



Message Hijacking: How Public Health Campaigns Can Backfire

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Background and Hypothesis

- Obesity rates are increasing rapidly.
- Public health messages assume nutrition information will improve health.
- Consumers process information coarsely, using heuristics.
- Recognizing this type of thinking exists in decisions about nutrition leads to the hypothesis that more information may lead to worse health outcomes.
- We propose that these outcomes may occur because firms can and do hijack the nutrition messages.



Outline

1. **Hypothesis development**
2. Measuring how consumers respond to nutrition information
 - a. Information required to categorize products
 - b. Health halos
3. Firms' use of health claims
 - a. Time trends
 - b. Associations between nutritional value and health claims
 - c. Use of generic claims
4. Policy recommendations

Hypothesis Development

- Coarse thinking occurs in many contexts
 - Shampoo advertisement: “We put silk in the bottle”

- Coarse thinking may also be present in nutrition decision-making
 - Nutrition knowledge is associative, not detailed and specific (Andrews, Netemeyer, and Burton 1998).
 - Foods described as having one positive nutritional aspect are likely to be seen as having other positive nutritional aspects or unrelated health benefits (Roe, Levy, and Derby 1999; Wansink 2003).
 - Conflicting evidence about whether this effect is robust in the face of objective nutritional information (Ford, Hastak, Mitra, and Ringold 1996 ; Roe *et al* 1999).



Model

- Understanding how nutrients impact health and how aspects of health aggregate to “overall health” is a complex task.
- Public health messages and health messages in the media form associations between specific nutrients and health
- Key assumption: Individuals have a coarse view of health and nutrition.
 - “healthy” or “unhealthy” rather than “reduces the risk of heart diseases but increases the risk of diabetes”

Model

- Coarse processing leads individuals to interpret health and nutrition claims coarsely as well.
- Individuals use information about one dimension of a product, to draw conclusions about the overall benefits of that product, believing that if the product is good on one dimension it will be good on many dimensions.
 - Low fat → Healthy → Low calorie
- This type of thinking opens the door to “message hijacking” by firms.

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Information required to categorize products

When a product is labeled as “low fat,” what are the first thoughts that come to your mind about the product?

Table 1: Associations with specific health claims

Claim	Broad Association, “Healthy” (%)	Narrow association “disease specific” (%)
Low fat	31	3
Natural	38	2
Low sodium	36	15

Consumers make broad categorizations from limited health claims

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Health Halos



NUTRITION INFORMATION	
Serving size (31g)	
Calories	150kcal
Total Fat	6g
Saturated fat	1g
Polyunsaturated fat	3g
Monounsaturated fat	1g
Carbohydrates	21g
Sodium	260mg
Protein	2g

Table 2: Health halo effects for health labels on crackers

	Original	Reduced Fat	Multigrain
Avoid gaining weight	2.93	3.27*	3.16
Benefits for one's heart	3.12	3.35	3.59**
Overall health benefits	3.23	3.60***	3.57**

Response scales ranged from 1 ("certainly not" or "much lower") to 5 ("certainly" or "much higher").
 * Significant at the 10% level, ** Significant at the 5% level, *** Significant at 1% level

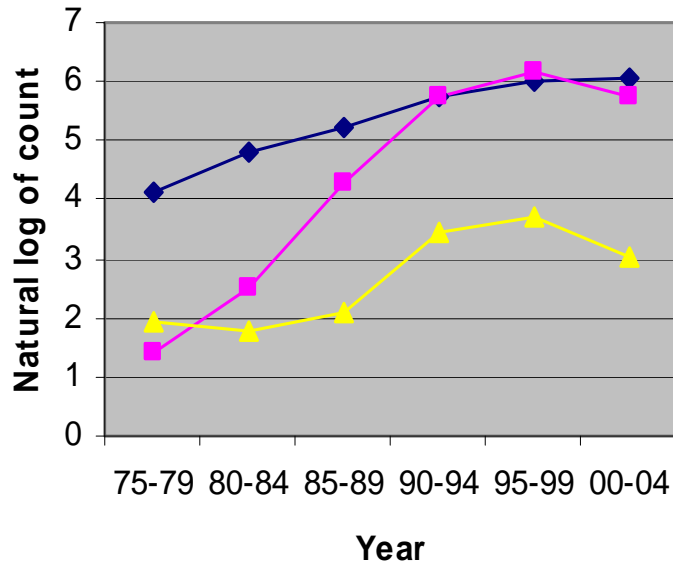
Even in the presence of objective nutritional information, consumers generate "health halos" (e.g., believe that foods which are described as having one positive nutritional aspect are likely to have other positive nutritional aspects or unrelated health benefits).

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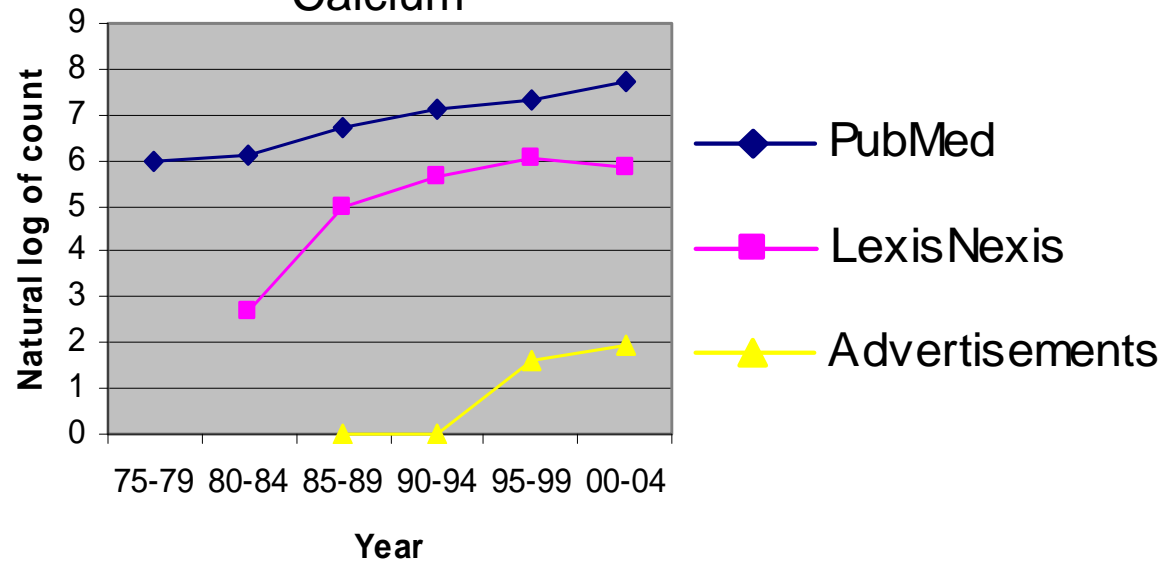
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Use of Nutrition Messages – Evidence

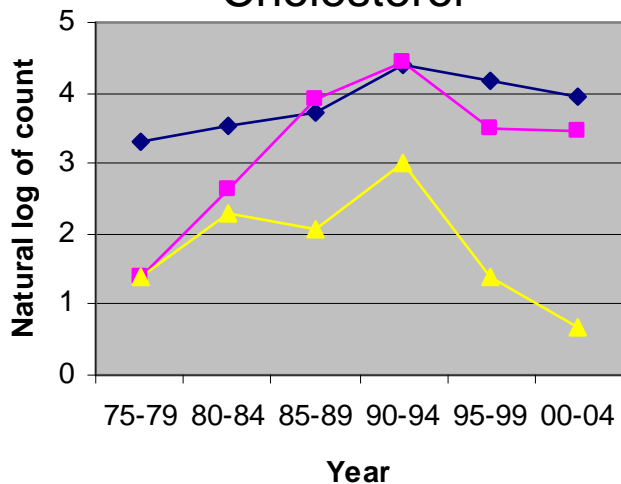
Fat



Calcium



Cholesterol



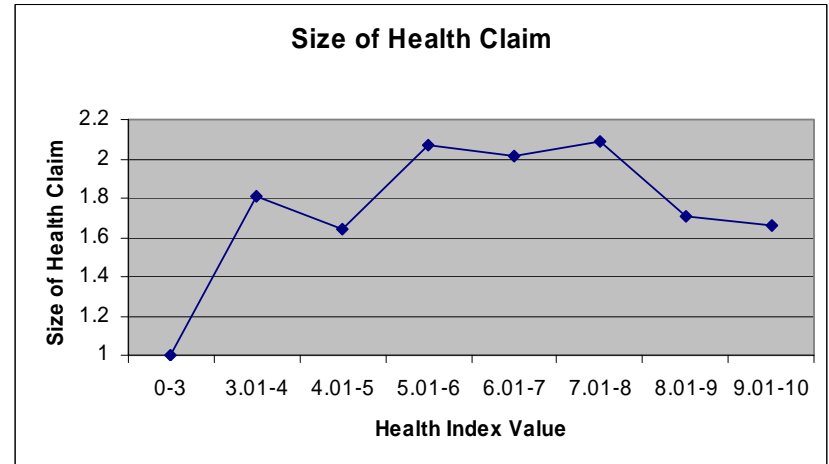
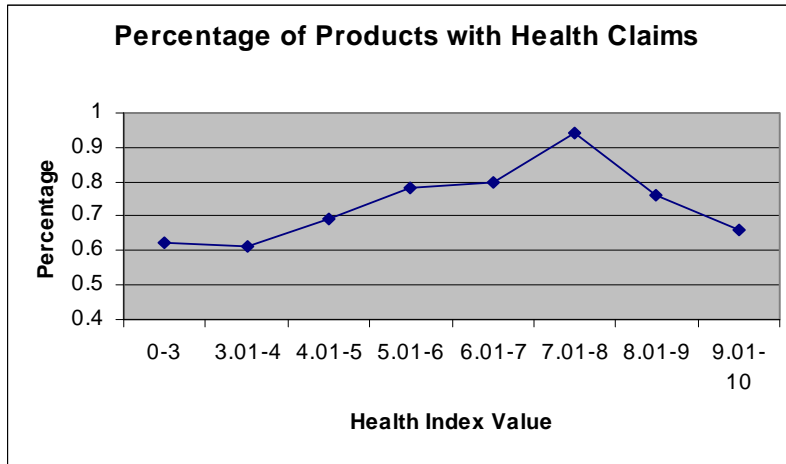
Firm advertisements follow publicity of health messages with a lag.

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Associations between nutritional value and health claims

- Claims are used most intensively on foods with moderate health index values, the range where consumers are most likely to be influenced.



- Firms aggressively promote “healthful” aspects of products containing unhealthy nutrients.
 - A ten gram increase in sugar is associated with a 20 percent increase in the likelihood of a fat claim
 - Products which carry any reduced label (calories, fat, or sugar) are significantly less healthy than the average product without a reduced label ($p < 0.01$).

Many products with moderate and low objective *net* health benefits use health and nutrient claims. Messages are hijacked.

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Associations between nutritional value and health claims

- Claims which can be used on a wide variety of products are correlated lower health index values.
 - Examples: “real”, vitamins and minerals, fats
- Claims which are less broadly applicable are correlated with higher health index values.
 - Examples: “fresh”, fiber, diet, American Heart Association

Unhealthy products use generic health claims (those which are almost universally true, and hence completely uninformative), more intensively than healthy products.

Summary

- Consumers:
 - Over-generalize the information found in health and nutrient claims
 - Are susceptible to heuristic based decision-making in food purchases
 - Fail to differentiate between informative and uninformative health claims

- Firms:
 - Rely on the associations formed between nutrients and health by the popular press and public health messages
 - Use health claims most intensively on products in the middle of the health distribution, where consumers are most easily swayed by these messages.
 - Promote “healthful” aspects of foods, even when the product contains a variety of unhealthy nutrients and may be, on the whole, unhealthy
 - Use health claims which are universally true more intensively on unhealthy products

- This combination of coarse thinking by consumers and message hijacking by firms can negatively impact health by persuading consumers that unhealthy products are healthy.

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 - c. Use of generic claims
 - *Generic claims are more likely to be hijacked.*
4. **Policy recommendations**



Policy Implications

Regulations should:

1. Balance firms' incentives to improve the nutritional qualities of products while still presenting information in a way which does not mislead consumers.
2. Require the appropriate disclosure of negative nutritional information when a firm chooses to selectively highlight positive aspects of its product.

Public health messages should:

1. Emphasize the importance of evaluating multiple aspects of a product.
2. Encourage consumers to rely on standardized and comparable nutrition information rather than advertising claims.

Public health institutions should:

1. Develop effective ways to communicate the *net* health benefits of products.