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Title: Public attitudes to government intervention to regulate food advertising, especially to children.

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Running Head: The marketing of food to children

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1 **Abstract**

2 The World Health Organization has called on governments to implement recommendations on the
3 marketing of foods and beverages to children. This study describes high public support for
4 government intervention in marketing of unhealthy food to children and suggests more effort is
5 needed to harness public opinion to influence policy development.

6 **Introduction**

7 Childhood obesity is a key public health concern with children who are overweight or obese being
8 more likely to maintain their overweight or obese status and develop cardiometabolic morbidities as
9 adults.¹ In Australia, rates of overweight and obesity in children (2014-15) aged 5 to 17 years were
10 27.4%, increasing from 21% in 1995.²

11 There is increasing evidence that food marketing generates positive beliefs about the foods
12 advertised. This influences children's nutrition knowledge, food and beverage preferences, purchase
13 requests and behaviours, and food consumption.³

14 The World Health Organization has called on governments to implement its recommendations on
15 the marketing of foods and non-alcoholic beverages to children.⁴ There has been opposition from
16 the food and beverage industry to government intervention and despite the evidence that banning
17 television advertisements of unhealthy food during children's peak viewing times has been shown
18 to be one of the most cost-effective population-based obesity-prevention interventions available,⁵
19 government has been reluctant to act. In Australia, the National Preventative Health Taskforce
20 recommended the Australian government phase out unhealthy food marketing on television before
21 9pm by the end of 2013;⁶ however, this has not occurred.

22 Public support for regulating food and beverage advertising to children is likely to be a strong
23 motivator for government action in this area. Using a representative sample of South Australian
24 adults, this study aimed to explore public attitudes towards government regulation of the advertising
25 of unhealthy foods to children and the mode of regulation

26 public attitudes to government intervention regarding unhealthy food advertising to children and
27 mode of regulation in a representative sample of South Australian adults.

28 **Methods**

29 Data were collected in July-August 2008 and June-July 2011 using the South Australian Health
30 Monitor Survey. Households were randomly selected from the Electronic White Pages telephone

31 directory. The person within the household aged 18 years or over with the most recent birthday was
32 selected to participate. The surveys were approved by the South Australian Department for Health
33 and Ageing Human Research Ethics Committee in 2008 and 2011 and participants gave informed
34 consent before participating.

35 Respondents were asked to report their agreement on a five point Likert scale ranging from strongly
36 agree to strongly disagree. The same questions were asked in both years in the same manner by
37 trained interviewers. Questions posed included the role of government in regulating advertising to
38 children and respondents' preferred mode of regulation (see Table 1).

39 Demographic variables including age, sex and whether or not there were children under the age of
40 18 years living in the household were collected.

41 Data were analysed using STATA 13.0 (STATA, Texas, USA). In order to represent the South
42 Australian population, data were weighted by age, sex, area (metropolitan or rural) and probability
43 of selection in the household using Census data.

44 Responses on the Likert scale were combined to create three categories: strongly agree/support and
45 agree/support, neither agree/support or disagree/oppose, and strongly disagree/oppose and
46 disagree/oppose. All variables were categorical, described using frequencies and proportions and
47 compared using chi square tests.

48 **Results**

49 In 2008, 1910 interviews were completed (participation rate: 60.8%) and 2001 interviews in 2011
50 (participation rate: 57.3%). Consistent demographic data allowed data from both years to be pooled
51 for analysis (N=3911). Mean age was 47.4 ± 18.3 years, 48.7% were men and 36.5% households
52 had a child under 18 years.

53 All participants indicated strong agreement that governments should regulate the way food or drink
54 is advertised and marketed to children (Table 1). Women were more likely than men to hold this
55 view ($p=0.039$). Furthermore, 75.9% of respondents either agreed or strongly agreed that there was

56 too much advertising of unhealthy food during children's television viewing time with differences
57 found across age groups ($p= 0.011$) and between those with and without children under 18 years in
58 the household ($p<0.001$) (Table 1).

59 When respondents were asked about their support for different methods of government regulation ,
60 a high proportion of respondents supported a ban on advertising of unhealthy foods at times when
61 children watch television (86.4%). Women were more likely to support a total ban on advertising of
62 unhealthy foods than men ($p<0.001$) and support for this statement increased with age ($p<0.001$).
63 Households without children were more likely to support a ban on all food advertising when
64 children are watching television ($p<0.001$) and support for this statement increased with age
65 ($p<0.001$). A support for a total ban on all food advertising increased with increasing age ($p<0.001$)
66 (Table 1).

67 **Discussion**

68 This study suggests strong support by South Australian adults for government intervention to
69 restrict or ban television advertising of unhealthy food and non-alcoholic beverages. Consistent
70 with other Australian studies⁷⁻⁹, over 86% of respondents strongly agreed or agreed with banning
71 the advertising of unhealthy food during children's television viewing time. When investigating
72 public acceptability of various forms of regulation to support a healthy eating environment, Morley
73 et.al (2012) found 83% of Australian adults were in favour of a ban on advertising unhealthy food at
74 times when children watch television. Furthermore, 92% of respondents supported restrictions to
75 food advertising on free to air television.⁸ Similarly, a Western Australian study reported 84% of
76 respondents assessed government control or regulation of food advertising as either quite important
77 (34%) or very important (50%).⁹

78 Public opinion on this issue remains aligned with the views and interests of non-government groups
79 who recommend banning unhealthy food advertising on television before 9pm¹⁰, as well as with
80 past state and territory government views and federally commissioned advice⁶

81 Whilst this data was collected several years ago, this study reiterates continued public support for
82 government regulation of the television advertising of unhealthy food to children, especially during
83 children's peak viewing times. Decisive federal government leadership is needed to implement
84 policy responses to proactively regulate and monitor the marketing of unhealthy foods to children.
85 Concerted policy actions consistent with public support would progress efforts to implement
86 international recommendations to reduce childhood obesity.

87

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Table 1. The proportion of respondents who strongly agree/support or agree/support each of the following statements by demographic, N=3911

	Attitudes to food advertising to children and government role in regulation		Respondents preferences for modes of regulation			
	Government should regulate the way food or drink is advertised and marketed to children	There is too much advertising of unhealthy food during children's television viewing time	A total ban on ALL food advertising	A ban on ALL food advertising at times when children watch television	A total ban on advertising of unhealthy foods	A ban on advertising of unhealthy foods at times when children watch television
	% (95 % CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)	% (95% CI)
Overall	87.0 (85.5-88.3)	75.9 (74.2-77.6)	12.1 (10.9-13.4)	36.2 (34.3-38.2)	60.8 (58.8-62.8)	86.4 (85.0-87.7)
Sex						
Men	85.9 (83.5-88.1)*	74.9 (72.0-77.6)	11.7 (9.9-13.7)	34.6 (31.6-37.7)	56.8 (53.5-60.0)**	84.9 (82.5-87.1)
Women	88.0 (86.3-89.4)	76.9 (74.7-79.0)	12.6 (11.0-14.3)	37.8 (35.4-40.2)	64.7 (62.2-67.1)	87.8 (86.2-89.3)
Children under 18 years old in the household						
Yes	88.8 (86.4-90.8)	78.2 (75.1-81.0)**	11.6 (9.5-14.0)	31.9 (28.5-35.4)**	59.0 (55.4-62.5)	86.8 (84.2-89.1)
No	85.9 (84.1-87.6)	74.6 (72.4-76.8)	12.4 (11.1-14.0)	38.8 (36.5-41.1)	61.9 (59.4-64.3)	86.2 (84.5-87.8)
Age						
18-30	88.5 (86.2-90.5)	71.4 (71.1-77.0)*	9.7 (7.9-11.9)**	31.0 (28.0-34.2)**	47.9 (44.5-51.2)**	86.9 (84.5-89.1)
31-65	87.2 (85.6-88.5)	75.8 (74.0-77.5)	10.9 (9.7-12.3)	33.9 (32.0-35.9)	61.4 (59.4-63.4)	86.6 (85.2-88.0)
65+	84.8 (82.1-87.1)	78.5 (75.4-81.2)	18.4 (15.8-21.3)	48.9 (45.4-52.4)	73.3 (70.1-76.3)	85.3 (82.7-87.7)

Note: CI – Confidence Interval * significant difference determined by chi square test at $p < 0.05$, ** significant difference determined by chi square test at $p < 0.001$