutr Phys Act, 2017*

- $N=63$
- $M\text{ Age} = 9\text{ y (6-11)}$
Primimg social norms to promote healthy food choices

Choice of 5 plates among 20
- 10 energy-dense foods
- 10 healthy foods

- Social context modulated choices
- Children can make healthy choices at no hedonic cost, when offered a « fair competition »

- N= 63
- M Age = 9 y (6-11)

Marty, et al., Appetite, in press
Primbing representation of foods via odor cues

Food choice intention task

Non-attentively perceived olfactory food cues

Choose the food you most want to eat at the present moment.

• N = 74
• M Age = 8.7 y

Leleu, et al., Plos One. 2015
Effect of an olfactory prime on children’s healthy food choices

Contrasts: pound cake vs. control
pear vs. control

Marty, Bentivegna, Nicklaus, Monnery-Patris, Chambaron, *Frontiers in Nutrition*, 2017
Promoting the pleasure to eat small portion sizes

Pleasure as a Substitute for Size: How Multisensory Imagery Can Make People Happier with Smaller Food Portions

Cornil & Chandon, J Marketing Research, 2017
Promoting the pleasure to eat small portion sizes

Sensory imagery intervention
- Food sensory imagery
- Non food sensory imagery (control)

Choice between 3 portions
- Recommended size
- 1.5 times larger size
- 2.25 times larger size

Replication one week later with the other snack
- $N=173$
- $Age=9$

Downsized portion and intake for brownies, not for applesauce
- Brownie: 216% vs 200% (Control vs Sensory imagery condition)
  - $-22\text{ kcal (}p<.002\text{)}$
- Applesauce: 169% vs 172%
  - $+6\text{ kcal (ns)}$
Conclusions

• Three dimensions of pleasure of eating (sensory, interpersonal, cognitive) could be used as levers to promote healthy eating in children (Marty et al., Appetite, 2017)

• Hedonic-based attitudes toward food could drive healthier food choices compared with nutrition-based attitudes (Marty et al., IJBNPA, 2017)

• Priming nutritional context can be beneficial in promoting healthy food choice, at no hedonic cost, if the competition is fair (Marty et al., Appetite, 2018)

• Priming the representation of healthy foods can trigger healthy choices, in children with obesity only (Marty et al., Frontiers in Nutrition, 2017) -- More research needed!

• Emphasizing pleasure of eating can help choose smaller portion of energy-dense foods (Schwartz, Lange, Nicklaus, Cornil, Chandon, in prep.).

• Healthy eating is happy eating
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Sandra Wagner
Éloïse Remy
Camille Divert
Wen-Lun Yuan
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Lucile Marty
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Other collaborators
Emilie Ginon
Stephan Marette
Anne Dupuy
Pierre Chandon
Luc Marlier, D Gounot

S. Nicklaus

[Images of collaborators and portraits]
Effect of an olfactory prime on children’s food choices

Odd Ratios (IC 95%)

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Contrasts:
- pound cake vs. control
- pear vs. control

Marty, Bentivegna, Nicklaus, Monnery-Patris, Chambaron, *Frontiers in Nutrition, 2017*