Short Communication

Prevalence and correlates of US adult public opinion on restricting junk food advertising to children on social media: 2020 Health Information National Trends Survey

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Abstract

Objective: To describe US adults' levels of support, neutrality and opposition to restricting junk food advertising to children on social media and explore associations with socio-demographic and health-related characteristics.
Design: In 2020–2021, we used cross-sectional data from the National Cancer Institute's 2020 Health Information National Trends Survey to estimate the prevalence of opinions towards advertising restrictions and correlates of neutrality and opposition using weighted multivariable logistic regression.
Setting: United States.
Participants: Adults aged 18+ years.
Results: Among the analytic sample (*n* 2852), 54 % of adults were neutral or opposed to junk food advertising restrictions on social media. The odds of being neutral or opposed were higher among Non-Hispanic Black adults (*v.* non-Hispanic White; OR: 2·03 (95 % CI 1·26, 3·26)); those completing some college (OR: 1·68 (95 % CI 1·20, 2·34)) or high school or less (OR: 2·62 (95 % CI 1·74, 3·96)) (*v.* those with a college degree); those who were overweight (*v.* normal weight; OR: 1·42 (95 % CI: 1·05, 1·93)) and those reporting a moderate (OR: 1·45 (95 % CI 1·13, 1·88)) or conservative (OR: 1·71 (95 % CI 1·24, 2·35)) political viewpoint (*v.* liberal). Having strong (*v.* weaker) weight and diet-related cancer beliefs was associated with 53 % lower odds of being neutral or opposed to advertising restrictions (OR: 0·47 (95 % CI 0·36, 0·61)).
Conclusions: The current study identified subgroups of US adults for whom targeted communication strategies may increase support for policies to improve children's food environment.

Marketing of unhealthy foods and beverages ('junk food') to children, which accounts for ~90 % of child-targeted food advertising[1], influences dietary intake and preferences[2] and remains an important public health challenge[3,4]. The disproportionate spending of junk food marketing dollars targeting Black and Hispanic youth further exacerbates health inequities in communities of colour[5,6]. Television is the primary outlet for food marketing; however, social and digital media platforms (e.g. Facebook, YouTube) are increasingly used to reach young consumers[7,8] given their broad adoption and reach[9]. Despite expert recommendations, current US food and beverage industry

self-regulatory policy does not explicitly include social media when defining child-directed food marketing[10]. Greater understanding of public opinion towards policies to restrict junk food advertising to children on social media is an important step towards understanding the message environment to inform potential interventions[11–14].

The current study describes the extent to which US adults are supportive, neutral or opposed to restricting junk food advertising to children on social media and explores associations of neutrality and opposition with socio-demographic and health-related characteristics.

Methods

In 2020–2021, we analysed data from the National Cancer Institute's Health Information National Trends Survey (HINTS). HINTS is a cross-sectional, nationally representative survey most recently administered by mail between February and June 2020 among civilian, non-institutionalised US adults aged 18+ years (HINTS 5 Cycle 4; *n* 3865). Further methodology details are available elsewhere[15].

Measures

Social media policy
Respondents rated the extent they would support or oppose the following: '*Junk food products, including candy, chips, soda, and flavored sports drinks, should not be advertised to children on social media*'[16]. Responses were dichotomised for logistic regression: 'neutral or opposed' (neither support nor oppose; oppose and strongly oppose) *v.* 'supportive' (support; strongly support).

Self-reported characteristics included[16]:

Socio-demographic characteristics
Age; sex at birth; race/ethnicity (non-Hispanic White; non-Hispanic Black; Hispanic; non-Hispanic Other); education level (high school or less; technical, vocational or some college; college or more); children in the household (yes/no); visited a social networking site (e.g. Facebook, LinkedIn) in the prior 12 months (yes/no; labelled 'social media use').

Health-related characteristics
Perceived health status (poor/fair; good and very good/excellent); BMI weight status category calculated from self-reported height and weight (normal weight: 18·5–24·9 kg/m^2; overweight: 25·0–29·9 kg/m^2 and obese: ≥ 30·0 kg/m^2); having one or more chronic conditions (yes/no; including diabetes or high blood sugar; high blood pressure or hypertension; heart condition; chronic lung disease, asthma, emphysema or chronic bronchitis; depression or anxiety disorder); believing at least one of the following statements has 'a lot' of influence on whether a person will develop cancer: *being overweight or obese*; *gaining weight in adult life*; *eating too much*

red meat (yes/no; labelled 'strong weight/diet-related cancer beliefs').

Political viewpoint
Reported from a seven-point scale from very liberal to very conservative (categorised as liberal, moderate and conservative).

Statistical analysis
Analyses were conducted in RStudio (v1.3.1056) and applied sample jackknife replicate weights to provide estimates representative of the USA population. We used multivariable logistic regression with listwise deletion to examine the odds of being neutral or opposed to the social media advertising restriction – *v.* supportive – by socio-demographic and health-related characteristics, while controlling for political viewpoint, to identify targeted communication approaches for adults who are opposed or neutral and may not yet see the value in such a policy measure. We conducted a sensitivity analysis utilising multinomial logistic regression to examine relative risks of being 'opposed *v.* supportive' and 'neutral *v.* supportive' by the same characteristics.

Results

The analytic sample included *n* 2852 respondents (mean age 46·9 (SE 0·4) years; 50·0 % male; 65·8 % non-Hispanic White) with complete information on social media policy opinion, socio-demographic characteristics, health-related characteristics and political viewpoint. The largest proportion of adults were neutral about restricting junk food advertising to children on social media (40·6 %; Table 1). Support (46·1 %) was more common than opposition (13·4 %). When dichotomised, a slight majority of adults were either neutral or opposed to the social media policy (53·9 %).

Table 2 includes estimates from the multivariable logistic regression.

Table 1 Prevalence of adults' opinion on restricting junk food advertising to children on social media, Health Information National Trends Survey (HINTS), United States, 2020

	n	Weighted %
Analytic sample	2852	100
Opinion		
Strongly oppose	164	6·1
Oppose	234	7·3
Neither support nor oppose	1022	40·6
Support	657	23·3
Strongly support	775	22·8

Of the *n* 3865 total HINTS 5 Cycle 4 respondents, *n* 3769 (97·5 %) reported opinion on restricting junk food advertising to children on social media (weighted percentages: 6·5 % strongly oppose; 7·7 % oppose; 40·6 % neither support nor oppose; 22·3 % support; 22·9 % strongly support); and *n* 2852 (73·8 %) had complete information on characteristics reported in Table 2.

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Table 2 Correlates of adults' opinion on restricting junk food advertising to children on social media, Health Information National Trends Survey (HINTS), United States, 2020

Characteristic	Analytic sample (100 %) %*	Neutral or opposed (53·9 %) %*	Supportive (46·1 %) %*	Neutral or opposed *v.* supportive (ref) OR	95 % CI
Socio-demographic					
Age, years					
Mean	46·9	46·4	47·5	0·99	0·98, 1·00
SE	0·4	0·8	0·6		
Male at birth	50·0	53·3	46·1	1·22	0·93, 1·60
Race/ethnicity					
Non-Hispanic White (ref)	65·8	61·2	71·2	1·00	–
Non-Hispanic Black	10·3	12·8	7·3	2·03	1·26, 3·26
Hispanic	16·4	17·8	14·7	1·12	0·73, 1·72
Non-Hispanic Other†	7·5	8·2	6·8	1·74	1·11, 2·75
Education level					
College or more (ref)	32·7	24·5	42·2	1·00	–
Technical, vocational or some college	40·0	41·2	38·7	1·68	1·20, 2·34
High school or less	27·3	34·3	19·1	2·62	1·74, 3·96
Children in household	34·9	36·1	33·4	0·92	0·69, 1·24
Social media use	78·1	76·8	79·5	0·94	0·69, 1·28
Health-related					
Perceived health status					
Excellent or very good (ref)	52·0	47·8	56·9	1·00	–
Good	35·8	38·7	32·5	1·14	0·85, 1·52
Poor or fair	12·2	13·5	10·6	1·16	0·77, 1·74
BMI weight status category‡					
Normal weight (18·5–24·9 kg/m²) (ref)	34·2	29·7	39·5	1·00	–
Overweight (25·0–29·9 kg/m²)	31·9	33·4	30·1	1·42	1·05, 1·93
Obese (≥ 30·0 kg/m²)	33·9	36·8	30·5	1·31	0·96, 1·78
One or more chronic condition§	57·4	56·7	58·3	0·90	0·68, 1·18
Strong weight/diet-related cancer beliefs‖	39·9	31·0	50·2	0·47	0·36, 0·61
Political viewpoint					
Liberal (ref)	29·0	24·0	35·0	1·00	–
Moderate	37·2	40·4	33·6	1·45	1·13, 1·88
Conservative	33·7	35·6	31·5	1·71	1·24, 2·35

*Mean (SE) and percentages are weighted to reflect US population estimates.

†The Non-Hispanic Other category includes the following self-reported races: American Indian or Alaska Native, Asian Indian, Chinese, Filipino, other Asian, other Pacific Islander and multiple races selected.

‡BMI calculated from self-reported height and weight; *n* 61 respondents with BMI < 18·5 kg/m² (underweight) were excluded.

§Chronic conditions included: diabetes or high blood sugar (17·5 %); high blood pressure or hypertension (34·6 %); a heart condition such as heart attack, angina or congestive heart failure (7·6 %); chronic lung disease, asthma, emphysema or chronic bronchitis (12·0 %) and depression or anxiety disorder (23·6 %).

‖Adults with strong weight/diet-related cancer beliefs indicated that at least one of the following statements has 'a lot' of influence on whether or not a person will develop cancer: being overweight or obese (34·0 % 'a lot'), gaining weight in adult life (22·7 % 'a lot'), and/or eating too much red meat (22·9 % 'a lot').

Unweighted analytic sample size: *n* 2852 of 3865 total HINTS 5 Cycle 4 respondents (73·8 %). OR and 95 % CI are reported from multivariable logistic regression adjusted for characteristics included in the table.

Socio-demographic characteristics

Non-Hispanic Black adults and adults in the non-Hispanic other category had 2 and 1·7 times the odds, respectively, of being neutral or opposed to the social media policy than non-Hispanic White adults. Compared with adults with a college degree or higher, adults with lower education levels had 1·7 to 2·6 times the odds of being neutral or opposed to the policy. Sex at birth, living with children in the household and social media use were not statistically significantly.

Health-related characteristics

Compared with adults in the normal weight status category, adults categorised as overweight had 1·4 times the odds of being neutral or opposed to the social media policy. Having strong (*v.* weaker) weight/diet-related cancer beliefs was associated with 53 % lower odds of being neutral or opposed to the policy. Perceived health status and having chronic condition(s) were NS.

Political viewpoint

Adults with a moderate or conservative (*v.* liberal) political viewpoint had 1·5 and 1·7 times the odds, respectively, of being neutral or opposed to the policy.

Multinomial logistic regression also yielded statistically significant estimates for race/ethnicity, education, BMI category, weight/diet-related cancer beliefs and political viewpoint (see online supplemental Table S1), although some associations were significant in one outcome comparison (opposed *v.* supportive *or* neutral *v.* supportive). For example, given other variables held constant, adults categorised as obese were 1·8 times more likely than adults in the normal weight status category to oppose the social

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media policy than support it (the neutral $v.$ supportive association was not statistically significant). Estimates for overweight $v.$ normal weight were not statistically significant but similar in magnitude to that of the logistic regression.

Discussion

Our analysis of 2020 HINTS data suggests that slightly more than half of US adults (53·9 %) were either neutral towards or opposed to restricting junk food advertising to children on social media. This may indicate a lack of awareness of the issue or its importance for child health. We observed significant differences in opinion by race/ethnicity, education, BMI category, weight/diet-related cancer beliefs and political viewpoint. Non-Hispanic Black adults, and those without a college degree, with overweight, and reporting a moderate or conservative political viewpoint had greater odds of being neutral or opposed to the social media policy. As might be expected, adults who believed weight status and diet are strongly associated with cancer had greater odds of policy support.

Although not specific to social media, Fleming-Milici and colleagues examined US parents' support for reducing marketing of unhealthy foods to children in the broader food environment. In contrast to our findings, results from the 2009 to 2012 study suggested greatest policy support among women and Hispanic and Black parents[12]. Variation in study population, time, messaging environment focus and policy support measurement, challenge direct comparisons to the current analysis among all adults. However, both studies highlight the role that political viewpoint and differences by race/ethnicity may play in supporting policies to restrict marketing of unhealthy foods to children.

Our results suggest that beliefs and understanding of the science related to weight, diet and cancer risk are potentially modifiable targets for communication strategies to increase policy support and political will[17]. Targeting communication efforts to particular contexts will be important, especially given observed differences in opinion by BMI category, race/ethnicity and education.

Prior research suggests that support for public health policies is strongest for those aiming to protect children[11]. However, when controlling for other factors, living with child(ren) was not significantly associated with policy opinion in the current study. This may be due to limitations in the questionnaire, which did not include items on whether the respondent was a parent[16]. Further, age of child(ren) in the household was not assessed, nor was child screen time, household social media behaviours and household eating behaviours (e.g. diet quality, food decision making) – potentially important characteristics for future research that could be associated with policy opinion[8,12]. Future exploratory research may also seek to understand adults' rationale for their policy opinion.

Conclusions

Targeted communication interventions that increase public awareness of the links between weight, diet and cancer – particularly for adults with higher BMI, non-Hispanic Black adults and those with lower education – may increase support for restricting junk food advertising to children on social media, for which a high proportion of US adults have a neutral stance. Such restrictions could improve children's food environments to prevent diet-related diseases.

Acknowledgements

Supplementary material

For supplementary material accompanying this paper visit https://doi.org/10.1017/S1368980021003359

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