

# Unhealthy food marketing techniques and food consumption impact

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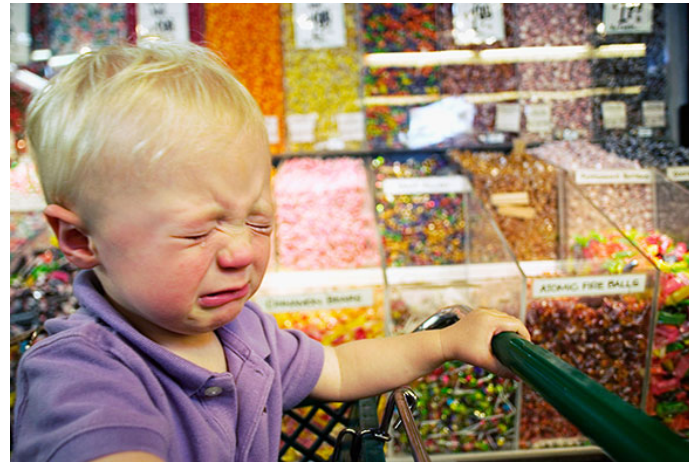
@emmaboyland

# Why are children targeted by marketers?

Independent spenders



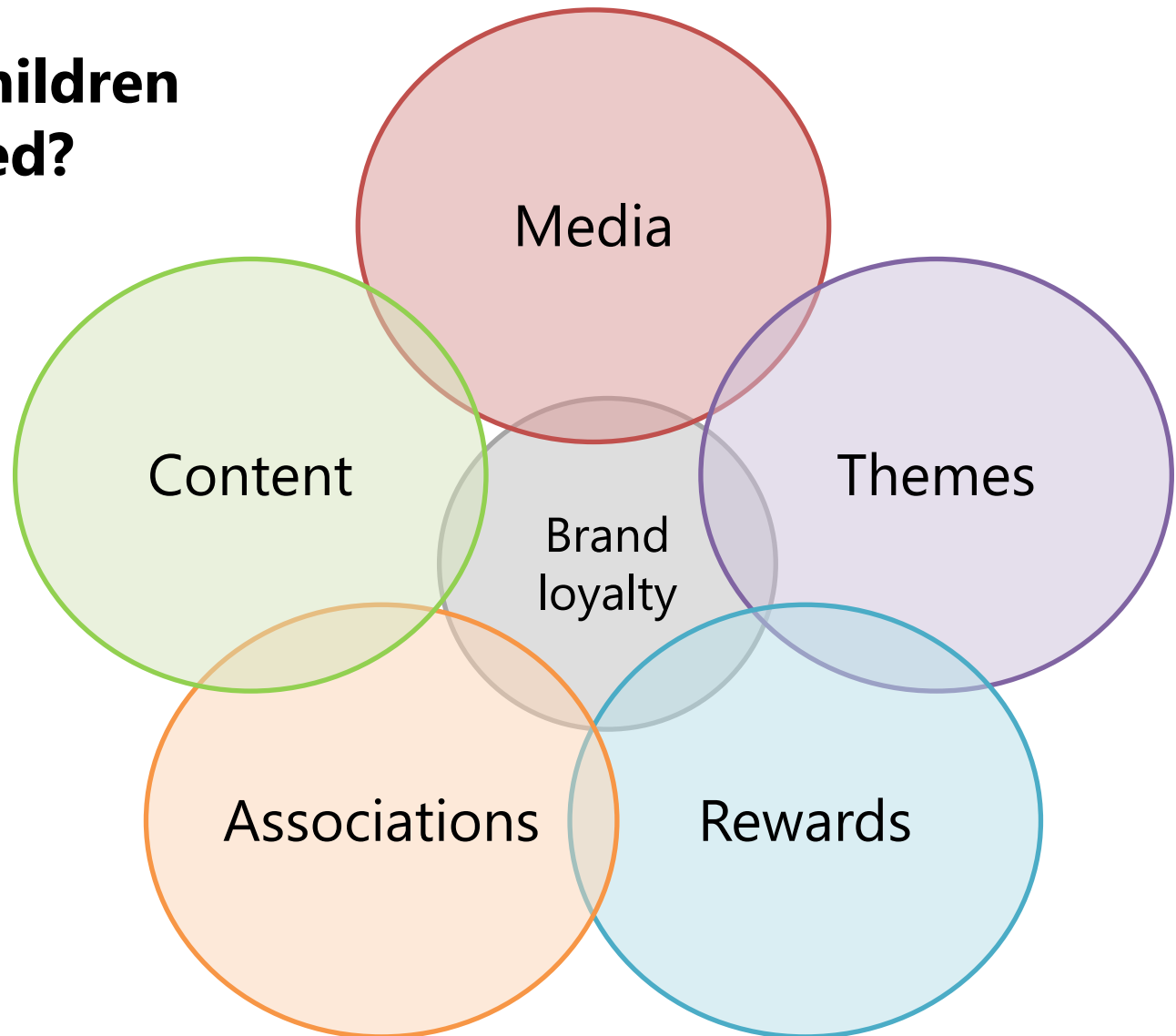
Influence over family spending



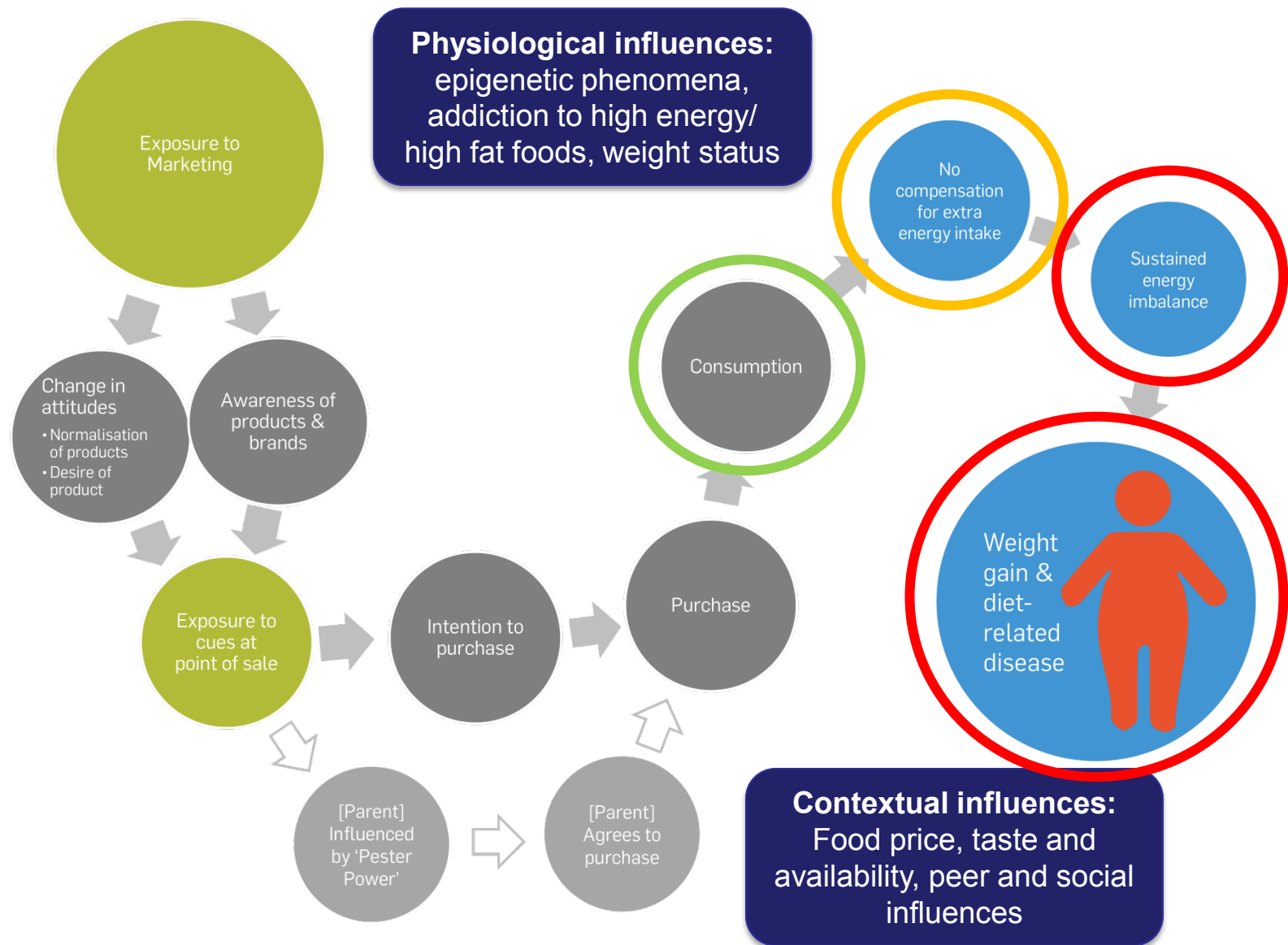
Future adult  
consumer



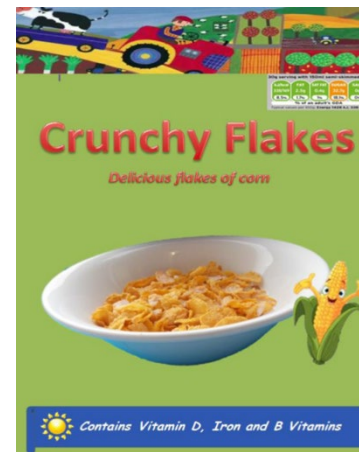
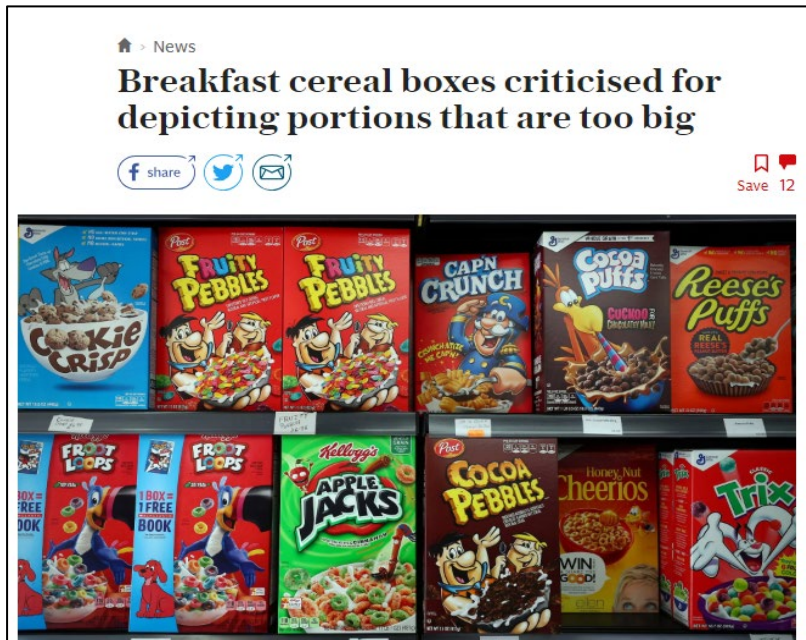
## ***How are children targeted?***



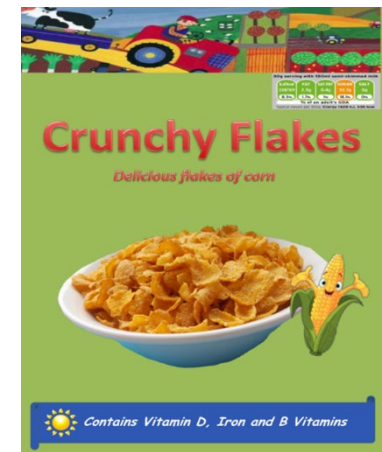
# (Simplified) Hierarchy of Effects to Food Promotions



# The influence of front-of-pack portion-size images on children's serving and intake of cereal



30g



90g

- At suggested portion size, 8 of 13 cereals provided over half the recommended daily sugar intake for a 4-6 year old.
- Recommended sizes at least 2/3 less than those depicted.

- With bigger portion, children (7-11y):
  - Served themselves 37% more
  - Consumed 63% more

# Impact of food marketing on short-term consumption

Study or Subgroup	Std. Mean Difference	SE	Weight	Std. Mean Difference IV, Random, 95% CI	Std. Mean Difference IV, Random, 95% CI
<b>1.2.1 Adults</b>					
Anshutz 2011 (27)	-0.05259	0.11043	5.0%	-0.05 [-0.27, 0.16]	
Bellisle 2009 (38)	-0.0704	0.1118	5.0%	-0.07 [-0.29, 0.15]	
Boland 2013 (31)	-0.16752	0.10911	5.0%	-0.17 [-0.38, 0.05]	
Harris 2009b (19)	0.13823	0.12217	5.0%	0.14 [-0.10, 0.38]	
Martin 2009 (28)	0.0269	0.10206	5.0%	0.03 [-0.17, 0.23]	
Van Strien 2012 (46)	0.00742	0.08805	5.0%	0.01 [-0.17, 0.18]	
Wonderlich-Tierney 2013 (47)	0.20587	0.13868	4.9%	0.21 [-0.07, 0.48]	
<b>Subtotal (95% CI)</b>			<b>34.8%</b>	<b>-0.00 [-0.08, 0.08]</b>	

Heterogeneity:  $Tau^2 = 0.00$ ;  $Chi^2 = 6.54$ ,  $df = 6$  ( $P = 0.37$ );  $I^2 = 8\%$   
 Test for overall effect:  $Z = 0.00$  ( $P = 1.00$ )

## 1.2.2 Children

Anshutz 2009 (29)	0.02625	0.09129	5.0%	0.03 [-0.15, 0.21]	
Anshutz 2010 (30)	-0.09752	0.1118	5.0%	-0.10 [-0.32, 0.12]	
Boyland 2013a (39)	0.44744	0.1191	5.0%	0.45 [0.21, 0.68]	
Boyland 2013b (39)	0.03059	0.12856	4.9%	0.03 [-0.22, 0.28]	
Dovey 2011 (21)	2.07638	0.08704	5.0%	2.08 [1.91, 2.25]	
Folkvord 2013 (23)	0.4908	0.08639	5.0%	0.49 [0.32, 0.66]	
Folkvord 2014 (22)	0.35674	0.08737	5.0%	0.36 [0.19, 0.53]	
Folkvord 2015 (24)	0.34122	0.10426	5.0%	0.34 [0.14, 0.55]	
Halford 2004 (18)	1.0697	0.10911	5.0%	1.07 [0.86, 1.28]	
Halford 2007 (25)	0.53218	0.07332	5.1%	0.53 [0.39, 0.68]	
Halford 2008 (26)	1.71047	0.09206	5.0%	1.71 [1.53, 1.89]	
Harris 2009a (19)	0.41517	0.09206	5.0%	0.42 [0.23, 0.60]	
Harris 2012 (20)	-0.12621	0.09901	5.0%	-0.13 [-0.32, 0.07]	
<b>Subtotal (95% CI)</b>			<b>65.2%</b>	<b>0.56 [0.18, 0.94]</b>	

Heterogeneity:  $Tau^2 = 0.47$ ;  $Chi^2 = 625.43$ ,  $df = 12$  ( $P < 0.00001$ );  $I^2 = 98\%$   
 Test for overall effect:  $Z = 2.92$  ( $P = 0.003$ )

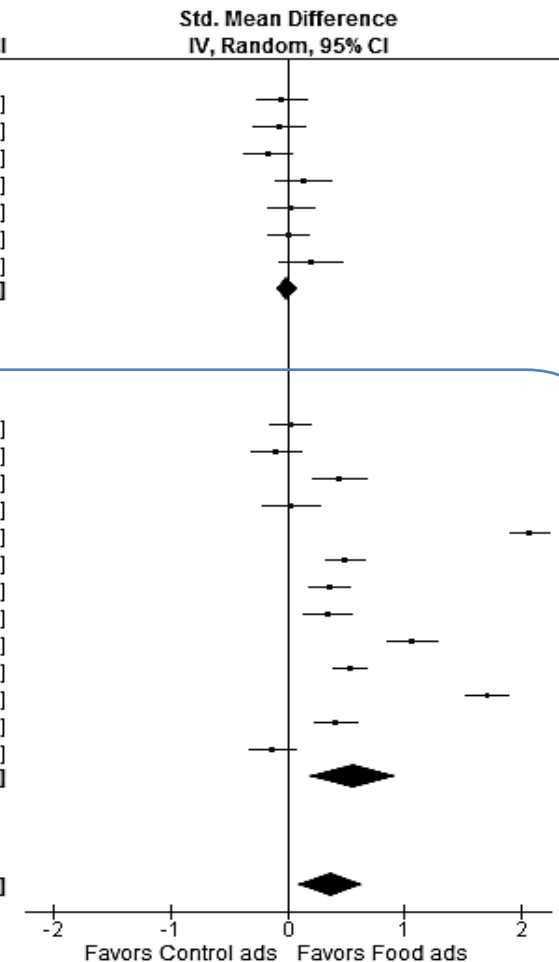
## Total (95% CI)

**100.0%**

**0.37 [0.09, 0.65]**

Heterogeneity:  $Tau^2 = 0.40$ ;  $Chi^2 = 788.63$ ,  $df = 19$  ( $P < 0.00001$ );  $I^2 = 98\%$   
 Test for overall effect:  $Z = 2.57$  ( $P = 0.01$ )

Test for subgroup differences:  $Chi^2 = 8.14$ ,  $df = 1$  ( $P = 0.004$ ),  $I^2 = 87.7\%$





# Sustained impact of food marketing on food intake



## Study Design

- Children 7-12 years (n=160)
- Single media or multiple media
- 3 days food advertising and 3 days non-food advertising
- Measured snack and lunch intake



## Key findings

- All children in multiple media condition ate more at a snack after food advertising – not compensated for at lunch
- Additional 194kJ consumed on food advertising days
- Increased effect in children with heavier weight status and multiple (versus single) media exposure

## Children's digital media consumption

**8-11s**



**39%** have their own smartphone, **52%** have their own tablet.

**95%** watch TV on a TV set, for nearly **14h a week**.

**55%** watch TV on other devices, mostly on a tablet

**81%** play games, for around **10h a week**.

**94%** go online, for nearly **13½h a week**.

**46%** of these mostly use a tablet to go online, **22%** a mobile.

**81%** use YouTube, of which **23%** say funny videos or pranks are their favourite thing to watch, **18%** say music videos.

**23%** have a social media profile.

The **TV set** or **tablet** are the devices they would miss the most.

**12-15s**



**83%** have their own smartphone, **55%** have their own tablet.

**91%** watch TV on a TV set, for nearly **14½h a week**.

**68%** watch TV on other devices, mostly a tablet or mobile.

**77%** play games, for around **12h a week**.

**99%** go online, for nearly **21h a week**.

**49%** of these mostly use a tablet to go online, **26%** mostly use a mobile.

**90%** use YouTube, of which **26%** say music videos are their favourite thing to watch, **23%** say funny videos or pranks.

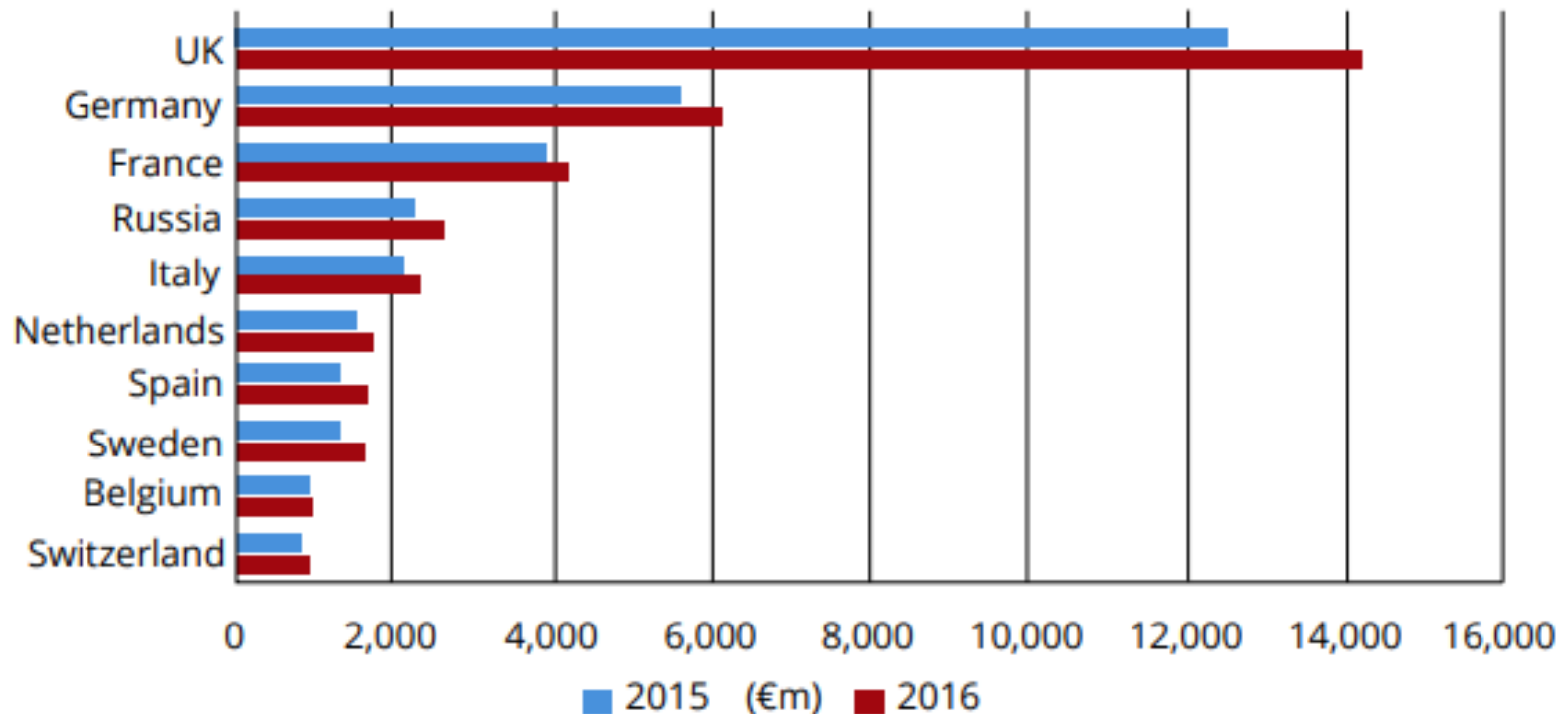
**74%** have a social media profile.

Their **mobile phone** is the device they would miss the most.



## Digital ad spend in EU markets

Figure 2: Digital ad spend



Source: Written evidence from the Internet Advertising Bureau UK ([ADV0022](#))

# Digital food marketing techniques



- **Tailored advertising:**
  - Contextual (content viewed).
  - Behavioural (characteristics & preferences).
- **Real examples**
  - Based on users' engagement with ads, Unilever ice cream advertised differently in hot / rainy weather, and based on consumers' purchase history and flavour preferences.
  - Geo-location data from cell phones used to deliver ads in real time when users are in area so can "walk in and buy".
  - McDonalds in Japan partnered with Pokémon GO. US pizzerias acquired "lures" for \$10.

613

POLICY AND PRACTICE

**A safe glimpse within the "black box"? Ethical and legal principles when assessing digital marketing of food and drink to children**

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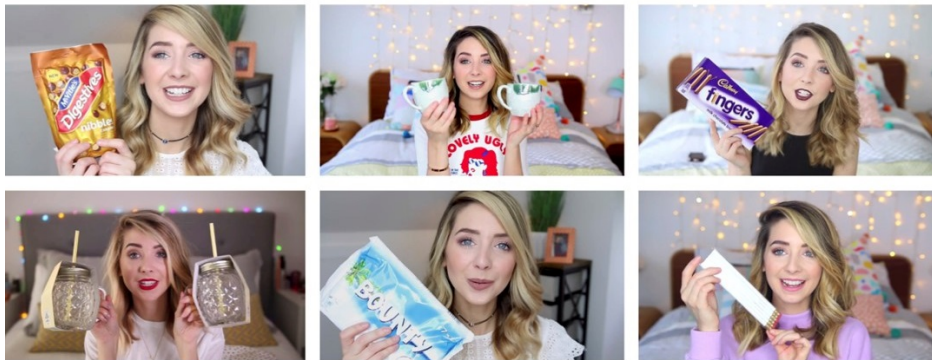
**ABSTRACT**





















Marketing in digital media presents major new challenges to those seeking to identify, for research or monitoring purposes, the extent and nature of children's exposure to marketing of foods and non-alcoholic beverages high in fat, salt and sugar. The WHO Commission on Ending Childhood Obesity called for reductions in children's (including adolescents') exposure to such marketing in all media and for the closing of regulatory loopholes. Assessing the extent and nature of such exposure and the effectiveness of proposed regulation is challenging in a new digital media era, however, as marketing is increasingly personalized, based on internet users' behavioural patterns. The ethics and legality of accessing personal data are not yet clearly established and the closed, "black box" nature of much digital data presents a significant challenge.

This paper builds on conclusions of a workshop at the WHO Regional Office for Europe that aimed to inform policy-makers, funders, researchers and regulators by summarizing the ethical and legal considerations researchers need to address in study design. The workshop considered digital ethics guidance, European Union law and terms and conditions of social media platforms; it concluded that such research can be carried out ethically, although it is particularly important for stakeholders to make case-by-case assessments and to view consent as a process. Nevertheless, the terms and conditions of digital platforms and applications present legal access challenges.

**Keywords:** DIGITAL MEDIA, ETHICS, LAW, MARKETING, ADVERTISING, RESEARCH, CHILDREN, ADOLESCENTS, SOCIAL MEDIA, FOOD

# Social media – major marketing platform for brands



Rank	Name	Facebook	Twitter	Total
#1	 <b>Coca-Cola Zero</b> Product	 107,420,746 21,592 Talking About	 250,336  75.9	107,671,082
#2	 <b>Red Bull</b> Brand - Food/Beverage	 49,001,861 431,649 Talking About	 2,160,913  86.8	51,162,774
#3	 <b>Oreo</b> Product - Food/Beverage	 43,152,463 174,453 Talking About	 857,677  83.4	44,010,140
#4	 <b>Pepsi</b> Brand - Food/Beverage	 37,684,378 11,356 Talking About	 3,125,221  87.9	40,809,599
#5	 <b>NESCAFÉ</b> Brand - Food/Beverage	 37,523,942 886 Talking About	 70,495  77.3	37,594,437
#6	 <b>Starbucks Coffee</b> Brand - Food/Beverage	 37,207,267 212,404 Talking About	 11,906,095  90.9	49,113,362
#7	 <b>Nutella</b> Product - Food/Beverage	 32,253,030 3,230 Talking About		32,253,030

*"Nearly one third of UK tweets are about food and drink companies"*  
FoodNavigator.com, Sept 2015

<http://fanpagelist.com/category/brands/food/view/list/sort/fans/> 17<sup>th</sup> August 2018

## Digital food marketing to young people



CHILDHOOD OBESITY  
July 2018 | Volume 14, Number 5  
Mary Ann Liebert, Inc.  
DOI: 10.1089/chi.2018.0037

### ORIGINAL ARTICLES

#### What's on YouTube? A Case Study on Food and Beverage Advertising in Videos Targeted at Children on Social Media

LeeAnn Tan, MB BCH BAO,<sup>1</sup> See Hoe Ng, MSc,<sup>2</sup>  
Azahadi Omar, MD, MPH,<sup>1</sup> and Tilakavati Karupaiah, PhD, APD, AN<sup>3</sup>

- Food and beverages most common (38% of ads)
- 56.3% promoted non-core foods



JMIR PUBLIC HEALTH AND SURVEILLANCE

Vassallo et al

### Original Paper

#### Junk Food Marketing on Instagram: Content Analysis

Amy Jo Vassallo<sup>1</sup>, MCHD; Bridget Kelly<sup>2</sup>, PhD; Lelin Zhang<sup>3</sup>, PhD; Zhiyong Wang<sup>3</sup>, PhD; Sarah Young<sup>1</sup>, MPH; Becky Freeman<sup>1</sup>, PhD

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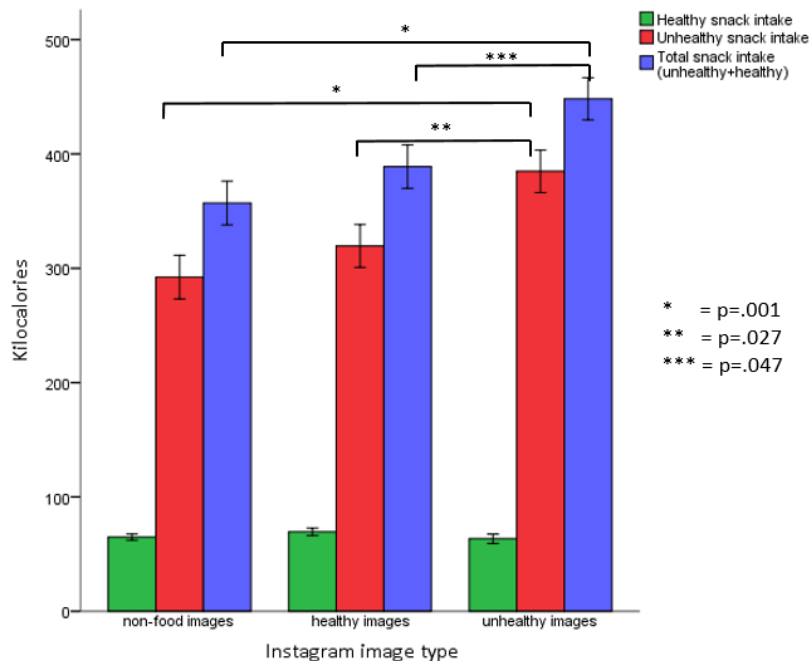
- Unhealthy food and beverage brands used 6-11 different marketing strategies
- High level of branding present (little product info)



## Impact of digital marketing 2



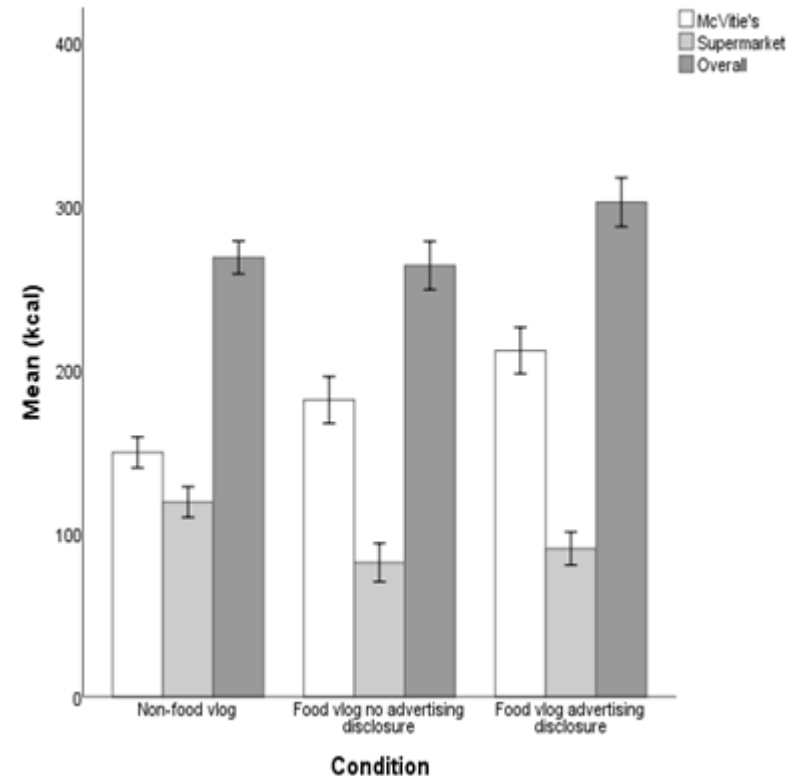
Social media “influencers” affect children’s food intake



**Figure 1:** Mean ( $\pm$  SEM, indicated by the error bars) snack intake (kcal) as a function of type of image shown in a vloggers Instagram page.

Coates et al., (under review at Pediatrics)

Greater food intake after video blog *with ad disclosure*



Coates et al., (in preparation for Pediatric Obesity)

## New report from Cancer Research UK Boyland et al (October 2018)

**CHILDREN WHO WATCH COMMERCIAL TV FOR MORE THAN 3 HOURS PER DAY...**



...are more than **twice**  
as likely to pester their  
parents for junk food



...are almost **3 times**  
more likely to buy  
junk food



...are more than **twice**  
as likely to eat crisps and  
have sugary drinks

[cruk.org/junkfoodmarketing](http://cruk.org/junkfoodmarketing)

**Together we will beat cancer**



CANCER  
RESEARCH  
UK



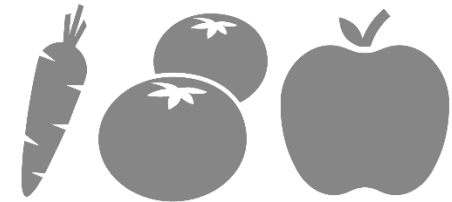
## CHILDREN WHO USE THE INTERNET FOR MORE THAN 3 HOURS PER DAY...



...are almost **3 times**  
more likely to pester their  
parents for junk food



...are almost **4 times**  
more likely to buy  
junk food



...will eat around **3 times**  
**less** fruit and vegetables

[cruk.org/junkfoodmarketing](http://cruk.org/junkfoodmarketing)  
**Together we will beat cancer**



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Dr Lauren McGale and Anna Coates



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