

# Solutions for the obesity epidemic: lessons from Latin America and the Caribbean

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da  
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Advisor, Nutrition and Physical Activity



# Problems

# Solutions

Problems

Causes

Solutions

# Problems

# Causes

intro/promote/expand

# Solutions



# Problems

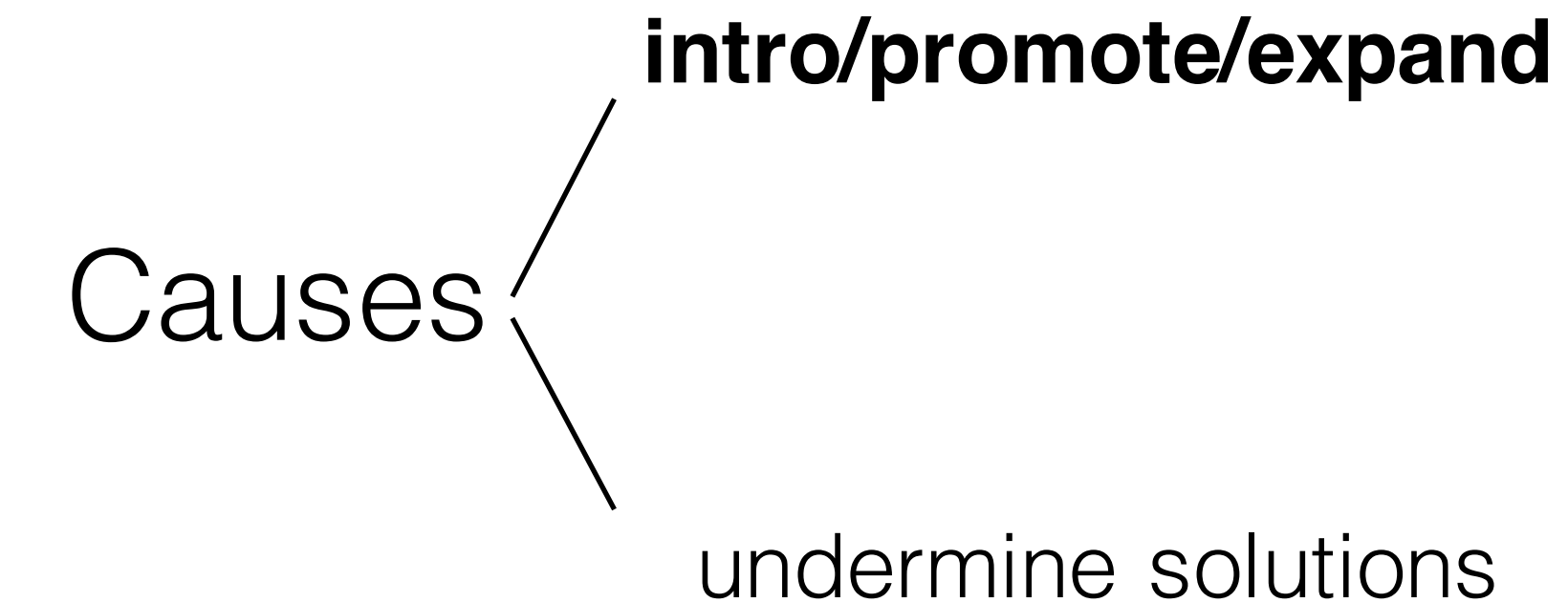
# Causes

intro/promote/expand

undermine solutions

# Solutions

Problems

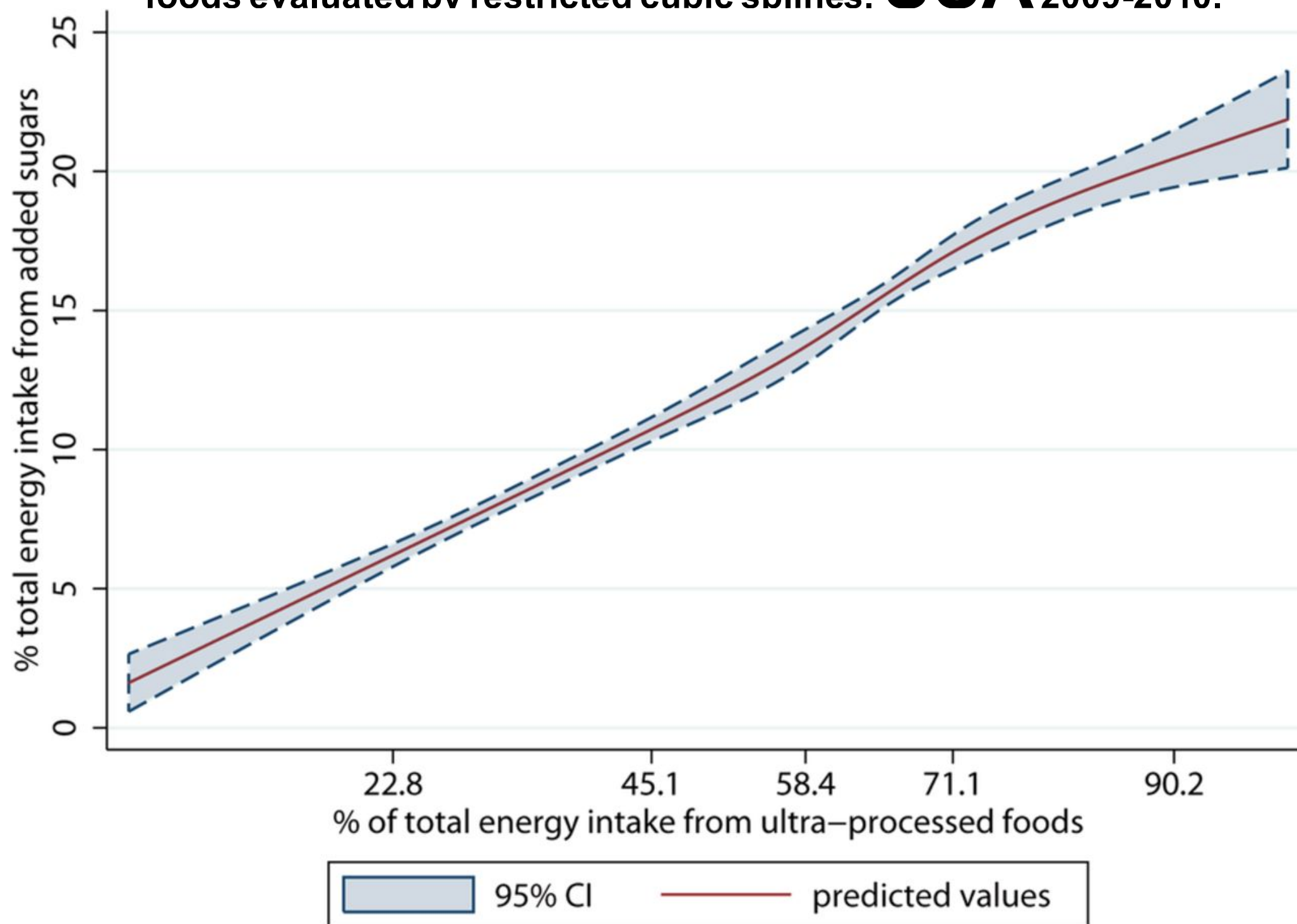


Solutions

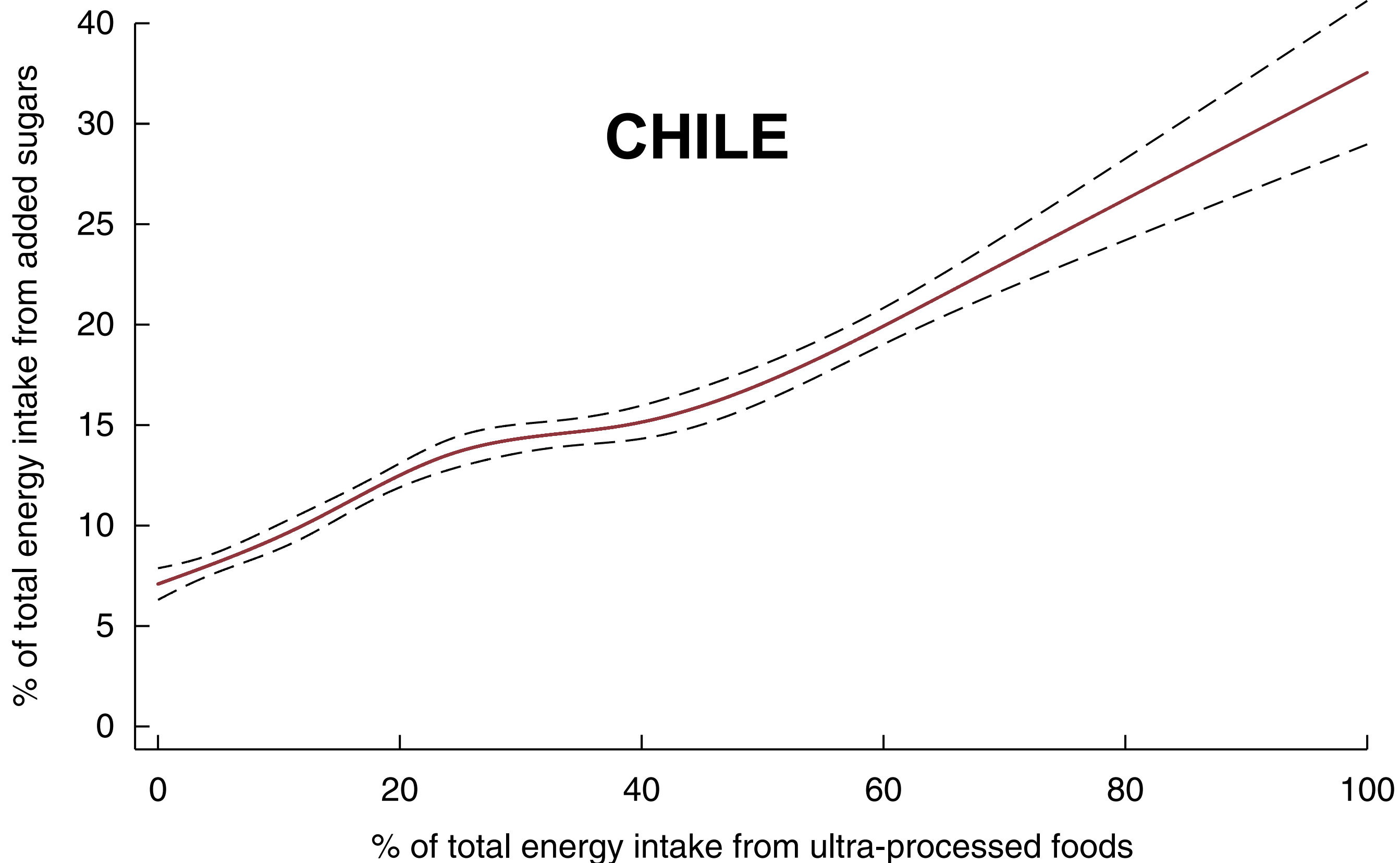
How could we worsen diets and expand even more obesity and other obesity related diseases?

# PRODUCTS

The dietary content in added sugars regressed on the dietary contribution of ultra-processed foods evaluated by restricted cubic splines. **USA** 2009-2010.



Eurídice Martínez Steele et al. BMJ Open 2016;6:e009892



**Fig. 1** Association between the dietary share of ultra-processed foods and the dietary content of added sugars in the diet of the Chilean population aged 2 years or above (2010)\* determined by unadjusted restricted cubic spline Gaussian regression analysis (—, predicted value; -----, 95% CI). \*National Nutrition Examination Survey 2010, *n* 4920

# FRANCE

**Table 3** Nutrient intake according to the proportion of ultra-processed food (UPFp) in the diet of adults from the French NutriNet-Santé cohort (*n* 74 470)

Nutrient	UPFp in the diet								<i>P</i> for trend
	Quartile 1		Quartile 2		Quartile 3		Quartile 4		
	<0.11		0.11–0.16		0.16–0.23		≥0.23		
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
PNNS-GS	8.48	1.64	8.00	1.64	7.64	1.64	6.98	1.69	<0.0001
Energy intake (alcohol excluded; kJ/d)	7385	1879	7757	1942	7883	2015	7996	2123	<0.0001
Energy intake (alcohol excluded; kcal/d)	1765	449.0	1854	464.2	1884	481.5	1911	507.5	<0.0001
Energy from carbohydrates (%)	42.41	7.69	42.88	6.84	43.20	6.72	43.75	6.89	<0.0001
Energy from lipids (%)	38.97	7.18	39.41	6.49	39.57	6.41	39.76	6.42	<0.0001
Energy from protein (%)	18.62	4.50	17.72	3.84	17.23	3.76	16.50	3.84	<0.0001
Alcohol (g/d)	9.72	13.68	9.08	13.14	7.94	12.24	6.22	11.55	<0.0001
Sugar (g/d)	89.57	26.32	91.72	24.94	93.82	25.28	98.73	28.04	<0.0001

# COLOMBIA

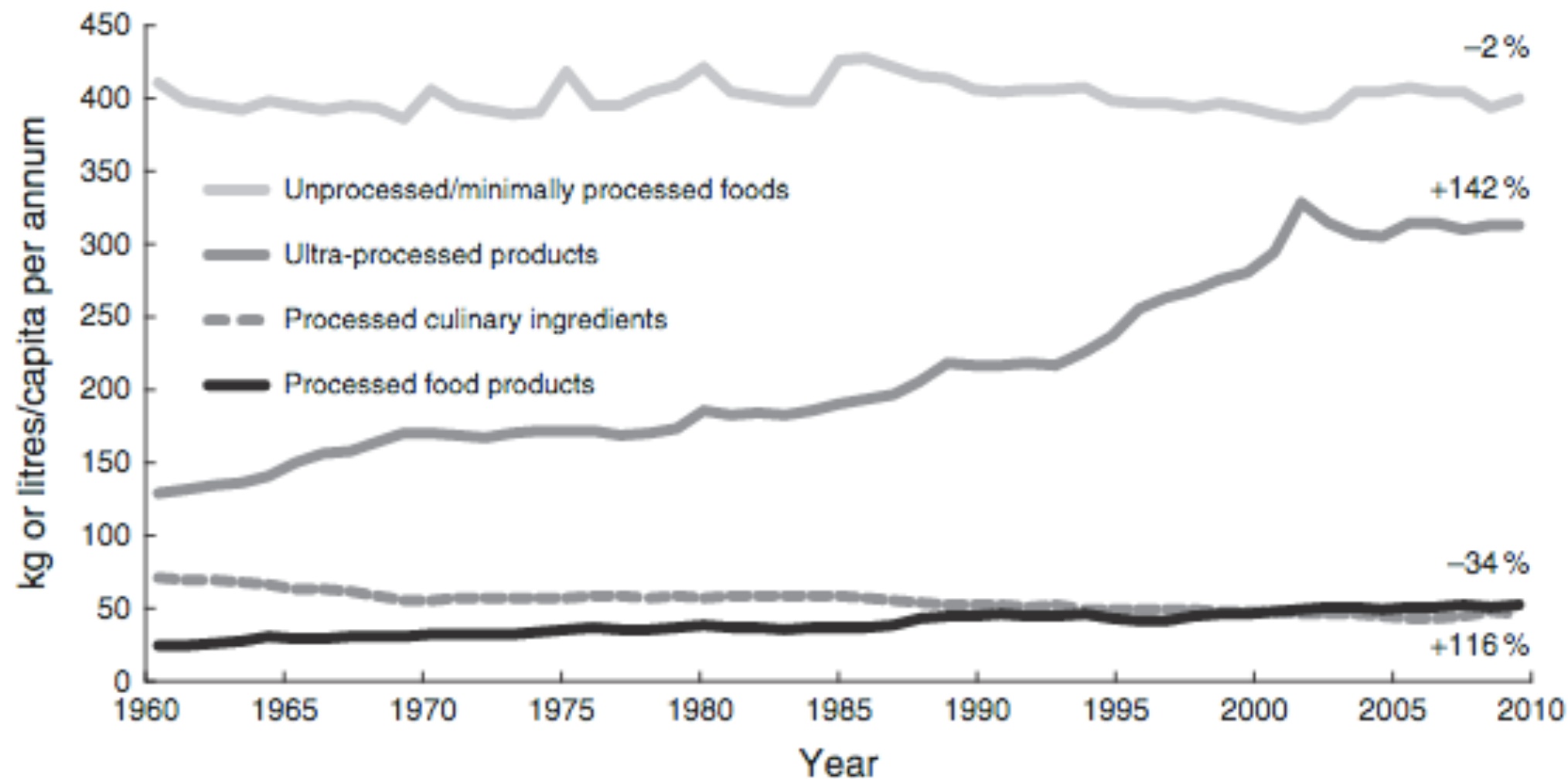
**Table 3** Average nutrient levels, adjusted by total energy intake and stratified by tertiles of intake of processed and ultra-processed foods, among children aged 5–12 years (*n* 223) from low- to middle-income families in Bogotá, Colombia

	Tertiles (T) of consumption of processed and ultra-processed foods			<i>P</i> *
	T1 ( <i>n</i> 74)	T2 ( <i>n</i> 75)	T3 ( <i>n</i> 74)	
Mean percentage of energy from total fat (%)	29.4	30.8	30.1	0.129
Mean percentage of energy from protein (%)	14.3	14.4	13.5	<0.001
Mean percentage of energy from carbohydrates (%)	58.3	56.8	58.3	0.127
Total fat adjusted for total energy intake (g/d)	57.3	60.8	60.1	0.037
Saturated fat adjusted for total energy intake (g/d)	17.3	19.6	20.2	<0.001
Monounsaturated fat adjusted for total energy intake (g/d)	15.6	15.6	14.6	0.105
Polyunsaturated fat adjusted for total energy intake (g/d)	18.0	18.3	16.9	0.039
<i>n</i> -3 PUFA adjusted for total energy intake (g/d)	0.1	0.1	0.1	0.860
<i>n</i> -6 PUFA adjusted for total energy intake (g/d)	0.4	0.4	0.5	0.033
<i>Trans</i> -fatty acids adjusted for total energy intake (g/d)	1.0	1.1	0.8	0.021
Protein adjusted for total energy intake (g/d)	62.6	64.0	60.4	0.011
Carbohydrates adjusted for total energy intake (g/d)	255.7	252.8	259.8	0.149
Sugar adjusted for total energy intake (g/d)	89.5	97.6	104.6	<0.001
Fibre adjusted for total energy intake (g/d)	18.1	16.3	15.0	<0.001

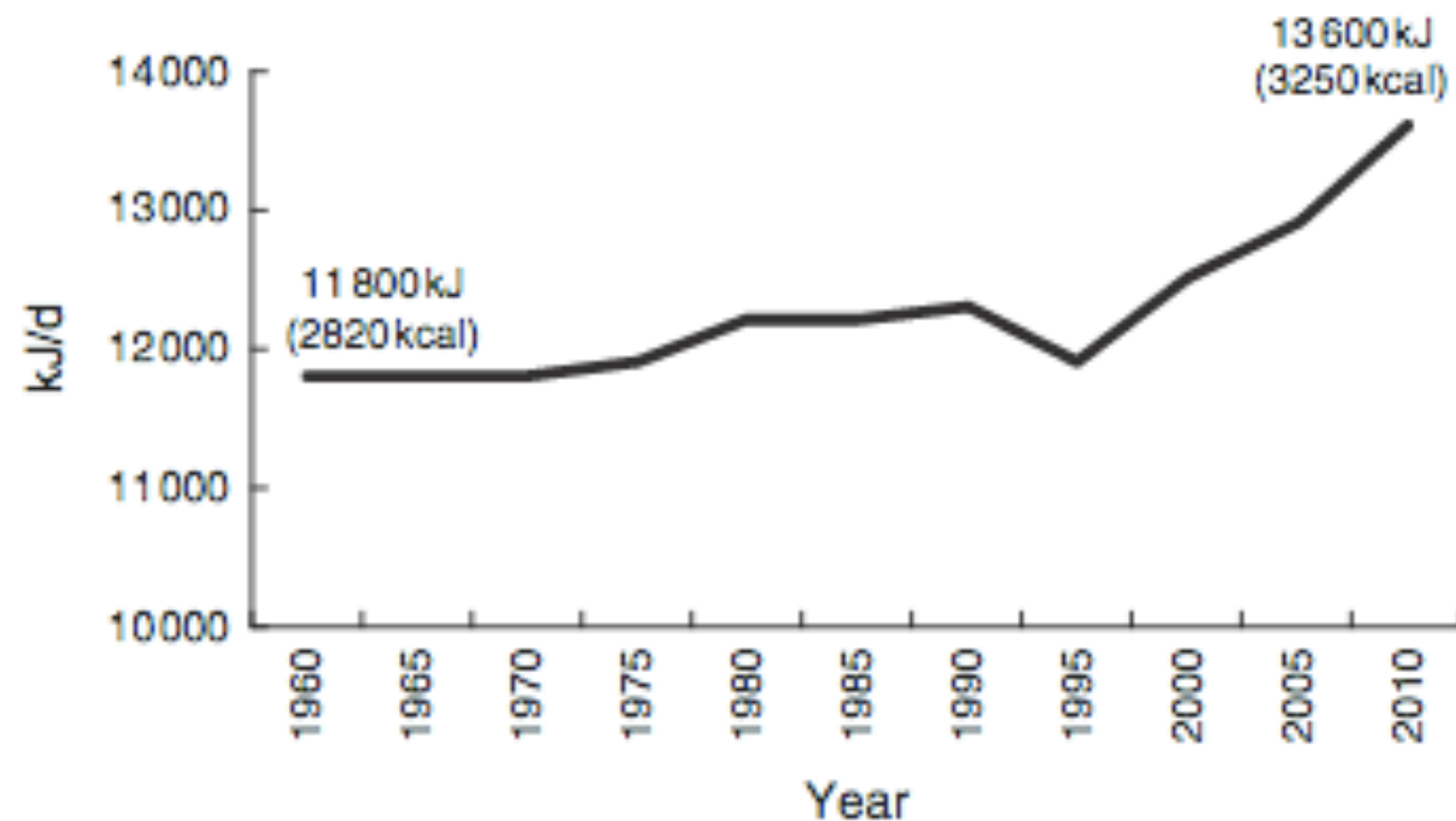
*Public Health Nutrition.* doi:10.1017/S1368980017000891



# SWEDEN



(b)



BRAZIL

+ ultra-processed products =  
+ kcal + kcal/g + sugar + fats (tot, sat, trans) - fiber

**Tabela 4.** Médias de indicadores nutricionais do consumo alimentar de estratos da população brasileira, com 10 ou mais anos de idade, correspondentes a quintis do consumo de alimentos ultraprocessados (2008-2009).

Indicador	Quartil de consumo de alimentos ultraprocessados (% do total de energia)				
	Q1	Q2	Q3	Q4	Q5
Total de energia (kcal/d)	1707,9	1794,4	1841,0	1920,4	2066,8 <sup>b</sup>
Densidade energética (kcal/g) <sup>a</sup>	1,5	1,5	1,6	1,7	1,9 <sup>b</sup>
Contribuição percentual para o total de energia de:					
Proteína	19,3	18,2	17,3	16,3	14,8 <sup>b</sup>
Carboidrato	56,7	56,5	56,2	56,1	55,6 <sup>b</sup>
Açúcar livre	10,9	13,1	15,0	17,6	20,2 <sup>b</sup>
Gordura total	23,8	25,4	26,8	28,1	30,4 <sup>b</sup>
Gordura saturada	7,9	8,5	9,1	10,0	11,5 <sup>b</sup>
Gordura <i>trans</i>	0,8	1,3	1,5	1,7	1,9 <sup>b</sup>
Densidade de nutrientes:					
Fibra (g/1.000 kcal)	13,0	11,9	11,3	10,3	8,9 <sup>b</sup>
Sódio (g/1.000 kcal)	1,9	1,8	1,7	1,7	1,6 <sup>b</sup>
Potássio (mg/1.000 kcal)	1414,2	1347,8	1309,7	1230,6	1074,6 <sup>b</sup>

# *non-nutrient profile*

easier to chew, crush and cut

faster intake

slower satiety

weaker satiation

weaker caloric compensation

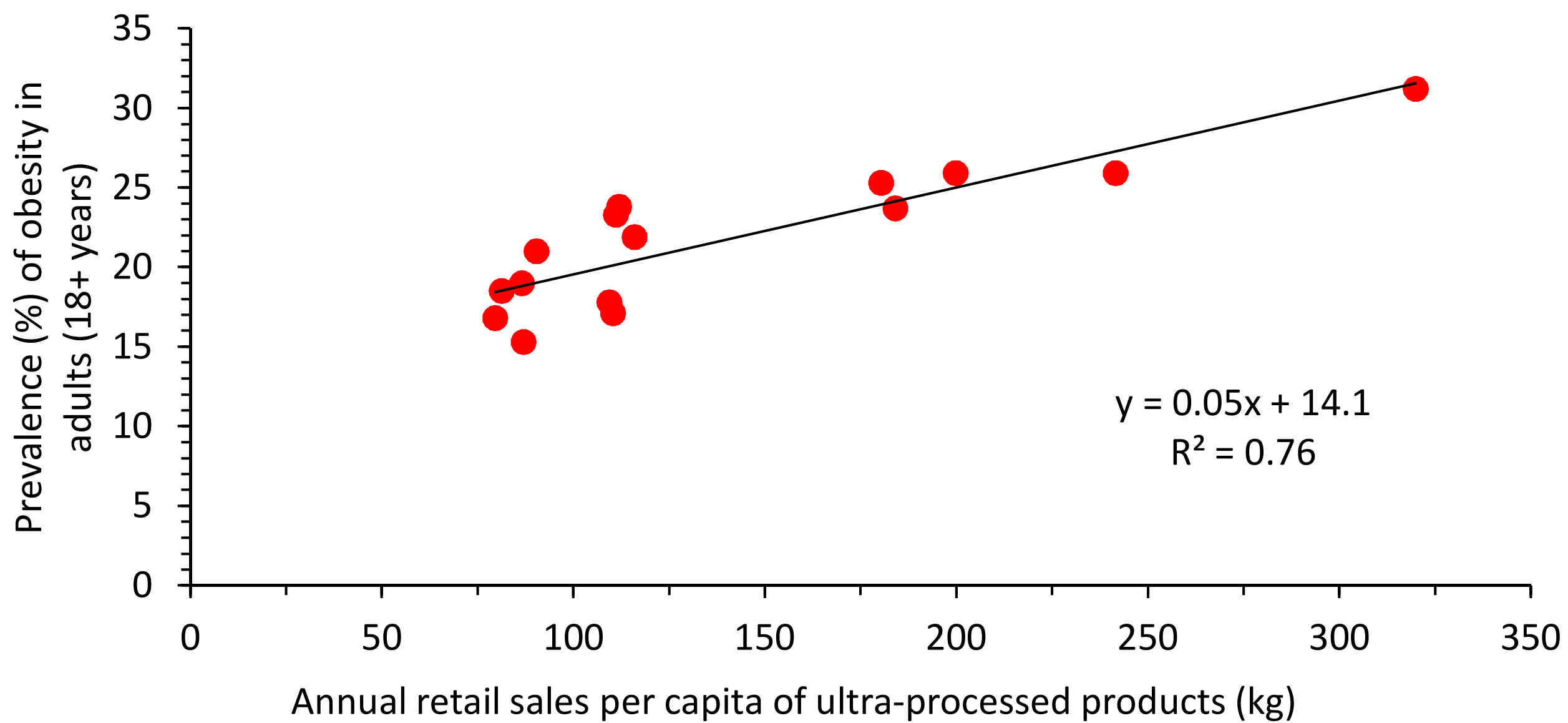
*Food & Function* 2017; 10.1039/c7fo01423f

*Food & Function* 2017; 8(2):651-58

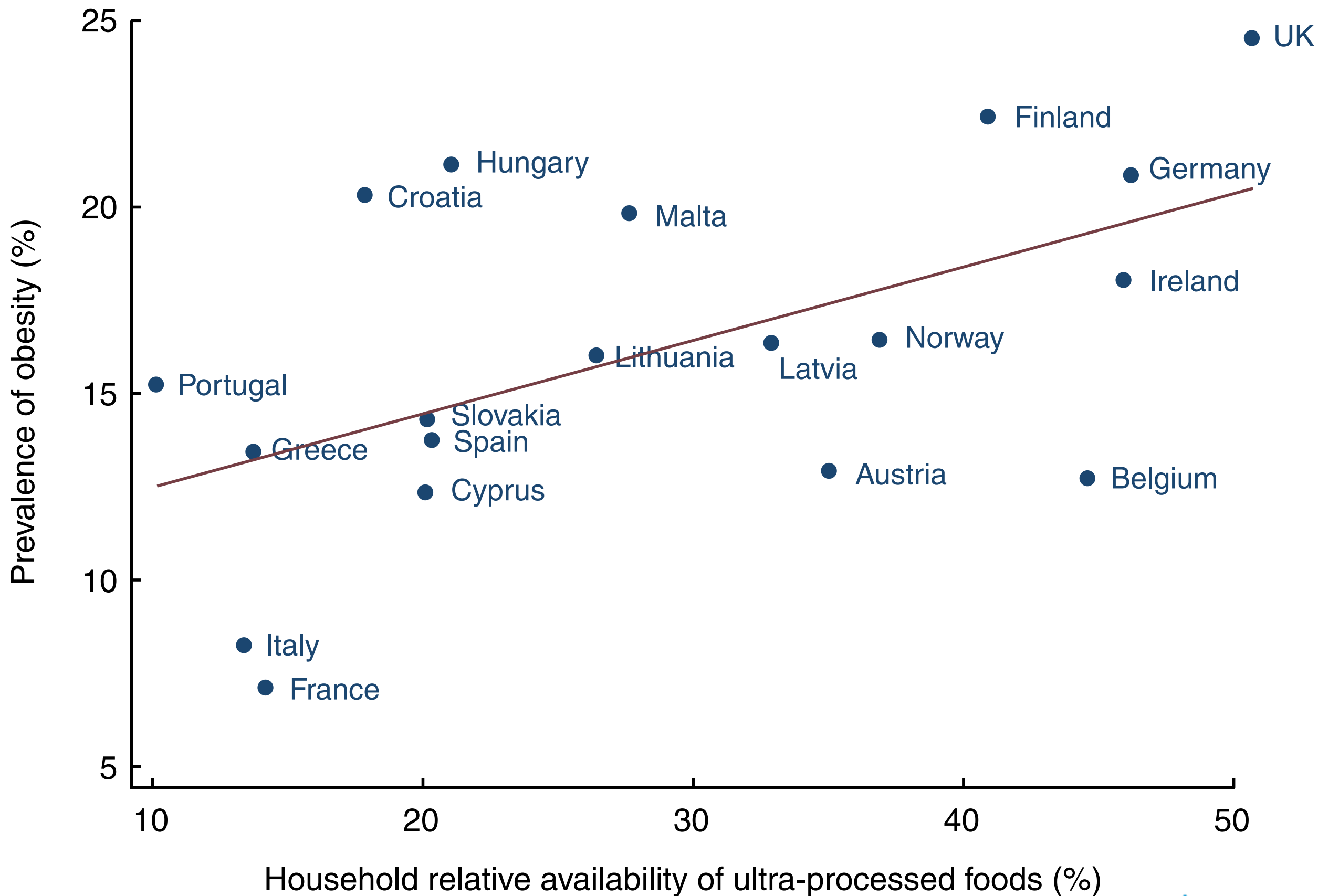
*Food & Function* 2016; 7(5):2338-46

*Appetite* 2016; 98:67-73

Annual retail sales per capita of ultra-processed food and drink products and prevalence of obesity (%) in adults in 14 countries in the Americas, 2013



Ultra-processed products here include carbonated soft drinks, sweet and savory snacks, breakfast cereals, confectionery (candy), ice cream, biscuits (cookies), fruit and vegetable juices, sports and energy drinks, ready-to-drink tea or coffee, spreads, sauces, and ready-meals. Quantity in liters is converted into kilograms. Sales data are from the Euromonitor Passport Database (2014) (38). Obesity data are from the WHO 2014 Global status report on noncommunicable diseases (2).





# Ultra-processed food and drink products in Latin America: Trends, impact on obesity, policy implications

[http://iris.paho.org/xmlui/bitstream/handle/123456789/7699/9789275118641\\_eng.pdf](http://iris.paho.org/xmlui/bitstream/handle/123456789/7699/9789275118641_eng.pdf)

*real food is not a good choice  
to promote obesity*

greater volume

more time (eat and prepare)

place/space

limits opportunities

*Food & Function* 2017; 10.1039/c7fo01423f

*Food & Function* 2017; 8(2):651-58

*Food & Function* 2016; 7(5):2338-46

*Appetite* 2016; 98:67-73









# THE GOLDEN RULE

.....

*ALWAYS PREFER NATURAL OR MINIMALLY PROCESSED FOODS AND FRESHLY MADE DISHES AND MEALS TO ULTRA-PROCESSED FOODS*

[http://bvsms.saude.gov.br/bvs/publicacoes/dietary\\_guidelines\\_brazilian\\_population.pdf](http://bvsms.saude.gov.br/bvs/publicacoes/dietary_guidelines_brazilian_population.pdf)





Rice, beans, baked chicken leg, beetroot and cornmeal with cheese



Rice, beans, omelet and sautéed jiló



Feijoada, rice, onion and tomato vinagrette, cassava flour, sautéed cole and orange



Tomato salad, rice, beans, grilled beef and fruit salad



*Could we solely promote real  
food?*

*Could we solely promote real  
food?*

NO

*Could we simply reduce the  
calories in UPPP?*

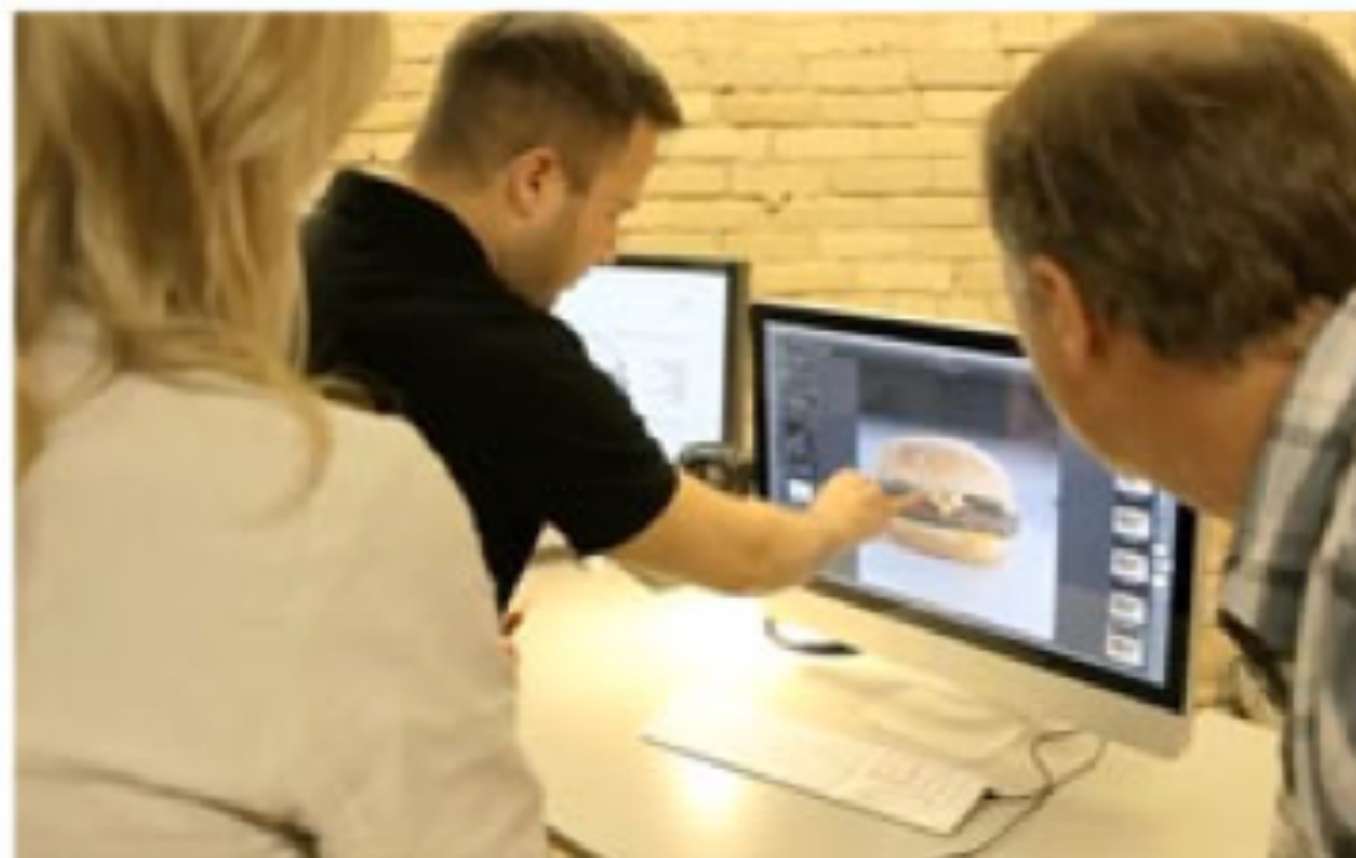
*Could we simply reduce the  
calories in UPPP?*

NO

# **POLICIES & PRACTICES**







- How Advertising Affects sales: Meta-Analysis of Econometric results [Journal of Marketing Research; Vol XXI \(February \*\*1984\*\*\), 65-74](#)
- Television Advertising to Children: A Global Perspective  
[Am J Public Health. 2010 September; 100\(9\): 1730–1736.](#)

- **In-Store Advertisement** [Journal of Advertising Research 1975; 15\(3\):29-33.](#)
  - Point-of-sale promotion more than doubled the effect of price-reduction
- **School surroundings** [Am J Public Health. 2009 March; 99\(3\): 505–510.](#)
  - students with fast-food restaurants near (within one half mile of) their schools...
    - (1) consumed fewer servings of fruits and vegetables,
    - (2) consumed more servings of soda, and
    - (3) were more likely to be overweight

# Unilever

*‘We spend about **€7 billion** annually on marketing, making us one of the world’s biggest advertisers.’  
(2014)*

**€8 billion** (2016)



**INGREDIENTS:** JUICE FROM CONCENTRATES (GRAPE, PEAR, PEACH, AND PINEAPPLE), CORN SYRUP, SUGAR, MODIFIED CORN STARCH, FRUIT PUREES (STRAWBERRY, RASPBERRY, ORANGE, AND GRAPE), GELATIN, CITRIC ACID, LACTIC ACID, NATURAL AND ARTIFICIAL FLAVORS, ASCORBIC ACID (VITAMIN C), ALPHA TOCOPHEROL ACETATE (VITAMIN E), VITAMIN A PALMITATE, SODIUM CITRATE, COCONUT OIL, CARNAUBA WAX, RED 40, YELLOW 5, AND BLUE 1.



*Fruit* is our 1<sup>ST</sup> Ingredient!

# Welch's

FAMILY FARMER OWNED

MIXED FRUIT

NATURAL & ARTIFICIAL FLAVORS

## Fruit Snacks

Now With More



**REAL  
Fruit**

✓ 100% Vitamin C per serving  
25% Vitamins A & E

**FAT FREE**

Gluten Free

No Preservatives

PER SERVING

90

CALORIES

0g

SAT FAT

10mg

SODIUM

12g

SUGARS

NET WT 2.25 oz. (64g)

INGREDIENTS: JUICE FROM CONCENTRATES (GRAPE, PEAR, PEACH, AND PINEAPPLE), CORN SYRUP, SUGAR, MODIFIED CORN STARCH, FRUIT PUREES (STRAWBERRY, RASPBERRY, ORANGE, AND GRAPE), GELATIN, CITRIC ACID, LACTIC ACID, NATURAL AND ARTIFICIAL FLAVORS, ASCORBIC ACID (VITAMIN C), ALPHA TOCOPHEROL ACETATE (VITAMIN E), VITAMIN A PALMITATE, SODIUM CITRATE, COCONUT OIL, CARNAUBA WAX, RED 40, YELLOW 5, AND BLUE 1.

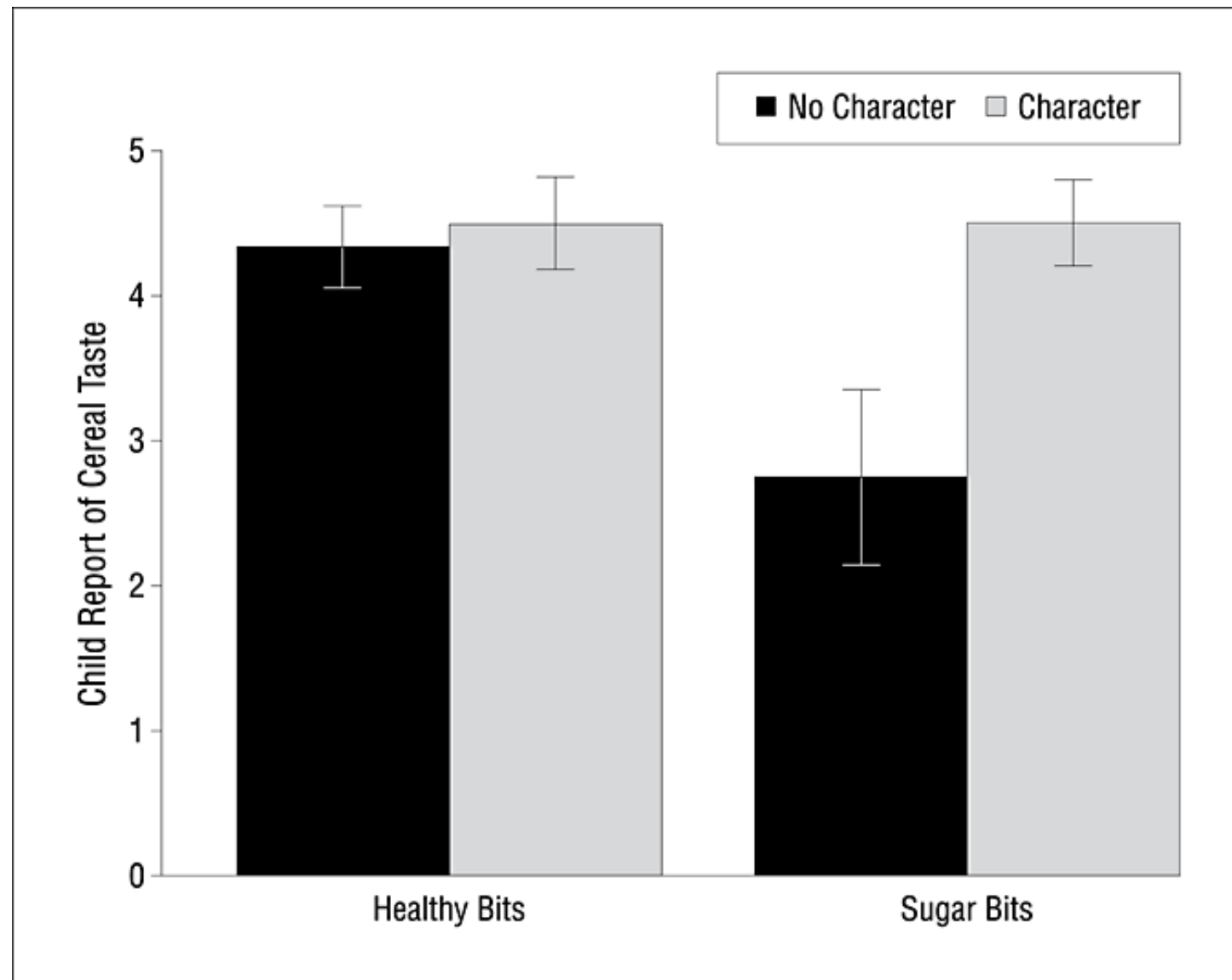


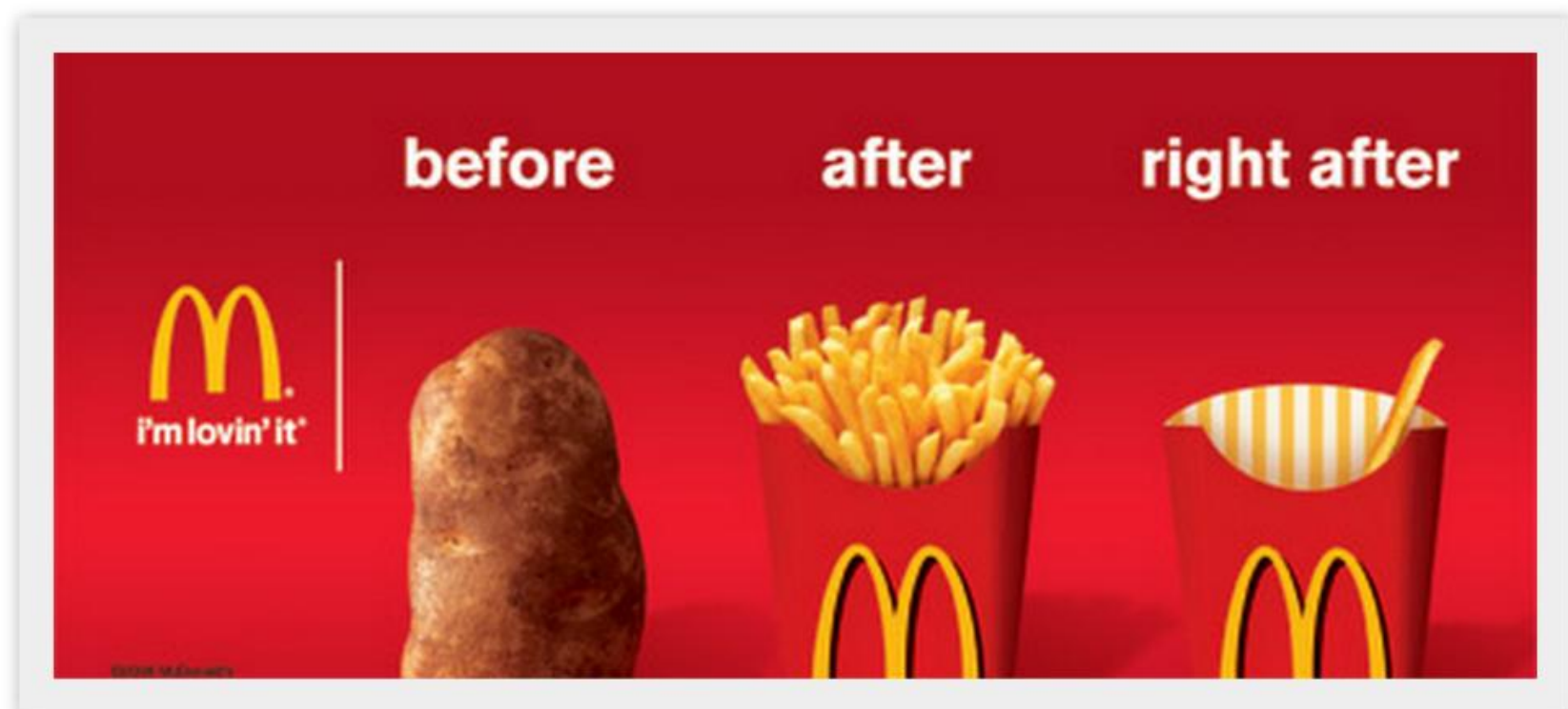
# Sensation transfer/distortion

## Influence of Licensed Spokescharacters and Health Cues on Children's Ratings of Cereal Taste

Matthew A. Lapierre, MA; Sarah E. Vaala, MA; Deborah L. Linebarger, PhD

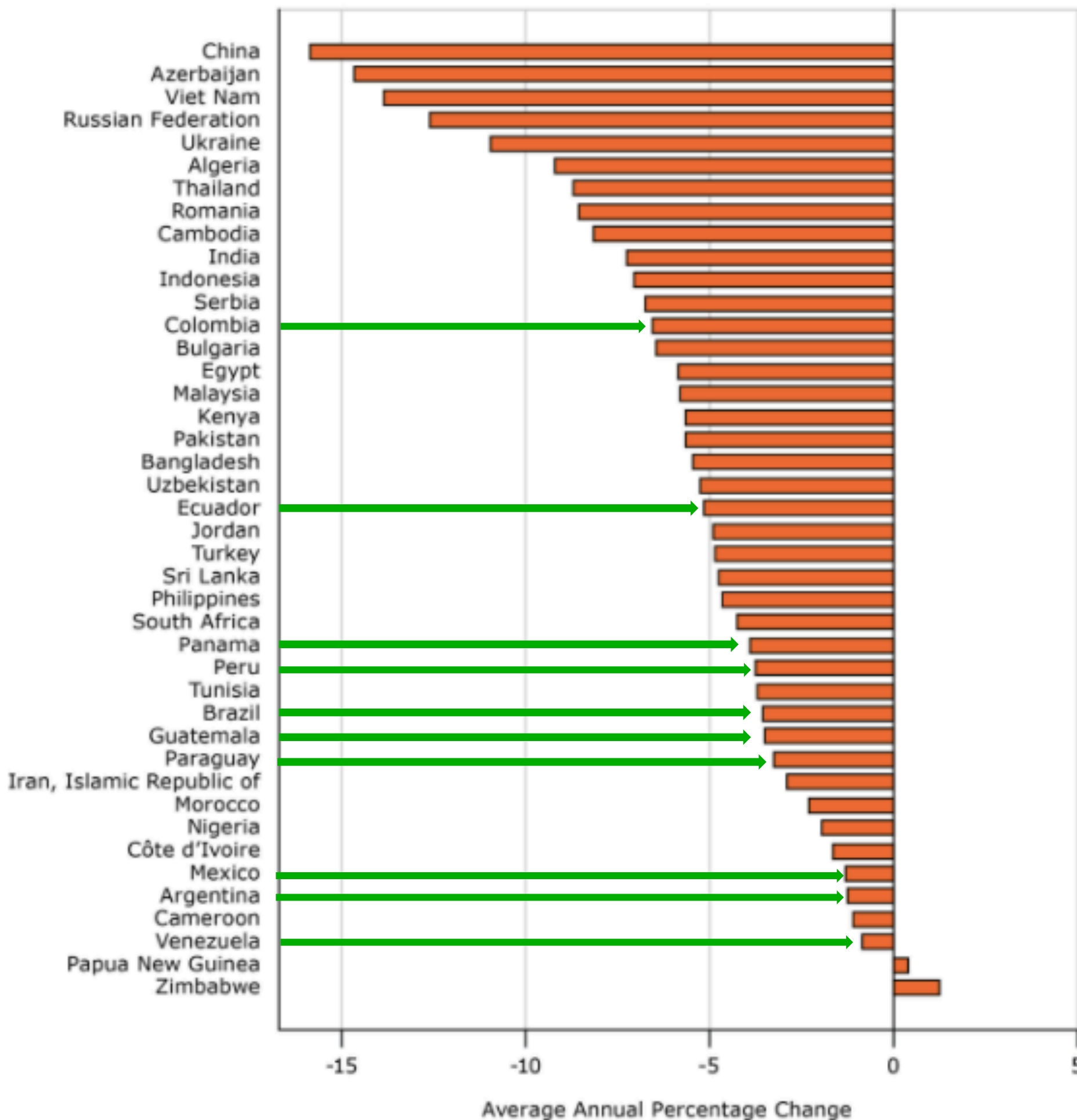
Children (5-6 year old)







# Low-Income and Middle-Income Countries



Prev Chronic Dis 2017;14:160406.  
DOI: <http://dx.doi.org/10.5888/pcd14.160406>



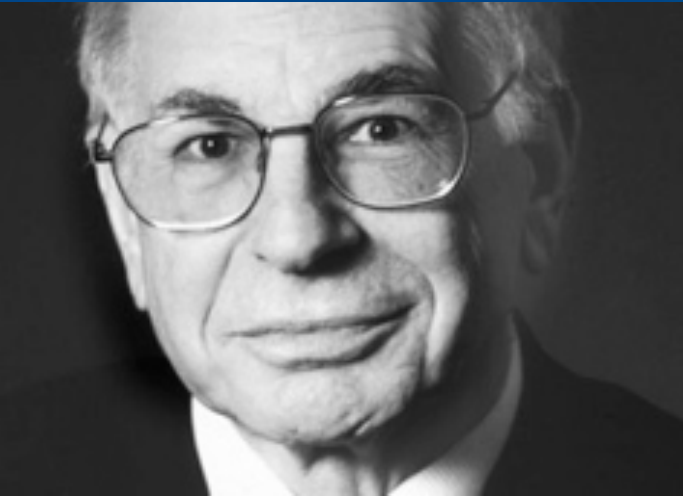
EVITAR SU CONSUMO EXCESIVO



EVITAR SU CONSUMO







## *Easy/Simple*

Consumers do not engage in extensive cognitive effort in purchase situations, they try to *minimize* both *error and effort*

The major goal in repetitive decisions is to make a satisfactory choice while *minimizing cognitive effort*

A typical shopping trip involves numerous decisions, and it is likely that the consumer does not want to spend a great deal of time and effort on any decision



## Chile

Implemented in June 2016

Warning labels

+

Elimination of persuasive elements  
(licensed characters)

+

Products labelled as HIGH IN  
banned from schools and  
advertisement restricted









# Differences between estimated and counterfactual volumes of taxed and untaxed beverages purchased monthly per capita in Mexico, 2014-15

	Taxed beverages	Untaxed beverages
<b>2014</b>		
January	-0.8%***	10.2%***
February	-0.4***	9.3***
March	-1.6***	8.4***
April	-2.7***	7.5***
May	-3.9***	6.6***
June	-5.0***	5.7***
July	-6.1***	4.8***
August	-7.3***	3.9***
September	-8.4***	3.1***
October	-9.4***	2.2***
November	-10.5***	1.4***
December	-11.6***	0.5***
2014 average	-5.5	5.3
<b>2015</b>		
January	-10.8***	-4.4***
February	-10.6***	-3.8***
March	-10.4***	-3.2***
April	-10.2***	-2.6***
May	-10.0***	-2.0***
June	-9.8***	-1.3***
July	-9.6***	-0.7***
August	-9.4***	-0.1***
September	-9.2***	-0.5***
October	-9.0***	1.2***
November	-8.8***	1.8***
December	-8.5***	2.4***
2015 average	-9.7	-1.0
<b>2014-15</b>		
Average	-7.6	2.1



DOI: 10.1377/hlthaff.2016.1231  
HEALTH AFFAIRS 36,  
NO. 3 (2017): -



Problems

Causes

intro/promote/expand

**undermine solutions**

Solutions

Weaken

Delay

Impede

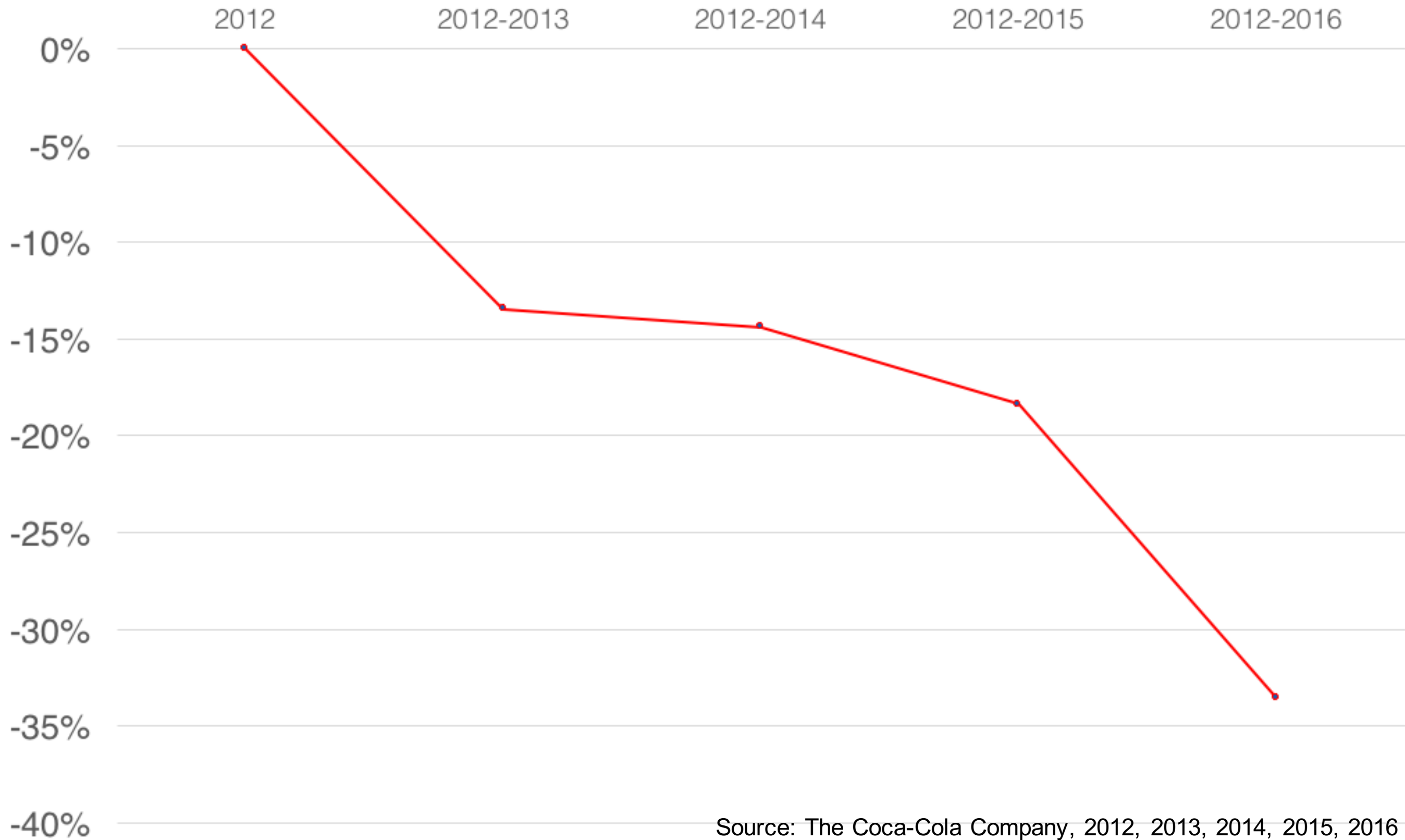
# Corporate Political Activities

- Lobby policy makers
- Stress the economic importance of the industry
- Promote deregulation
- **Frame the debate on diet- and public health-related issues**
- **Shape the evidence base on diet- and public health-related issues**
- Fund and provide financial incentives to political parties and policymakers
- **Establish relationships with key opinion leaders and health organizations**
- Seek involvement in the community
- Establish relationships with policymakers and with the media
- **Use legal action (or the threat thereof) against public policies or opponents**
- Influence the development of trade and investment agreements
- Develop and promote alternatives to policies
- Criticize public health advocates
- **Create multiple voices against public health measures**
- **Infiltrate, monitor and distract public health advocates, groups and organizations**



# Stress the economic importance of the industry

Reducción acumulada del número de empleados de "The Coca-Cola Company"



# Promote deregulation



Source: <http://www.revistalideres.ec/lideres/nestle-crece-chocolate.html>

**Use legal action (or the threat thereof) against public policies or opponents**

# **Kellogg's recurre a la justicia por Ley de Etiquetado de Alimentos**

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Autor: **Judith Herrera C.**

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Firma rechaza resolución de Seremi de Salud que prohibió venta de productos por uso de ganchos comerciales. Se trata de la primera vez que la norma llega a la justicia. Ministerio de Salud plantea que caricaturas presentes en el envase habrían sido usadas como incentivo al consumo de productos altos en nutrientes críticos.



Source: <http://www2.latercera.com/noticia/kelloggs-recurre-la-justicia-ley-etiquetado-alimentos/>

# Shape the evidence base on diet- and public health-related issues

REVIEW OUTCOMES		AUTHORS CONFLICT OF INTEREST		
		Total	Industry	Non-Industry
		31	<u>22</u>	<u>9</u>
<b>Results</b>				
	Favorable	4	4	0
	Unfavorable	15	7	8
	Unclear	12	11	1
<b>Conclusions</b>				
	Favorable	19	18	1
	Unfavorable	12	4	8

doi:10.1371/journal.pone.0162198.t003



# Shape the evidence base on diet- and public health-related issues

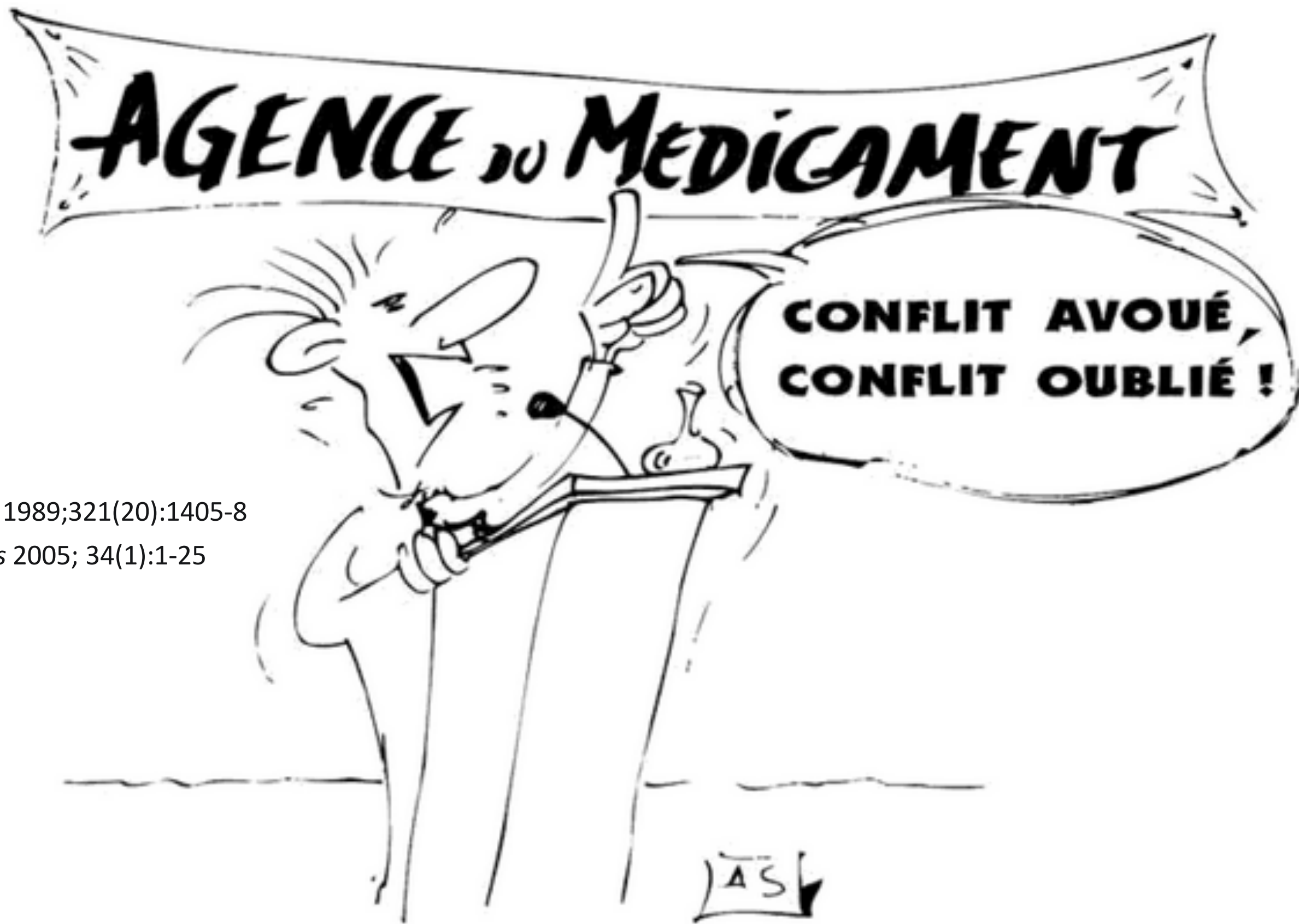
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doi:10.1371/journal.pone.0162198.t003



*N Engl J Med.* 1989;321(20):1405-8

*J Legal Studies* 2005; 34(1):1-25

**“Conflict Disclosed, Conflict Disposed! Or Conflict Confessed, Conflict Forgotten!”**

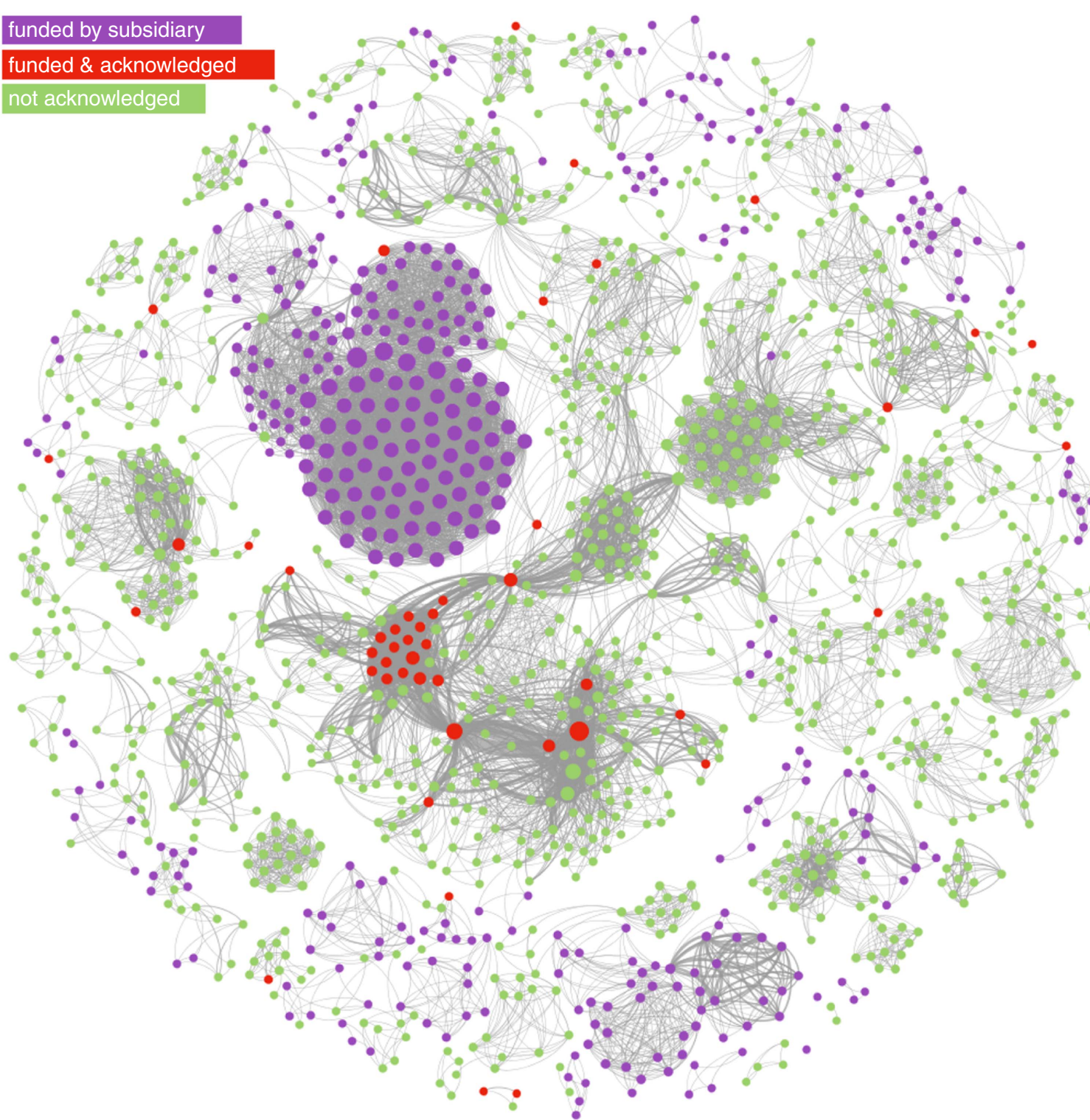
*Artist: Alain Savino. Source: La Revue Prescrire 16, no. 168 (1996): 891.*



funded by subsidiary

funded & acknowledged

not acknowledged



**Create multiple  
voices against  
public health  
measures**

**Shape the evidence  
base on diet- and  
public health-  
related issues**

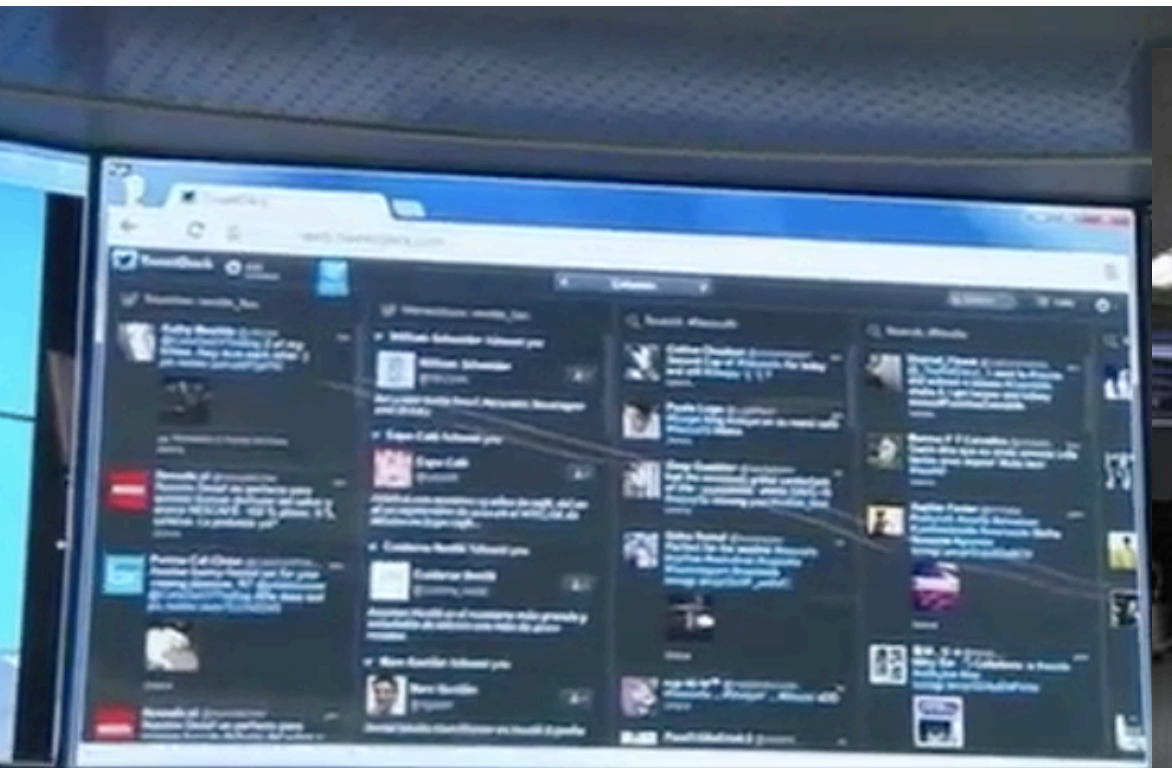
**Fig. 3** Network of linkages between authors of publications acknowledging Coca-Cola related funding. This network graph shows co-authored publications (ties) between authors (nodes), for publications that acknowledge funding from The Coca-Cola Company, The Coca-Cola Foundation, the Beverage Institute for Health and Wellness and any subsidiary or bottler company (e.g. Coca-Cola Brasil). Nodes in red identify authors who appear on Coca-Cola's transparency lists. Nodes in green identify authors on Coca-Cola funded publications whose names do not appear in Coca-Cola transparency lists. Nodes in purple identify authors on publications funded by Coca-Cola subsidiaries, also not on Coca-Cola's lists. Nodes are sized by degree centrality (total number of co-authors times the number of shared publications they have)



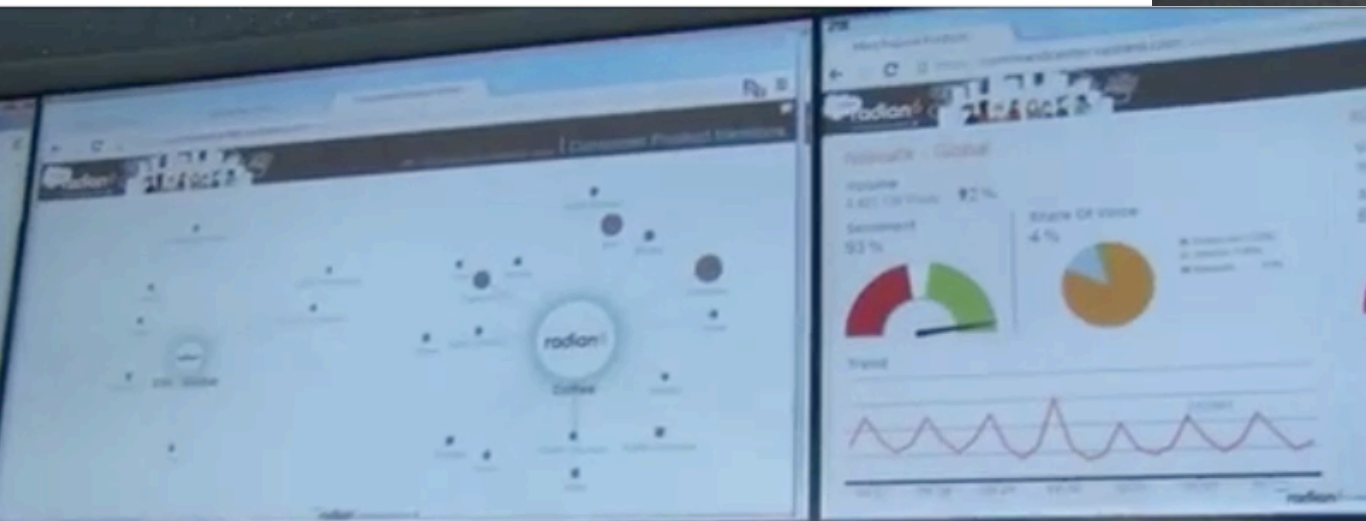
# Infiltrate, monitor and distract public health advocates, groups and organizations

Digital Acceleration Team Nestlé

Monitoring and intervention in social media



Source: <https://uk.reuters.com/article/uk-nestle-online-water/insight-at-nestle-interacting-with-the-online-enemy-idUKBRE89P07Q20121026>



**Stop Nestlé buying palm oil from companies that destroy the rainforests**

'Greenpeace-Nestle Palm Oil'/Quiche Campbell/David McNulty & Michael Watts



Campinas, 7 de noviembre de 2011

Doctora

JANE MENEGALDO

Presidenta

Sociedad Brasileira de Ciencia y Tecnologia de Alimentos- (sbCTA)

considerando que durante la reunión del Comité Directivo de ALACCTA con miembros del IUFOST quienes expresaron su disconformidad por la posible realización del 23º Congreso de sbCTA en mayo del 2012 y con el cuarto tópico sobre *"The Role of Media in Childhood Obesity"* presentado por sbCTA para el Congreso Mundial el cual causaría inconvenientes con potenciales patrocinadores del evento, se tomó la siguiente resolución:



Glaucia Pastore - Presidente





## PATROCINADORES







# Associação Brasileira de Nutrição

[www.asbran.org.br](http://www.asbran.org.br) | [www.rasbran.com.br](http://www.rasbran.com.br) | [www.conbran.com.br](http://www.conbran.com.br)

PORTARIA ASBRAN N°01, DE 01 DE AGOSTO DE 2015

Institui critérios para o estabelecimento de parcerias, apoios e patrocínios realizados com a ASBRAN.

