

Original Investigation

The Role of Parents in Public Views of
Strategies to Address Childhood Obesity
in the United States

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Policy Points:

- The American public—both men and women and those with and without children in the household—holds parents highly responsible and largely to blame for childhood obesity.
- High attributions of responsibility to parents for reducing childhood obesity did not universally undermine support for broader policy action. School-based obesity prevention policies were strongly supported, even among those viewing parents as mostly to blame for childhood obesity.
- Americans who viewed sectors outside the family (such as the food and beverage industry, schools, and the government) as helping address childhood obesity were more willing to support a wider range of population-based obesity prevention policies.

Context: The public's views of parents' behaviors and choices—and the attitudes held by parents themselves—are likely to influence the success of efforts to reverse obesity rates.

Methods: We analyzed data from 2 US national public opinion surveys fielded in 2011 and 2012 to examine attributions of blame and responsibility to parents for obesity, both among the general public and parents themselves, and we also explored the relationship between views of parents and support for obesity prevention policies.

Findings: We found that attribution of blame and responsibility to parents was consistently high, regardless of parental status or gender. Support for policies to

curb childhood obesity also did not differ notably by parental status or gender. Multivariable analyses revealed consistent patterns in the association between public attitudes toward parents' responsibility and support for policies to curb childhood obesity. High parental responsibility was linked to higher support for school-targeted policies but generally was not associated with policies outside the school setting. Attribution of greater responsibility to entities external to children and their parents (schools, the food and beverage industry, and the government) was associated with greater support for both school-targeted and population-based obesity prevention policies.

Conclusions: Our findings suggest that the high attribution of responsibility to parents for reducing childhood obesity does not universally undermine support for broader policy action. But appealing to parents to rally support for preventing obesity in the same way as for other parent-initiated social movements (eg, drunk driving) may be challenging outside the school setting.

Keywords: obesity, policy, parents, responsibility.

OBESITY RATES HAVE INCREASED STEEPLY IN RECENT DECADES, with two-thirds of American adults and one-third of American children (aged 2 to 19) currently overweight or obese.^{1,2} Obese children are more likely to become obese adults, and obesity is associated with a host of chronic diseases, including Type-2 diabetes, hypertension, and cardiovascular disease, whose health effects are cumulative over time.^{3,4} Consequently, obesity is one of the major drivers of climbing health care costs, with annual health care costs stemming from the obesity epidemic totaling more than \$147 billion.⁵ For the first time in history, owing in part to obesity-related health problems, the current generation of American children has a shorter life expectancy than does their parent's generation.⁶

One important characteristic of the discourse on obesity has been negative depictions of obese adults and children in the news media and elsewhere that may heighten the public's blame of obese individuals and the parents of obese children.^{7,8} A recent report by the Institute of Medicine (IOM) highlighted this concern, noting that negative public attitudes toward obese individuals could have a detrimental effect on efforts to reduce obesity.⁹ Even though commentators have expressed concern about the consequences of negative discourse on public attitudes and policy action,^{10,11} no research has investigated how public attitudes toward the role of *parents* in the obesity epidemic might

influence support for a range of obesity reduction strategies. Our article aims to fill this gap, using 2 national surveys of American adults, including parents.

Parental Responsibility and Childhood Obesity

For many reasons, the public's views of parents' behaviors and choices, as well as the policy attitudes of parents themselves, may be critical to the success of efforts to reverse obesity rates. Much of the rhetoric regarding obesity policy has been framed according to its impact on children. In the public sphere, children are often viewed as a vulnerable and sympathetic population, necessitating and deserving greater protection from government policies and other interventions.¹² This favorable construction has translated into greater public support for health policies directed at children and, by extension, greater likelihood of their being enacted.¹³ In fact, the ethical and legal rationale for government action is particularly strong for issues concerning children or those otherwise unable to make decisions for themselves.¹⁴ Because children have little political power and little control over their own choices, they are largely dependent on others, especially their parents. In regard to obesity, this focus on children has resulted in greater public support for interventions targeted at schools, such as improving the school lunch program, increasing physical activities in schools, and placing greater emphasis on nutrition education and other changes to the school food environment.^{13,15-17} One consequence of this emphasis on childhood obesity may be that the role of parents in the obesity epidemic is heightened and highly scrutinized.

Parents play the primary role in influencing and guiding their children and, indeed, have a vested legal responsibility to do so. Research suggests that accordingly, the news media often blame parents and hold them responsible for their children's obesity, with mothers mentioned twice as often as fathers.¹⁸ High-profile public awareness campaigns also often focus on parents as their target audience,¹⁹ and childhood obesity is frequently equated with individual failings (of both the child and the parent), and even parental abuse and neglect.^{18,20} Despite the accumulated evidence on the environmental and societal determinants of obesity,

the scientific literature has concentrated on individual behavioral determinants and, when talking about childhood obesity, modifiable parental behaviors that may cause obesity.^{21,22}

Mothers, in particular, are singled out and blamed for their children's health problems, especially for weight-related health problems.²³⁻²⁵ Blaming mothers for their children's negative outcomes has a long history and is related to both the unique biological connection between mothers and children (pregnancy and breast-feeding rather than the genetic role of both parents) and societal expectations about the proper role of women.^{23,24,26} Women's identities are often intertwined with their role as mothers, and with mother blaming pervasive in the media and even from health care providers, mothers can, in turn, internalize this and blame themselves when their children struggle with weight problems.^{27,28}

Causal Attributions, Parents, and Policy Support

Beliefs about the causes of a given social problem (causal attribution) influence beliefs about who is responsible for addressing the problem (solution attributions).²⁹ Causal attribution theory—as most often associated with the scholarship of the social psychologist Bernard Weiner—suggests relationships among several key variables on the pathway between perceptions of a problem's cause and ultimate policy support.³⁰ According to Weiner's theory of social motivation, the cause of a problem elicits attitudes about responsibility, which in turn lead to emotional reactions and shape policy preferences. When a problem's cause is presumed to be under the internal control of individuals, those individuals (such as parents or the overweight children themselves) are presumed to be responsible for solving the problem. This assignment of responsibility then triggers a negative emotional arousal and a preference for punitive policies. In contrast, when a problem's cause is presumed to be outside individual control, individuals are not held responsible, a sympathetic reaction is evoked, and people prefer policies offering help.²⁹

Differences in the ways that men and women approach social problems and develop preferences for policy approaches to these problems may also result in gender differences in the relationship between causal attributions and support for specific policy solutions.³¹ In general, research has

shown that women are more supportive of government programs than men are and that at least some of these differences may be attributed to differences in emotional responses to social problems. Overall, women tend to have a more nurturing response and are more concerned with policies' consequences on target groups than men are.³¹ A gender gap may be exacerbated by the media's tendency to emphasize the role of mothers in childhood obesity. A similar "parenthood gap" may be found between parents and nonparents, as evidence shows that parenthood (even among men) elicits attitudes similar to those typically reported by women.^{32,33}

Since public discourse regarding social issues often involves assigning blame for causing the problem and responsibility for solving it,^{34,35} it makes sense that discourse regarding childhood obesity would emphasize the role of, and place blame on, parents. But theory and prior public opinion research suggest that perceptions of individual blame are related to heightened perceptions of personal responsibility for the problem, which in turn can compromise support for collective societal action to address social problems.^{16,29,35-37} Thus, the emphasis on personal responsibility for obesity, and the impulse to place blame on parents and hold them responsible for addressing their children's weight problems, could hinder meaningful government action to address the environmental and systemic conditions that have contributed to the rise in obesity.

The degree to which parents themselves internalize feelings of blame (if they have overweight children) or responsibility (regardless of their children's weight status) could reinforce a personal responsibility frame more strongly among parents than among individuals without children. Conversely, parents may have a greater understanding of the challenges involved in raising children and may instead emphasize the need for environmental or societal policies to make their job as parents easier. We tested both of these possibilities.

Public Attributions of Blame and Responsibility to Parents

In recent years, several public opinion surveys have asked Americans how much parents are to blame or are responsible for obesity generally and about childhood obesity specifically. Together, these data

suggest that the vast majority of the public attribute a high level of responsibility and blame for obesity to parents, with very little change between 2004 and 2012 (see Table 1). In 2004, Evans and colleagues found that 91% of respondents held parents highly responsible for addressing childhood obesity,¹⁶ and in 2012, Barry and colleagues found that 95% of respondents held parents highly responsible for childhood obesity.⁷ Two other opinion surveys, conducted in 2006 and 2012, found that 87% of respondents held parents highly responsible for addressing obesity.^{38,39}

Attribution of responsibility to parents is consistently much higher than attributions to other actors, such as schools, health care providers, the food industry, and the government.^{7,16,38,39} When Lusk and Ellison inquired about blame for obesity in general (not childhood obesity), they found that 59% of respondents held parents highly responsible.⁴⁰ In comparison, 35% of respondents blamed the food and beverage industry, and only 18% blamed the government.⁴⁰ While attribution of responsibility to parents is consistently high, from 2004 to 2012, attribution of responsibility to schools, health care providers, the food and beverage industry, and the government increased by 20% to 30%^{7,16,38,39} even though the attributions did not rise above 50% to any of these external actors until 2012.⁷

Objectives of Our Study

Our study examined public perceptions of the role of parents in the obesity epidemic, as well as how these perceptions differ between non-parents and parents themselves. While previous literature has examined the determinants of public support for obesity policies,⁴¹ none to date have examined how varying responsibility attributions influence support. To remedy this, we first looked at public attitudes toward the parents of overweight or obese children overall and by gender or parental status. Second, we examined whether support for obesity prevention policies differed by parental status. Finally, we explored whether public beliefs about high levels of parent responsibility for childhood obesity translated into lower support for obesity prevention policies, controlling for respondent sociodemographic characteristics and political attitudes.

Table 1. National Public Opinion Studies of Americans' Attributions of Blame and Responsibility for Obesity in the United States, 2004-2012

	Blame		Responsibility			
	Lusk and Ellison 2013 ^{40,a} <i>n</i> = 774	Evans et al. 2005 ^{16,b} <i>n</i> = 1,047	Research! America 2006 ^{38,c} <i>n</i> = 800	Barry et al. 2013 ^{7,d} <i>n</i> = 404	AP/ NORC 2012 ^{39,e} <i>n</i> = 1,011	
Data collection time frame	Mar 2011	Jan-Mar 2004	Sep 2006	May-June 2012	Nov-Dec 2012	
Questions focused on childhood obesity	No	Yes	No	Yes	No	
Parents	59%	91%	87%	95%	87%	
Individuals	80%	—	84%	—	88%	
Children	—	39%	—	61%	—	
Schools	—	30%	43%	53%	50%	
Health care providers	—	27%	37%	—	57%	
Food and beverage industry	35%	32%	47%	50%	53%	
Government	18%	17%	20%	42%	23%	

^aPercentage of respondents who believe that the following are primarily to blame for the rise in obesity.

^bPercentage of respondents who "believe that the following have 'a lot of responsibility' to reduce childhood obesity."

^cPercentage of respondents who answered "a lot" to the question, "How much responsibility does each of the following have in helping address the issue of obesity?"

^dPercentage of respondents in the control group of an experimental survey who answered 5 to 7 on a 7-point scale from "hardly any responsibility" to "a great deal of responsibility" for addressing the problem of childhood obesity.

^ePercentage of respondents who assigned a "large" or "very large" amount of responsibility to the following groups for solving the country's obesity problems.

^fThe average of the federal and state government, questioned separately.

Methods

Data

We fielded 2 web-based national surveys using the GfK survey research panel (formerly Knowledge Networks). GfK recruits panel members through random-digit dialing and equal probability, address-based sampling that covers 97% of American households, including those without landlines and with unlisted phone numbers. Respondents without Internet access are provided a laptop computer and free Internet access when they agree to participate. GfK maintains a panel of approximately 50,000 adults who answer, on average, 2 surveys per month and are rewarded with small incentives. The GfK panel is commonly used for survey research to produce nationally representative estimates of attitudes or behaviors, including public opinion studies across a wide array of academic fields and studies published in high-profile peer-reviewed medical journals.⁴²⁻⁴⁴

For the first survey, which we will refer to as the Responsibility and Blame Survey ($n = 439$), we randomly sampled adults between the ages of 18 and 64 to participate in a survey of attitudes and beliefs regarding who is to blame and where responsibility lies for addressing childhood obesity. The Responsibility and Blame Survey was carried out in January and February 2011. The survey's completion rate—the percentage of GfK panel participants who were selected to complete the survey who did so—was 66.5%. (The initial rate for GfK panel recruitment at the time of this study was 16.6%.)

In January and February 2012, we conducted a nationally representative survey-embedded experiment to elicit attitudes toward the obesity problem and its consequences (results reported in Gollust et al. 2013).⁴⁵ The survey completion rate was 68.6% ($n = 2,494$). (Here again, the initial rate for GfK panel recruitment was 16.6%.) For this study, we analyzed data on attitudes among respondents randomized to the control arm of the study ($n = 408$), who were not exposed to any message as part of the experiment. We will refer to this second survey as the Policy Support Survey. For both of these surveys, we used survey weights provided by GfK to ensure that the final samples were representative of the US population. Table 2 compares the unweighted and weighted characteristics of the samples for both surveys with the national rates

Table 2. Unweighted and Weighted Characteristics of Study Samples From the 2011 Responsibility and Blame and the 2012 Policy Support Surveys Compared With National Rates

	Responsibility and Blame Survey (<i>n</i> = 439)			Policy Support Survey (<i>n</i> = 408)			National Rates	
	<i>n</i>	Unweighted Percent	Weighted Percent	<i>n</i>	Unweighted Percent	Weighted Percent	Percent	Percent
Individual characteristics^a								
Female (<i>n</i> [%])	236	53.8	50.9	200	49.2	50.3	52.4	
Age (<i>n</i> [%])								
Age 18-24	55	12.5	15.0	35	8.6	10.5	11.3	
Age 25-34	70	16.0	20.3	73	17.9	25.5	16.7	
Age 35-44	85	19.4	20.1	72	17.7	20.2	16.7	
Age 45-54	112	25.5	23.8	119	29.2	22.4	19.0	
Age 55-64	117	26.6	20.8	109	26.7	21.4	17.3	
Age 65+	0	0	0	0	0	0	18.9	
Race (<i>n</i> [%])								
White only	317	72.2	64.6	289	70.8	65.1	82.4	
Black only	39	8.9	11.4	48	11.8	12.2	9.9	
Other	13	6.4	6.5	14	6.1	7.2	7.7	

Continued

Table 2. *Continued*

	Responsibility and Blame Survey (<i>n</i> = 439)		Policy Support Survey (<i>n</i> = 408)		National Rates		
	<i>n</i>	Unweighted Percent	Weighted Percent	<i>n</i>	Unweighted Percent	Weighted Percent	Percent
Hispanic ethnicity (<i>n</i> [%])							
Hispanic	55	12.5	17.5	46	11.3	15.5	11.3
Non-Hispanic	384	87.5	82.5	362	88.7	84.5	88.7
Education (<i>n</i> [%])							
<High school diploma	52	11.8	12.8	37	9.1	11.7	13.0
High school diploma	127	28.9	28.4	116	28.4	29.5	30.3
Some college	139	31.7	30.5	124	30.4	30.9	28.7
Bachelor's degree or higher	121	27.6	28.4	131	32.1	27.9	28.0
Household income (<i>n</i> [%])							
Under \$10,000	40	9.1	10.1	14	3.4	4.7	6.8
\$10,000-\$24,999	64	14.6	16.6	47	11.5	13.9	16.8
\$25,000-\$49,999	117	26.7	26.2	86	21.1	20.6	26.2
\$50,000-\$74,999	76	17.3	15.8	89	21.8	24.4	19.2
\$75,000+	142	32.4	31.3	172	42.2	36.5	30.9

Continued

Table 2. *Continued*

	Responsibility and Blame Survey (<i>n</i> = 439)			Policy Support Survey (<i>n</i> = 408)			National Rates	
	<i>n</i>	Unweighted Percent	Weighted Percent	<i>n</i>	Unweighted Percent	Weighted Percent	Percent	Percent
Employment status [<i>n</i> (%)]								
Employed	273	62.2	60.5	285	70.0	66.4	NA	NA
Unemployed	57	13.0	15.3	40	9.8	11.1	NA	NA
Retired	25	5.7	4.8	22	5.4	4.1	NA	NA
Other (eg, disabled, homemaker, other)	84	19.1	19.4	61	15.0	18.5	NA	NA
Region (<i>n</i> [%])								
Northeast	82	18.7	17.4	65	15.9	17.6	18.4	18.4
Midwest	102	23.2	20.1	95	23.3	20.8	21.7	21.7
South	151	34.4	39.3	152	37.3	37.5	36.7	36.7
West	104	23.7	23.1	96	23.5	24.1	23.2	23.2
Political party affiliation (<i>n</i> [%]) ^b								
Republican	107	24.5	20.5	109	27.1	27.0	51.0	51.0
Undecided/independent/other	191	43.7	44.6	181	45.0	46.1	11.0	11.0
Democrat	139	31.8	34.9	112	27.9	26.9	37.0	37.0

^aComparison data extracted from the December 2010 Current Population Survey, cited in <http://www.knowledgeworks.com/knpanel/docs/GfK-KnowledgePanel%28R%29-Demographic-Profile.pdf>. Because GfK KN and CPS worded the question about the employment variable differently, no comparison data are provided.

^bComparison data are from the 2008 American National Election Study (NES).

from the Current Population Survey (2010) and the National Election Study (2008).

Measures

The dependent variables from the Responsibility and Blame Survey that were of interest to us concerned the level of blame and responsibility attributed to parents of obese children, the food and beverage industry, and the government for addressing the problem of childhood obesity. Specifically, we asked the respondents, "In your opinion, how much responsibility do you think each of the groups have for addressing the problem of childhood obesity in the U.S.?" and "In your opinion, how much are each of the groups listed to blame for the problem of childhood obesity in the U.S.?" The order of the questions was randomized. Here we report the responses to blame and responsibility attributed to parents of obese children. In addition, we asked about the level of anger and sympathy the respondents felt toward parents of obese children. We quantified all these outcome measures on 7-point Likert scales, from 1 for "not at all (to blame, responsible, angry, or sympathetic)" to 7 for "completely (to blame or responsible)" or "extremely (angry or sympathetic)." To examine whether the respondents viewed blame and responsibility (and anger and sympathy) differently, we calculated the correlations among these 4 variables. The correlation between blame and responsibility was relatively high (0.64), suggesting that respondents viewed blame and responsibility as interrelated constructs in the context of childhood obesity. The other correlations were considerably lower; the next highest was between blame and anger (0.42), and all the rest fell below 0.30. We first examined the full distribution of the 7-point scale and created dichotomous variables for these responsibility attributions, coded as 1 if the respondent answered between 6 and 7 on the 7-point scale and 0 if they chose 5 or lower.

The Policy Support Survey measured the level of responsibility for the problem of childhood obesity that the respondents attributed to children, parents, schools, the food and beverage industry, and the government. The question in the Policy Support Survey was, "Please tell me how much responsibility you believe each of the following should have for the problem of childhood obesity in the United States." Unlike the Responsibility and Blame Survey, the Policy Support Survey

asked about parents in general, not specifically parents of obese children. Similar to the Responsibility and Blame Survey, these outcomes were measured on a 7-point Likert scale from 1 for “hardly any” to 7 for “a great deal.” After confirming that the responsibility attributions for schools, the food and beverage industry, and the government were highly correlated (Cronbach’s alpha 0.81), we constructed a new variable, “external responsibility,” averaging each respondent’s ranking of these 3 responsibility attributions.

The Policy Support Survey measured the respondents’ support for 12 policies aimed at curbing childhood obesity that have been considered at the national, state, and local levels. We chose these policies based on a review of legislative databases.^{46,47} The introduction to the policy battery was, “There are many different ways that we as a society could deal with the issue of obesity in children. Which of these strategies would you support and which would you oppose?” We showed the respondents the policies in a randomized order and again used a 7-point Likert scale to measure policy support, in this case ranging from 1 for “strongly oppose” to 7 for “strongly support.”

Both the Responsibility and Blame Survey and the Policy Support Survey collected a range of demographic characteristics, but we were most interested in parental status and gender. Parental status was determined by a positive response to a survey question about the presence in the household of children under the age of 17. In our multivariable analyses of policy support (using Policy Support Survey data), we included age (treated continuously); education, categorized into 3 mutually exclusive categories (less than high school, some college, or a 4-year college degree or higher); and race (white versus nonwhite). We also controlled for political ideology, measured on a 7-point scale from 1 for “extremely conservative” to 7 for “extremely liberal,” and political party affiliation, treated categorically: Republican, Democrat, and independent / no preference.

Analytic Approach

We first examined the full distribution of attributions of blame, anger, sympathy, and responsibility to parents of obese children and then calculated the percentage of respondents reporting a high level (6 or 7 on the 7-point scale) of these attributions overall and by parental status,

gender, and gender by parental status. Next, we examined the distribution of support for the 12 obesity policies across the full 7-point scale and calculated the percentage of the population who supported (5 to 7 on the 7-point scale) each, both overall and by parental status. Finally, we used ordered logit regression to examine the association between attributions of responsibility and policy support (using the full range of the 7-point scale for both responsibility attributions and policy support) for each of the 12 policies. The models examined parental responsibility attributions and external responsibility attributions (ie, to schools, the food and beverage industry, and the government), controlling for parental status, gender, age, education, race, responsibility attributed to children, political ideology, and partisan affiliation. By regressing the respondents' parental and external responsibility attributions on policy support and adjusting for the respondents' demographic characteristics and political attitudes, we were able to isolate the associations of parental and external attributions separately. In analyses not shown but available on request, we also tested the interaction between parental and external responsibility attributions and found no significant interaction effects. All analyses applied the GfK survey weights that adjust sample estimates to be representative of the US population.

Results

Table 3 shows the attributions of blame and responsibility to parents of obese children for addressing child weight problems both overall and stratified by gender and parental status from the Responsibility and Blame Survey in 2011. The table also reports the respondents' emotional responses of anger and sympathy toward parents of obese children with respect to the problem of childhood obesity. We found few statistically significant differences by parental status, by gender overall, or by gender crossed with parental status, the exception being that males with children at home (eg, fathers) reported significantly more anger toward parents of obese children than did men without children at home (52% versus 31%). The observed effect sizes were small for these comparisons: Cohen's *d* for comparisons made by parental status and gender ranged from <0.01 to 0.28. While attributions of blame, anger, sympathy, and responsibility were generally similar for the respondents with and without children in the home overall, those

Table 3. Public Attributions and Emotional Responses to Parents for Childhood Obesity, Overall and by Parental Status and Gender, 2011 Responsibility and Blame Survey^a

	Overall			Respondents With Children in the Household			Respondents Without Children in the Household		
	Total (%) <i>n</i> = 439	Male (%) <i>n</i> = 203	Female (%) <i>n</i> = 236	All (%) <i>n</i> = 169	Male (%) <i>n</i> = 86	Female (%) <i>n</i> = 83	All (%) <i>n</i> = 270	Male (%) <i>n</i> = 117	Female (%) <i>n</i> = 153
How much are the parents of obese children to blame for their children's weight problems? ^{2b}	69	66	72	69	69	70	68	64	73
How angry do you feel toward the parents of obese children when you think about the problem of childhood obesity? ^{2b}	40	40	40	45	52	39	36	31*	42

Continued

Table 3. Continued

	Overall		Respondents With Children in the Household			Respondents Without Children in the Household			
	Total (%) <i>n</i> = 439	Male (%) <i>n</i> = 203	Female (%) <i>n</i> = 236	All (%) <i>n</i> = 169	Male (%) <i>n</i> = 86	Female (%) <i>n</i> = 83	All (%) <i>n</i> = 270	Male (%) <i>n</i> = 117	Female (%) <i>n</i> = 153
How much sympathy do you feel for the parents of obese children when you think about the problem of childhood obesity? ^a	17	15	18	19	21	17	15	10	19
How responsible are the parents of obese children for addressing their children's weight problems? ^c	76	71	80	77	73	81	75	70	79

^aResults here report the percentage of the sample who responded 6 or 7 on the 7-point scale for each measure.

^bLikert scale was from "not at all (x)" to "completely (x)."

^cLikert scale was from "not at all (x)" to "extremely (x)."

Difference between parents and nonparents in gender category significant at * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Difference between males and females in parent category significant at +++ $p < 0.001$; ++ $p < 0.01$; + $p < 0.05$.

No significant differences at $p < 0.05$ between parents and nonparents overall.

without children in the home did report slightly lower levels for each measure. There were some notable, though not statistically significant, differences (approximately 9 percentage points; Cohen's d from 0.21 to 0.25) by gender.

Table 4 gives the unadjusted distribution of support among Americans for 12 different obesity-related policies from the Policy Support Survey. The levels of support varied widely across the 12 policies, but there were no significant differences in support by parental status for any of the policies. The highest levels of overall support were for policies to require schools to prohibit bullying on and off school grounds and to develop rules for punishing bullies (77%), and to require schools to set a minimum requirement of 20 minutes of daily physical activity (81%). The lowest levels of support among respondents both with and without children in the household were for policies allowing school boards to raise funds by selling advertising space on school grounds and buses (21%), requiring a tax on sugar-sweetened beverages (26%), and prohibiting fast-food companies from including toys in children's meals (28%).

Table 5 reports the results from ordered logit regressions testing associations between the respondents' parental responsibility attributions and external (ie, schools, the food and beverage industry, and the government) responsibility attributions and their support for 12 obesity reduction policies. Note that the respondents often attributed responsibility for addressing childhood obesity to both parents and external actors. For instance, 37% of respondents indicated that they believed both parents and at least 1 external actor (ie, schools, the food industry, or the government) were highly responsible for curbing obesity.

Table 5 also shows that patterns of association between parental and external responsibility attributions and policy support differed substantially. The respondents' external responsibility attributions were associated with strong support for all but 2 policies. Support was particularly strong for prohibiting the advertising of unhealthy foods during children's television programs and was highly statistically significant and positive for most of the others. The 2 exceptions to this pattern were that external responsibility attributions were not associated with allowing local school boards to raise funds by selling advertising space on school grounds and buses, a policy that runs counter to the goal of reducing food and beverage marketing in schools, or with support for prohibiting individuals from filing lawsuits against the food and beverage industry.

Table 4. Public Support for Obesity Reduction Policies, 2012 Policy Support Survey ($n = 408$)

Policy	Overall Support ^a (95% CI)	Distribution of Support (%)					p for Difference in Distribution by Parent Status ^b		
		Strongly Oppose	Somewhat Oppose	Neither Support nor Oppose	Somewhat Support	Strongly Support			
Require public schools to set a minimum requirement of 20 minutes of daily physical activity for students.	81.4 (76.4–86.3)	1.9	1.5	2.9	12.4	10.7	28.8	41.8	0.85
Require school districts to prohibit bullying on and off school grounds, including through electronic media, and to develop rules for punishing bullies.	76.7 (71.4–81.9)	3.1	3.8	3.1	13.4	15.2	23.6	39.7	0.75
Prohibit schools from selling fast food and sodas in public school cafeterias or school stores.	61.5 (55.5–67.5)	4.0	4.9	8.5	21.1	15.1	21.3	25.1	0.77
Allow local school boards to raise funds by selling space for advertising food and other products on school grounds and buses.	21.2 (16.4–26.0)	13.1	18.8	15.0	31.9	10.3	6.3	4.7	0.27

Continued

Table 4. *Continued*

Policy	Overall Support ^a (95% CI)	Distribution of Support (%)				<i>p</i> for Difference in Distribution by Parent Status ^b			
		Strongly Oppose	Somewhat Oppose	Neither Support nor Oppose	Strongly Support				
Require schools to measure each student's body mass index, a measure of body fat based on height and weight, and to report the results confidentially to the student's parents each year.	33.0 (27.3–38.8)	16.1	14.7	14.1	22.0	14.9	11.3	6.8	0.41
Prohibit advertising of food high in fat and sugar during television programs watched primarily by children.	50.8 (44.7–56.9)	7.8	7.8	5.6	28.0	19.3	15.4	16.1	0.72
Require a penny-an-ounce tax on sugar-sweetened drinks that would add 12 cents to the cost of a 12-ounce can of soda.	26.4 (20.9–31.9)	22.4	20.0	10.5	20.7	8.8	7.2	10.4	0.06

Continued

Table 4. Continued

Policy	Overall Support ^a (95% CI)	Distribution of Support (%)					<i>p</i> for Difference in Distribution by Parent Status ^b		
		Strongly Oppose	Somewhat Oppose	Neither Support nor Oppose	Somewhat Support	Strongly Support			
Prohibit fast-food companies from including toys in children's meals.	28.4 (22.9–33.9)	13.9	15.9	14.7	27.1	7.9	7.3	13.2	0.53
Provide incentives to open and sustain full-service grocery stores in communities with limited access to healthy foods.	54.3 (48.2–60.4)	4.9	5.6	5.7	29.6	18.9	18.6	16.7	0.05
Regulate the nutritional content of food purchased through the food stamp program, a government program to help low-income families buy food.	55.0 (49.0–61.1)	9.3	5.2	6.7	23.7	18.7	17.0	19.4	0.90

Continued

Table 4. *Continued*

Policy	Overall Support ^a (95% CI)	Distribution of Support (%)					<i>p</i> for Difference in Distribution by Parent Status ^b		
		Strongly Oppose	Somewhat Oppose	Neither Support nor Oppose	Somewhat Support	Strongly Support			
Require that overweight people be subject to the same legal protections and benefits offered to people with other physical disabilities.	17.0 (12.5–21.4)	17.6	17.9	14.6	32.9	7.6	4.4	4.9	0.69
Prohibit people from filing lawsuits against food or beverage companies based on claims that they gained weight from eating or drinking unhealthy products.	60.6 (54.5–66.6)	6.0	9.0	4.9	19.5	6.7	18.0	35.9	0.41

^aOverall support is calculated as the sum of Somewhat Support, Support, and Strongly Support.

^bDifference in range of support by parent status as measured by chi-squared test.

No significant difference in overall support by parent status at $p < 0.05$.

Table 5. Association Between Responsibility Attributions and Policy Support,^a Controlling for External Attributions of Responsibility and Adjusted for Sociodemographic Characteristics,^b 2012 Policy Support Survey ($n = 408$)

Policy	Parental Responsibility Coef. (SE) <i>p</i> -value	External Responsibility ^c Coef. (SE) <i>p</i> -value
Require public schools to set a minimum requirement of 20 minutes of daily physical activity for students.	0.63 (0.14) <0.001	0.42 (0.09) <0.001
Require school districts to prohibit bullying on and off school grounds, including through electronic media, and to develop rules for punishing bullies.	0.36 (0.12) 0.004	0.36 (0.10) <0.001
Prohibit schools from selling fast food and sodas in public school cafeterias or school stores.	0.32 (0.16) 0.05	0.85 (0.10) <0.001
Allow local school boards to raise funds by selling space for advertising food and other products on school grounds and buses.	-0.20 (0.09) 0.04	0.13 (0.10) 0.21
Require schools to measure each student's body mass index, a measure of body fat based on height and weight, and to report the results confidentially to the student's parents each year.	-0.12 (0.09) 0.21	0.49 (0.10) <0.001
Prohibit advertising of food high in fat and sugar during television programs watched primarily by children.	0.01 (0.12) 0.94	0.75 (0.10) <0.001

Continued

Table 5. *Continued*

Policy	Parental Responsibility Coef. (SE) <i>p</i> -value	External Responsibility ^c Coef. (SE) <i>p</i> -value
Require a penny-an-ounce tax on sugar-sweetened drinks that would add 12 cents to the cost of a 12-ounce can of soda.	-0.35 (0.09) <0.001	0.54 (0.10) <0.001
Prohibit fast-food companies from including toys in children's meals.	-0.16 (0.09) 0.08	0.54 (0.10) <0.001
Provide incentives to open and sustain full-service grocery stores in communities with limited access to healthy foods.	0.06 (0.14) 0.64	0.49 (0.09) <0.001
Regulate the nutritional content of food purchased through the food stamp program, a government program to help low-income families buy food.	0.19 (0.13) 0.14	0.48 (0.09) <0.001
Require that overweight people be subject to the same legal protections and benefits offered to people with other physical disabilities.	-0.42 (0.08) <0.001	0.29 (0.09) 0.002
Prohibit people from filing lawsuits against food or beverage companies based on claims that they gained weight from eating or drinking unhealthy products.	0.32 (0.10) <0.001	-0.11 (0.09) 0.25

^aPolicy support was measured on a 7-point Likert scale from 1 = "strongly oppose" to 7 = "strongly support." Responsibility attribution was measured on a 7-point scale from 1 = "hardly any responsibility" to 7 = "a great deal of responsibility." Ordered logit regression was used to estimate responsibility attributions with the 7 levels of policy support.

^bModels were adjusted for sex, parental status, education, age, race/ethnicity, responsibility attributed to children, political ideology, and partisanship.

^cExternal variable is the average of the responses for responsibility attribution to schools, food and beverage industry, and government.

The pattern of the respondents' parental responsibility attributions was quite different from their external responsibility attributions. A higher attribution of parental responsibility was positively associated with support for prohibiting people from filing lawsuits against food and beverage companies and was negatively associated with support for a penny-an-ounce tax on sugar-sweetened beverages. But it was not associated with any other policies that would be implemented or directed outside the school setting.

The pattern of significant associations between the respondents' parental responsibility attributions and their support for school-based programs was much more consistent. In most cases, attributing greater responsibility for childhood obesity to parents was associated with more policy support for school-based policies designed to improve students' health and well-being (prohibit bullying, prohibit unhealthy food in school cafeterias or stores, require physical education) and less support for a policy that could compromise students' health (allowing more food marketing on school grounds and buses). Note, too, that parental status was not a significant predictor of policy support in any of the models presented in Table 5 and that gender was significant (at $p < 0.05$) in only 2 instances. (See the Appendix for the full regression model results.)

Discussion

This study examined public perceptions of who is to blame for the obesity problem, who is responsible for addressing it, and how these perceptions differ by parental status and gender. We also looked at how responsibility attributions to parents and other actors influence public support for policies to curb childhood obesity.

Attribution of blame and responsibility was high among men and women both with and without children in the household. We found few significant differences in attributions of blame and responsibility to parents of obese children (or in feelings of anger and sympathy toward parents of obese children) by parental status overall, gender, or parental status crossed with gender. Women's attributions of blame and responsibility to parents of obese children, as well as feelings of anger and sympathy, were generally similar, regardless of parental status. Men with children in the household, in contrast, did feel more anger and sympathy toward parents of obese children compared with men without children

in the household. This is consistent with previous work demonstrating that the experience of parenthood can elicit shifts in attitudes but that the role of “parent” is experienced differently by men and women.^{32,33} Inconsistent with what one would expect based on Weiner’s attributional theory,²⁹ the level of responsibility that men with children at home attributed to parents of obese children for addressing obesity was not higher than that of women with or without children. Also surprising was the lack of notable differences in policy support by gender and parental status. Women were more likely than men to support prohibiting unhealthy food advertisements during children’s television shows and prohibiting fast-food companies from including toys in children’s meals, but gender was not a significant predictor of support for all the other policies.

Consistent with previous research and commentary,^{9,36,37} a high attribution of external responsibility for solving the problem of childhood obesity (to schools, the food and beverage industry, and the government) was strongly and positively associated with support for policies designed to prevent childhood obesity. In contrast, the pattern of associations between high parental responsibility and policy support was contingent on the type of policy being proposed. People who held parents highly responsible for addressing childhood obesity were more likely to support a variety of school-based obesity prevention approaches that had the potential to reduce rates of childhood obesity, but parental responsibility attributions were generally not associated with other types of obesity-related policies. High parental responsibility was also linked with greater support for prohibiting citizens’ rights to bring lawsuits against the food and beverage industry.

Study Implications

Given the public’s consistently high levels of parental blame and responsibility, it is encouraging that the high attribution of responsibility to parents for childhood obesity does not appear to undermine support for school-based policies designed to reduce rates of childhood obesity. The public thus seems to recognize that parents cannot control their children’s influences when they are separated from them throughout the day.

The complex nature of the childhood obesity problem and the multiple and interrelated policy and cultural changes needed to address it comprehensively highlight the importance of mobilizing key segments of the public to put pressure on policymakers and industry to make the changes necessary to curtail rising childhood obesity rates.⁴⁸ Parents would seem to be a natural ally in such efforts, given their previous successes in mobilizing against other issues like drinking and driving.⁴⁹ Our results are less encouraging for efforts to mobilize parents to support childhood obesity policies outside the school setting. Parents' values and beliefs must align with the values of a social movement in order for it to gain traction.⁵⁰ While we can only speculate, it appears that the high levels of blame and responsibility directed at parents of obese children by those both with and without children in the home may present a major obstacle to building a social movement to mobilize parents to address the social and environmental determinants of childhood obesity.

Dietz, for example, has suggested that the greater mobilization of parents could be an effective political and consumer force to limit advertising to children, although he acknowledges that parents have thus far been largely absent from these debates.⁵¹ One reason for this could be that parents place just as much blame and responsibility for childhood obesity on other parents as on the rest of the population, and therefore they see it as the responsibility of the parents, not the food and beverage industry, to limit their children's exposure to advertising.

The consistently high levels of parental responsibility, combined with the lack of evidence that strategic messaging has affected parental responsibility attributions,⁴⁵ suggest the difficulty of shifting these views in the population. In fact, such a shift may not even be desirable, since parents play a critical role in shaping their children's diet and exercise.^{22,52} Given that parental responsibility attributions and external responsibility attributions are not mutually exclusive and that, in fact, members of the public may hold both parents and other actors responsible at the same time, an alternative approach might be to emphasize that parents' ability to make healthy choices for their children is inherently connected to and constrained by the physical, social, economic, and information environment in which they live. While some public policies are designed to regulate how the food and beverage industry markets its products (eg, restricting advertising on school grounds), other policies are designed to make parents' lives easier (eg, prohibiting food companies from

enticing children with toys that accompany unhealthy meals). Several authors have suggested recasting the issue of responsibility for childhood obesity as a joint responsibility of parents as well as schools, government, the food industry, and health care providers.^{9,41,53} Increasing the perception that external actors should help address the problem may hold greater promise in encouraging broader support for government action on the issue than attempting to lower public perceptions about parental responsibility for obesity. Future research should explore how to communicate a shared responsibility for addressing childhood obesity in ways that engage multiple sectors and institutions.

One promising route might be to emphasize parents' universal desire for the best for their children. Even parents who do not make the wisest eating and exercise choices for themselves typically hope for better outcomes for their children. That is, parents' hopes related to their children's health are not so different from their hopes for their children's educational attainment or other such goals. To explore this empirically, future messaging emphasizing joint responsibility might, for example, combine messaging about the social, economic, and physical barriers to healthy choices with a reminder of the universal parental desire—albeit one that none of us lives up to completely—to provide the best opportunities possible for their children.

Study Limitations

Our study also has several limitations. First, web-based surveys have been criticized for their incomplete coverage and selection.⁵⁴ GfK attempts to minimize these issues by recruiting probability-based samples and providing web access to those without it. In addition, because only 16.6% of those invited to be part of GfK's survey panel accepted and of those panel members who were asked to complete our surveys, only 66% to 68% did so, a bias resulting from this self-selection is a concern. Our comparison showing the similarity of our sampled respondents' sociodemographic characteristics to those found in the national surveys shown in Table 2 mitigates some of this concern. Nonetheless, the extent to which respondents in our samples differed from those who chose not to participate in the GfK panel or from those who did not complete the surveys is not known.

Second, since our survey data included only individuals aged 18 to 64 years old (in order to concentrate on a population with a sufficient number of parents of children in the household), how older individuals would have responded is not known. Given elderly people's active participation in the political process, if their opinions do differ from those represented here, that could affect policy support.

Third, the weight status of the respondents (or among parents, that of their children) as well as how they interpreted who was included in the term "children" (eg, the responsibility attributions in regard to very young children versus teenagers might be quite different) could have influenced blame and responsibility attributions. The Responsibility and Blame Survey did not measure the respondents' weight status or their children's ages, but the Policy Support Survey did measure the respondents' weight status and their children's ages, as well as their attribution of responsibility for childhood obesity. We used this second data source to see whether the respondents' weight status or their children's ages differentially affected attributions of responsibility. We found no significant relationship between the respondents' weight status or their children's ages and the attribution of responsibility to parents for addressing childhood obesity, thereby reducing concerns about this limitation.

Fourth, although we used a nationally representative sample, it is unlikely that all the respondents were equally knowledgeable about the 12 obesity prevention policies included in the survey. Because we used many local policies, the respondents' opinions regarding specific policies are likely to have been influenced by how much they had been exposed to debate regarding that policy in their locality. Finally, because our data regarding responsibility attribution and policy support were cross-sectional, we could not draw causal inferences about their relationship.

Conclusion

It is unlikely that the strong and pervasive feelings of blame and responsibility for obesity that are attributed to parents will diminish in the immediate future. But changing these public perceptions may not be necessary to build support for school- and population-based obesity-prevention policies. Policymakers and the public health community

should pay close attention to the ways in which the problem of obesity is described in public discourse, and how the framing of the problem affects views of the appropriateness of collective action. A potential unintended consequence of focusing on childhood obesity, as opposed to obesity in general, is the activation of negative thoughts and feelings directed at parents. But if messages about the external causes of obesity can be communicated more effectively, the public may be able to understand obesity as more than an individual or parent problem. School policies like those aimed at removing product advertising from school settings or improving school food offerings could become unifying if they are framed in terms of joint responsibility. A joint responsibility message could emphasize the universal desire of parents to help their children while also recognizing that children spend a lot of time outside the home, much of it in school. Such an approach could lead to a higher attribution of responsibility to factors beyond the family, higher support for policies to address those factors, and greater sympathy regarding the myriad challenges of parenting, without necessitating a corresponding decrease in attributions of parental responsibility.

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Appendix

Table A1. Ordered Logit Regression Results of Public Support for 12 Obesity Policies,^a 2012 Policy Support Survey ($n = 408$)

	Require 20 Mins. of Physical Activity/Day in Schools	Require Schools to Prohibit Bullying	No Fast Food or Sodas in Schools	Allow Ads in Schools and on School Buses	Require Schools to Measure Student BMI	Prohibit Unhealthy Food Ads on Kids' TV Shows
	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value
Responsibility attribution ^b						
Parents	0.63 (0.14) <0.001	0.36 (0.12) 0.004	0.32 (0.16) 0.05	-0.20 (0.09) 0.04	-0.12 (0.09) 0.21	-0.01 (0.12) 0.94
External	0.42 (0.09) <0.001	0.36 (0.10) <0.001	0.85 (0.10) <0.001	0.13 (0.10) 0.21	0.49 (0.10) <0.001	0.75 (0.10) <0.001
Child	-0.02 (0.08) 0.84	-0.03 (0.07) 0.63	-0.08 (0.07) 0.30	0.06 (0.08) 0.44	-0.04 (0.09) 0.63	0.00 (0.08) 0.96
Parents' status						
Respondents with children in the household	0.08 (0.26) 0.75	0.04 (0.25) 0.87	0.23 (0.24) 0.35	0.33 (0.25) 0.19	-0.04 (0.28) 0.89	0.29 (0.27) 0.28
Respondents without children in the household (ref)	—	—	—	—	—	—

(Continued)

	Require 20 Mins. of Physical Activity/Day in Schools	Require Schools to Prohibit Bullying	No Fast Food or Sodas in Schools	Allow Ads in Schools and on School Buses	Require Schools to Measure Student BMI	Prohibit Unhealthy Food Ads on Kids' TV Shows
	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value
Gender						
Female	0.35 (0.24) 0.15	0.35 (0.23) 0.14	0.42 (0.22) 0.06	0.09 (0.22) 0.69	-0.26 (0.24) 0.28	0.69 (0.23) 0.003
Male (ref)	—	—	—	—	—	—
Age in years	0.03 (0.01) <0.001	0.03 (0.01) 0.01	0.02 (0.01) 0.06	-0.01 (0.01) 0.42	0.00 (0.01) 0.82	0.02 (0.01) 0.03
Education						
≤ High school (ref)	—	—	—	—	—	—
Some college	-0.16 (0.29) 0.58	0.35 (0.30) 0.24	0.11 (0.27) 0.69	-0.10 (0.28) 0.71	-0.13 (0.28) 0.65	0.12 (0.31) 0.70
≥ 4 yrs. college	-0.40 (0.29) 0.16	-0.19 (0.29) 0.52	0.63 (0.27) 0.02	-0.19 (0.27) 0.48	0.00 (0.29) 0.99	0.66 (0.29) 0.02
Race						
White	-0.98 (0.29) 0.001	-0.83 (0.29) 0.01	0.26 (0.28) 0.36	-0.14 (0.29) 0.64	-0.39 (0.30) 0.19	-0.24 (0.28) 0.40

Continued

Table A1. *Continued*

	Require 20 Mins. of Physical Activity/Day in Schools	Require Schools to Prohibit Bullying	No Fast Food or Sodas in Schools	Allow Ads in Schools and on School Buses	Require Schools to Measure Student BMI	Prohibit Unhealthy Food Ads on Kids' TV Shows
	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value
Nonwhite (ref)	—	—	—	—	—	—
Political ideology ^c	-0.11 (0.10) 0.27	-0.17 (0.11) 0.12	-0.08 (0.11) 0.49	0.28 (0.11) 0.01	0.03 (0.10) 0.78	-0.03 (0.09) 0.71
Partisanship						
Republican	0.01 (0.30) 0.97	0.74 (0.36) 0.04	0.23 (0.28) 0.40	0.36 (0.34) 0.30	-0.24 (0.29) 0.41	0.31 (0.31) 0.32
Democrat	-0.29 (0.31) 0.35	0.08 (0.30) 0.80	-0.02 (0.32) 0.94	0.27 (0.29) 0.36	-0.50 (0.34) 0.15	0.14 (0.32) 0.66
Independent / no preference (ref)	—	—	—	—	—	—

Continued

Table A1. Continued

	1 Cent/Oz Sugar-Sweetened Beverage Tax	Prohibit Toys in Fast-Food Kids' Meals	Incentivize Grocery Stores to Open in Food-Desert Areas	Regulate Nutritional Quality of SNAP Program	Legal Protections and Benefits for Overweight People	Prohibit Lawsuits Against Food and Beverage Companies
	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value
Responsibility attribution ^b						
Parents	-0.35 (0.09) <0.001	-0.16 (0.09) 0.08	0.06 (0.14) 0.64	0.19 (0.13) 0.14	-0.42 (0.08) <0.001	0.32 (0.10) 0.001
External	0.54 (0.10) <0.001	0.54 (0.10) <0.001	0.49 (0.09) <0.001	0.48 (0.09) <0.001	0.29 (0.09) 0.002	-0.11 (0.09) 0.25
Child	0.03 (0.08) 0.67	-0.05 (0.08) 0.46	0.02 (0.08) 0.79	0.07 (0.07) 0.31	0.06 (0.06) 0.37	0.03 (0.09) 0.75
Parents' status						
Respondents with children in the household	-0.24 (0.24) 0.32	0.04 (0.28) 0.89	-0.40 (0.26) 0.13	-0.02 (0.25) 0.94	-0.06 (0.26) 0.83	-0.17 (0.27) 0.54
Respondents without children in the household (ref)	—	—	—	—	—	—
Gender						
Female	0.07 (0.23) 0.75	0.49 (0.23) 0.04	0.36 (0.24) 0.12	0.09 (0.23) 0.71	0.18 (0.23) 0.44	-0.01 (0.25) 0.97
Male (ref)	—	—	—	—	—	—

Continued

Table A1. *Continued*

	1 Cent/Oz Sugar-Sweetened Beverage Tax	Prohibit Toys in Fast-Food Kids' Meals	Incentivize Grocery Stores to Open in Food-Desert Areas	Regulate Nutritional Quality of SNAP Program	Legal Protections and Benefits for Overweight People	Prohibit Lawsuits Against Food and Beverage Companies
	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value
Age in years	-0.02 (0.01) 0.04	0.02 (0.01) 0.10	-0.01 (0.01) 0.36	-0.00 (0.01) 0.81	0.00 (0.01) 0.87	0.00 (0.01) 0.67
Education						
≤ High school (ref)	—	—	—	—	—	—
Some college	-0.22 (0.29) 0.45	0.13 (0.28) 0.66	0.12 (0.29) 0.68	0.14 (0.29) 0.63	-0.37 (0.27) 0.17	0.29 (0.28) 0.30
≥ 4 yrs. college	0.34 (0.28) 0.23	-0.01 (0.29) 0.98	0.43 (0.30) 0.15	0.67 (0.27) 0.02	-0.42 (0.33) 0.21	0.18 (0.31) 0.57
Race						
White	0.07 (0.26) 0.79	-0.04 (0.29) 0.88	-0.31 (0.28) 0.27	0.36 (0.27) 0.20	-0.54 (0.33) 0.07	0.40 (0.32) 0.21
Nonwhite (ref)	—	—	—	—	—	—
Political ideology ^c	-0.12 (0.10) 0.23	0.03 (0.09) 0.72	-0.34 (0.12) 0.01	0.24 (0.10) 0.02	0.06 (0.10) 0.56	0.15 (0.10) 0.15

Continued

Table A1. *Continued*

	1 Cent/Oz Sugar-Sweetened Beverage Tax	Prohibit Toys in Fast-Food Kids' Meals	Incentivize Grocery Stores to Open in Food-Desert Areas	Regulate Nutritional Quality of SNAP Program	Legal Protections and Benefits for Overweight People	Prohibit Lawsuits Against Food and Beverage Companies
	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value	Coef. (SE) <i>p</i> -value
Partisanship						
Republican	-0.04 (0.33) 0.90	-0.10 (0.31) 0.75	0.18 (0.20) 0.54	0.31 (0.31) 0.30	0.64 (0.31) 0.04	0.15 (0.33) 0.65
Democrat	0.08 (0.30) 0.79	0.29 (0.29) 0.32	-0.12 (0.34) 0.73	-0.12 (0.29) 0.67	0.24 (0.32) 0.45	-0.53 (0.31) 0.09
Independent / no preference (ref)	—	—	—	—	—	—

^aPolicy support was measured on a 7-point Likert scale from 1 = "strongly oppose" to 7 = "strongly support."

^bResponsibility attribution was measured on a 7-point scale from 1 = "hardly any responsibility" to 7 = "a great deal of responsibility."

^cPolitical ideology was measured on a 7-point scale from 1 = "extremely conservative" to 7 = "extremely liberal."