

Food & Nutrition and Consumer Behavior

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I. Web of Science
II. Drivers of Intake
III. Segments & Markets
IV. Messaging & Leveraging
V. Intervention & Change

I. Where Do You Find Most of the Published Research on Food and Nutrition Behavior?

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Food & Nutrition and Consumer Behavior

- Different schools of thought
Health belief Model, Social Cognitive theory, Transtheoretical model, Theory of reasoned action
- With 20 minutes, I'll touch on a consumer behavior (psychology) and marketing overview
 - It provides the most compelling answers
 - It points toward the most promising solutions
- Bottom-of-page cites contain related references
 - *Marketing Nutrition* (Wansink 2005)



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Where Do You Find Most of the Published Research on Food and Nutrition Behavior?

- **Not on PubMed**
 - Tip of iceberg – a correlation-based epi-tip
- Most Food Behavior Studies are Not in Journals indexed by Pub Med
 - Journals in psychology, economics, consumer behavior, sensory studies, marketing sociology, food technology, education, communication, mostly aren't indexed
- Where? → [The Web of Science](#)
(AKA: Social Science Citation Index)

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Overview of Questions

1. Determinants of intake?
2. Effective nutrition information?
3. Segmenting messages and markets?
4. Optimal models – Transition to Lifestyle?
5. When does nutrition info fail?
6. Prioritizing nutrition?

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II. What are the Drivers of Food Intake?

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Three Drivers of (Accessible) Food Intake

When (Frequency) → What → How Much

When (Frequency) → **What** → How Much

• Drivers of "What" We Eat

- Physiological Factors: hunger, deficiencies
- Emotional: Maintain mood or regain mood
- Saliency: internally- & externally-generated
 - Internally-generated: scripts & emotions

• Specific Self-stated Drivers of Choice:

- Taste
- Convenience
- Price
- Health

The Unstated Driver . . .

Their immediate personal environment: cupboards, table, pantry, candy dish, and so on (*Mindless Eating 2006*)

When (Frequency) → What → How Much

• Drivers of "When" We Eat

- Physiological Factors: hunger, deficiencies
- Emotional: Maintain mood or regain mood
- Saliency: internally- & externally-generated
 - Internally-generated: scripts & emotions
 - Externally-generated: sensory saliency
 - See, smell, hear about food
 - (It's why a fruit bowl is a good idea and a candy jar isn't)

When (Frequency) → What → **How Much**

• Drivers of "How Much" We Eat

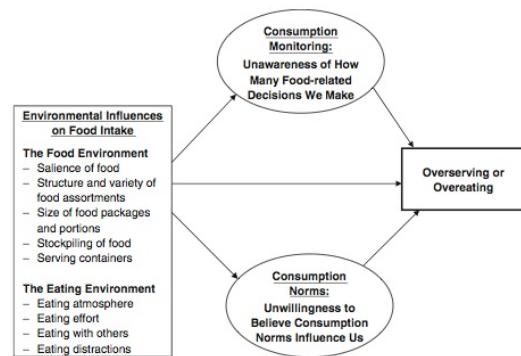
- Physiological Factors: hunger, deficiencies
- Emotional: Maintain mood or regain mood
- How closely we monitor how much we eat
- Habit & what we consider the consumption norm
 - Can be biased by size of packaging, plates, and people
 - A framework . . .

When (Frequency) → **What** → How Much

• Drivers of "What" We Eat

- Physiological Factors: hunger, deficiencies
- Emotional: Maintain mood or regain mood
- Saliency: internally- & externally-generated
 - Internally-generated: scripts & emotions
- Specific Self-stated Drivers of Choice:
 - Taste
 - Convenience
 - Price
 - "Health" (consequence-related)

Environmental Influences on Overserving and Overeating

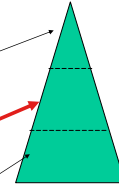


III. Consumer Segments and Markets

Consider 3 Segments of Consumers

Three Segments

1. **The Nutrition Vigilants**
Changed or on target
2. **The Nutrition-Predisposed**
Would like to change if easy enough
3. **The Nutrition-Disinterested**



- They cut across demographics (your segment predicts better than your demo)
- Where can you get the biggest change for the smallest cost?

The Nutrition-predisposed!

Who Pays Attention to Nutrition Information?

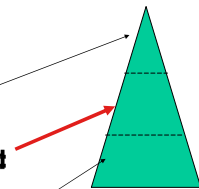
- Often cited figure – “70% of consumers report paying attention to nutrition information”
 - Report?
 - Pay attention?
 - How often? (“Every time” vs. “That one time.”)
- Most controlled studies in supermarkets show...
 - Between 12% to 22% read labels
 - May be the ones who need to least

IV. Messaging and Leveraging

Consider 3 Segments of Consumers

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IV. Messaging and Leveraging

1. When is labeling most effective?
2. What are best practices from health claims?
3. What nutrition knowledge is correlated with food intake?
4. What types of messages are most effective with what segments?

1. When is labeling most effective?

- Two Concerns (the two horns of the labeling dilemma)
 - Totally ignored
 - Unmerited "health halos" (holistically processed)
- Front and Back Label Claims – *Use both sides*
 - Short blurb on front → "Take-away" (80%)
 - Full claim on back → detail for 15-20%

Wansink, Brian (2003), "How Do Front and Back Package Labels Influence Beliefs About Health Claims?" *Journal of Consumer Affairs*, 37:2 (Winter), 305-316.
 Wansink, Brian, Steven T. Sonka, and Clare M. Hasler (2004), "Front-Label Health Claims: When Less is More," *Food Policy*, 29:6 (December), 659-667. © Wansink 2009 19

3. What kinds of messages are most effective with what segments?

Positive ("Eat This") Messages
 vs.
 Negative ("Don't Eat That") Messages

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2. What are best practices from effective health claims?

The Most Effective FDA Health Claims:

- Targeted a specific segment
- Received significant media coverage
- Introduced with aggressive "partnered" marketing campaigns
- Highlighted quantitative benefits
- Helped prevent a vivid, personally relevant health problem

Principles of Health Claim Leveraging Success		
Strategy	Benefit	Examples
Claim targets a specific segment of the population	Makes claim more believable	Colman's claim targeted the very young and the very old. Fish and oil's claim targeted program athletes.
Claim has received significant media attention	Draws the attention of targeted consumer groups	Fish and oil's claim targeted consumers about the relationship between a certain nutrient and health
Claim is introduced along with an aggressive proactive marketing campaign	Makes the claim more believable and authentic	Quaker Oats' and Kellogg's marketing campaigns highlighted the link between fiber and a low risk of heart disease
Claim highlights quantitative health benefits	Increases believability when self-selecting consumers report their results	Quaker Oats' and Kellogg's marketing campaigns highlighted the link between fiber and a low risk of heart disease
Claim highlights quantitative health benefits	Allows consumers to specifically see the benefits of altering their diet	Sealed's health claim linked a diet low in sodium to a low blood pressure number
Claim helps prevent a vivid, personally relevant health problem	Makes health claim more believable and authentic	Heart disease's health claim linked diets rich in fruits and vegetables to a decreased risk of cancer

Wansink, Brian and Matthew M. Cheney (2005), "Leveraging FDA Health Claims," *Journal of Consumer Affairs*, 39:2 (Winter), 386-398. © Wansink 2009 20

The Research says . . .

Message effectiveness depends upon...

- Promotion vs. Prevention oriented (Mann, Sherman, Updegraff, 2004; Lee and Aaker, 2004; Ello-Martin et al. 2007)
- Heuristic Processing vs. Piece-meal processing (Rothman et al., 1999; Rothman et al., 2006)
- Behavior is perceived as prevention vs. Behavior is perceived as detection (Rothman et al., 1999; Rothman et al., 2006)
- Choice vs. Duty (Rothman et al., 1999; Rothman et al., 2006)
- Certainty of outcome (Toll et al. 2007)
- Level of involvement with issue (Nan, 2007)
- Desirability of endstate (Nan, 2007)
- Prevention behavior vs. Detection behavior (Toll et al., 2007)
- Risk adverse behavior vs. Risk seeking behavior (Rothman et al., 1999; Rothman et al., 2006)
- Familiar situation vs. Unfamiliar situation (Rothman et al., 1999; Rothman et al., 2006; Nan, 2007)
- Self-efficacy (Sanchez, 2006)
- Perceived Risk of Behavior (Toll et al., 2008; McMath and Prentice-Dunn, 2005; Lee and Aaker, 2004)

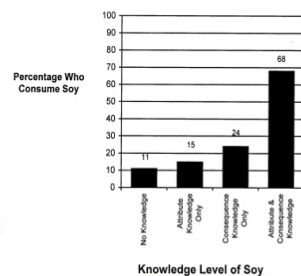
My take on the literature . . .

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3. What nutrition knowledge is correlated with food intake? (Attributes+Consequences "What & Why" Knowledge)



Fig. 1. Hierarchy of nutritional knowledge



Wansink, Brian, Randall E. Westgren, and Matthew M. Cheney (2005), "Hierarchy of Nutritional Knowledge that Relates to the Consumption of a Functional Food," *Nutrition*, 21:2 (February), 264-8. © Wansink 2009 21

3. What kinds of messages are most effective with what segments?

1. Varies across different situations
1. Varies across individuals

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Positive ("Eat This") Messages
vs.
Negative ("Don't Eat That") Messages

<p>If it is a Positive Message, it will work best with . . .</p> <ul style="list-style-type: none"> ➤ Optimistic people ➤ People who eat because it tastes good ➤ People who don't think too hard about eating ➤ People who eat healthy to feel good ➤ People who see eating as a choice ➤ People who value food as a way to stay healthy 	<p>If it is a Negative Message, it will work best with . . .</p> <ul style="list-style-type: none"> ➤ Pessimistic people ➤ People who think logically about each decision ➤ People who eat healthy because they are afraid of getting sick ➤ People who see eating as an obligation ➤ People who value food as a way to not get sick
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Positive messages work best with most people, in most mind-sets, in most nutrition situations

Wansink, Brian, (2009), "Untangling the Paradox of Positive Messages," under review. © Wansink 2009 25

V. Intervention & Change

What is the Role of Social Marketing in Nutrition Education and Motivation?

- Tremendous potential for good & bad
 - Danger: Food and Nutrition misinformation
 - Magic berries & "What your mother told you"
- What "circumstances" have the most promise?
 - Movements, lifestyle choices (veganism, etc.)
 - Cool causes ("identity bandwagons")
- Can we make the DGs cool or movement-inspiring?
 - Doesn't hurt to try the "bottom-up" approach with the young ones
 - We can also use a "top-down" family strategy . . .

Wansink, Brian (2006), "Position of the American Dietetic Association: Food and Nutrition Misinformation," *Journal of the American Dietetic Association*, 106:4 (April), 601-607. © Wansink 2009 28

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V. Intervention and Change

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V. Intervention & Change

Target the Nutritional Gatekeeper

- Nutritional Gatekeeper = Person who usually shops & cooks
- 1943: Nutrition Ed on the WWII homefront
- 2004: One finding of 1004 Gatekeepers -- They believe they influence 72% of the eating decisions of their family
 - Either for the better, or for the worse
 - Either directly (in-house), or in-directly (out-of-house)
- Target the person who makes the decisions
 - AND build awareness with their kids → 360 degree 24-7 nutri info



Wansink, Brian (2002), "Changing Eating Habits on the Home Front: Lost Lessons from World War II Research," *Journal of Public Policy and Marketing*, 21:1 (Spring), 90-99.
Wansink, Brian (2003), "Profiling Nutritional Gatekeepers: Three Methods for Differentiating Influential Cooks," *Food Quality and Preference*, 14:4 (June), 289-297.
Wansink, Brian (2008), "Project M.O.M.: Mothers and Others & MyPyramid," *Journal of the American Dietetic Association*, 108:8 (August), 1302-4. © Wansink 2009 29

V. Intervention & Change

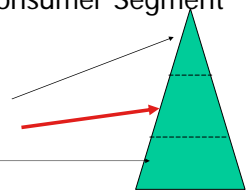
What are Effective Intervention Strategies for the Non-vigilent?

<p>•200+ food decisions</p> <ul style="list-style-type: none"> •Not in front of MyPyramid.gov or holding a brochure •Made wherever people work & play and purchase & prepare food •Nutrition info is not there when we need it •"Think twice" – we only need to nudge 3-4 decisions a day 	<p>•A personal dietician?</p> <ul style="list-style-type: none"> •24/7 & 360 nutri info •Impractical? <p>•One solution</p> <ul style="list-style-type: none"> •Partner with MyPyramid •100+ companies promoting DGs in 100 ways in many places
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Wansink, Brian and Mike Huckabee (2005), "De-Marketing Obesity," *California Management Review*, 47:4 (Summer), 6-18.
Wansink, Brian and Jeffrey Sobal (2007), "Mindless Eating: The 200 Daily Food Decisions We Overlook," *Environment and Behavior*, 39:1 (January), 106-23. © Wansink 2009 27

V. Intervention & Change

Bringing it Home to the Nutrition-Predisposed Consumer Segment



Three Segments

1. The Nutrition Vigilant
2. The Nutrition-Predisposed
3. The Nutrition-Disinterested

Two Strategies

1. "No person left behind" --> An impossible starting point
2. Start where we can make a difference right away
 - Focus on the Nutrition-Predisposed Segment
 - Focus on Nutritional Gatekeepers

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Transitioning from Recommendation to Lifestyle Change

- 1. Nutrition-Vigilants
 - Changed or struggling to change
 - Provide Information and reminders
- 2. Nutrition-Predisposed
 - Would like to change if easy enough
 - Provide Tools (web-based, icons, etc.) & product-solutions
- 3. Nutrition Disinterested (or resigned)
 - Passive environmental & product-related changes: reformulations, portion-control packaging, stealth health
 - Partner with MyPyramid – 100+ companies and 100+ ideas of how, when, &where to make it *Mindless Eating*

Special USDA CNPP Stand-out Recognition:

Policy & DGAC

Dr. Robert Post
 Carole Davis
 Colette Rihane
 Kellie O'Connell

Promoting the DGs

Jackie Haven
 John Webster
 Dr. Patricia Brittan
 Jannie Fleming

Before We Move to Questions . . .

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Four Additional References

Wansink, Brian (2004), "Consumer Reactions to Food Safety Crises," *Advances in Food and Nutrition Research*, 48, 103-150.

Wansink, Brian (2004), "Environmental Factors that Increase the Food Intake and Consumption Volume of Unknowing Consumers," *Annual Review of Nutrition*, Volume 24, 455-479.

Wansink, Brian (2005), *Marketing Nutrition – Soy, Functional Foods, Biotechnology, and Obesity*. Champaign, IL: University of Illinois Press.

Wansink, Brian, David R. Just, and Collin R. Payne (2009), "Mindless Eating and Healthy Heuristics for the Irrational," *American Economic Review*, forthcoming.

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Behavior Change Theories

- Health belief Model (Janz et al. 2002)
- Social Cognitive theory (Baranowski et al. 2002)
- Trans-theoretical model (Prochaska, 2002)
- Theory of reasoned action/integrated model of behavior change (Fishbein et al. 2002)

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Thank You

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Additional Literature


Message effectiveness depends upon...

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Back-up Slide for Messaging

- A positive approach to eating is more effective
- Health *and* enjoyment are both important
- Focus on getting consumers to make better choices- don't make eating a duty
- Focus on how a situation is perceived by individuals for more effective messages (what context and mind-set will they be in when looking for nutrient information).



➤ **Helping consumers to be more passionate about food will make positive messages work even better!**

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