

Public Opinion and the Politics of America's Obesity Epidemic

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Abstract

Recently, health policy experts have sounded the warning about the severe health and economic consequences of America's growing obesity epidemic. Despite this fact, obesity has not yet entered America's political consciousness and we have little information about what average Americans think of obesity or whether they support obesity related policies. The nascence of the obesity epidemic presents an interesting opportunity to examine public opinion at the beginning of an issue's evolution. Using unique survey data collected by the authors, this paper presents the first examination of public attitudes towards obesity and obesity policy. We find that, contrary to the views of health experts, most Americans are not seriously concerned with obesity, express relatively low support for obesity-targeted policies, and still view obesity as resulting from individual failure rather than environmental or genetic sources. Given the absence of elite discourse on this problem, we also find that typical determinants of policy preferences, such as ideology or partisanship, are not good predictors of attitudes on obesity policy. Rather, with a low valence issue like obesity, the public relies on prior awareness, policy heuristics, and causal explanations to inform their opinions. The implications of these findings for obesity policy and research on public opinion are discussed.

During the past twenty years, the United States has succumbed to a pervasive and largely unrecognized health epidemic: obesity. In 1980, fewer than 47 percent of Americans were overweight and under 15 percent were obese (a Body-Mass Index, BMI, over 29); today, it is estimated that nearly 60 percent of Americans are overweight and over 27 percent are obese (Flegal et al., 1998, Mokdad et al., 2001). In just two decades, adult obesity has increased by 80 percent. In addition, there has been an equally large growth rate in juvenile obesity. In 1970 less than 5 percent of children were overweight; today over 15 percent are at an “unhealthy body weight,” a three-fold increase in only thirty years (Flegal et al., 1998).

This high level of obesity presents staggering health and economic consequences. Body-weight, diet and exercise are important determinants of chronic illness, morbidity, and quality of life. Overweight and obese individuals are at increased risk for hypertension, dyslipidemia, stroke, gout, certain types of cancer, psychological disorders, and other ailments. For example, over 15 million American adults currently suffer from Type 2 diabetes which is directly related to their body weight. Poor diet and physical inactivity are implicated in roughly 310,000 to 580,000 deaths annually in the United States from cancer, cardiovascular diseases, and diabetes; obesity is second only to smoking as the leading cause of preventable deaths in the United States (McGinnis and Foege 1993, Allison 1999). Obesity also carries significant economic burdens, resulting in more than \$70 billion a year in public health expenditures (Wickelgren 2001) and accounting for almost 10 percent of total health care costs in the United States (Colditz 1999). Recent research in *Health Affairs* finds that obesity is more closely linked to chronic health conditions and higher health care expenditures than either smoking or alcohol (Strum, 2002).

Yet, despite the alarming growth of this epidemic, obesity is still not a topic of great political concern. While a few states have passed some limited measures targeting obesity in

school lunches and exercise programs, Congress and most states have not initiated any type of anti-obesity legislation. The low visibility of obesity on the American policy agenda stems from a number of sources. First, obesity is a complicated issue without self-evident policy solutions. Health policy experts have still not identified why American obesity rates have increased at such a startling rate or what policies could be effective in reducing weight (Hill and Peters 2001). Second, the media has given little coverage to obesity as a public health matter and only recently begun to give it widespread notice. For example, in searching *The New York Times*, we could only find two articles in 1998 that addressed the environmental or individual consequences of obesity; in the past year there were seven such articles.¹ Third, the massive increases in obesity are a relatively recent phenomenon. Many of the health and economic consequences of obesity are only now beginning to be felt.

Nevertheless, the continued growth and high costs of obesity leave little doubt that a political response to this epidemic is inevitable. When more visible politics do emerge, public opinion will surely play a key role in the defining the boundaries of policy debates. The question remains, however, as to what form public opinion will take. On most well-established policy matters, public opinion is characterized by what V.O. Key calls “the comforting guidance of grooves in the mind” (1961, 267). Mass opinion under these circumstances is defined by our varying levels of political awareness, our enduring political predispositions, and by an environment of information short-cuts like elite opinion signals and mass media frames. With an issue such as obesity, however, the determinants of public opinion are much less certain—elites have not offered broad policy proposals and health studies on obesity have only recent gotten

¹ In a five-year search of the *New York Times*, we found 82 articles on obesity. The vast majority of these (70) were solely on the medical aspects of obesity and not on obesity as a public health epidemic.

attention in news reports. While the absence of elite discourse makes obesity a more difficult issue for the mass public to form opinions around, it also presents a unique opportunity for researchers to test the underlying determinants of public opinion on a policy matter before it emerges on the political agenda.

In this paper, we examine public attitudes on obesity and related policies. Using the first survey (to our knowledge) compiled specifically to examine public opinion on obesity, we answer two major questions: what are Americans' attitudes about obesity and what determines support for obesity policies? In regard to the first question, we find that most Americans are still not concerned with obesity, are less likely to support most obesity related policies, such as taxing snack foods, and do not approve of treating obesity as any other physical disability. Most Americans continue to understand obesity as a case of individual moral failure rather than see it as the result of the food environment or genetics. In answer to the second question, we find that, contrary to conventional models of public opinion, individual partisanship, ideology, or demographic traits are not very good determinants of public attitudes on obesity. Rather, we argue that in the absence of elite discourse, respondents rely on their levels of awareness on obesity, utilize issue-specific referents points for making decisions about obesity, such as attributions of individual versus environmental culpability and their support for similar types of health regulations.

Anticipating Public Opinion on Obesity

The starting point for most contemporary opinion research is that political elites play a dominant role in defining the mass public's views on political and policy matters.² The rationale for this belief is as powerful and parsimonious. Most individuals do not exhibit carefully considered, coherent, internally consistent political views because they have limited time, interest, and skills to devote to politics. Rather, the responses that survey researchers find in opinion polls are the function of whatever relevant thoughts happen to be “at the top of one's head” at the moment that the respondent is being polled (Zaller, 1992). Political elites (whether motivated by sincere public interest, strategic self-interest, or partisan politics) and the mass media play a crucial democratic function by digesting the complex and conflicting information environment of policy debates and dishing out much simpler, clearer messages for the public to use to make competent judgments about political affairs. There is a capacious literature, in this regard, on the role that elite opinion cues – how issues are framed and which heuristics are evoked – play in defining public opinion.³

But in the case of an emerging public policy issue like the obesity epidemic, it is quite likely that political elites themselves may not have carefully considered, coherent, internally consistent political views to synthesize for the public. It is unclear, a priori, whether obesity and weight-related issues are a Democratic or Republican issue, or whether they more closely align with liberal or conservative ideological views. Consistent with this, although there has been a recent rise in mass media attention to the obesity epidemic in the United States, there remains

² See Neuman (1986), Carmines and Stimson (1989), Iyengar (1991), Page and Shapiro (1992), Zaller (1992), Lupia and McCubbins (1998), Erikson, MacKuen, and Stimson (2001). For an extended critique of elite opinion theories, see Lee (2002).

very little elite discourse or legislative action on this issue. Thus the “macro-foundation” of elite opinion theory – namely, the structural relationship of elite cues and mass response – is unlikely to be helpful in modeling public support for obesity-related policies.

In its place, however, what we know about the “micro-foundation” of mass opinion formation is better suited to anticipating how the general public is likely to view obesity-related policies. Specifically, we know the cognitive bases of how political messages get processed, when they are accepted as relevant inputs in forming political judgments, and how cognitive short-cuts structure our interpretation of political information. The cognitive basis for processing and absorbing political information and opinion cues about a new issue like obesity is perhaps best described by John Zaller (1992). For Zaller, mass opinion can be divided in three separate processes: whether we receive political messages (primarily a function of our political awareness), whether that political message is accepted as a relevant consideration (primarily a function of our central prior political predispositions like partisanship and ideology), and what considerations we hold at the moment that we express our political opinions publicly.⁴

Building on this conceptual model, we anticipate three factors to influence public opinion about obesity and obesity related policy. First, we expect the public’s views to be shaped by one’s level of interest and awareness about obesity. Individuals who are more attentive to political issue are more likely to hold distinct beliefs, as are individuals for whom a political issue is more salient. In the case of the obesity epidemic, political interest and media attention has thus far remained low. Accordingly, we do not expect high levels of general political

³ See, e.g., Kinder and Sanders (1990), Iyengar (1991), Popkin (1991), Sniderman, Brody, and Tetlock (1991), Gilens (1999), Mendelberg (2001).

⁴ A competing theory of the cognitive foundations of elite influence is the “online processing” model of Milton Lodge and his colleagues (Lodge and Hamill, 1986; Lodge, McGraw, and Stroh, 1989). Since the research design

information or interest (such as come with greater education) to sharpen one's views on obesity. Rather, we expect more issue specific measures of knowledge and attentiveness to matter, such as whether respondents read nutrition labels or books on healthy eating and whether they perceive obesity to be a serious national or personal problem.⁵ Moreover, we expect the behavioral outputs of one's awareness to matter, such as attention to nutritional labelling and reading books and magazines about diet and exercise.

Second, how we view obesity should depend on our prior predispositions. The absence of abundant political discourse on obesity policy, however, suggests that the factors that usually anchor our opinions – such as partisanship and ideology – will be less influential in shaping opinions about obesity. By contrast, we anticipate that public opinion on obesity is more likely to be defined by enduring social cleavages that anchor our political views, such as age, gender, race, and socioeconomic status. The stereotypes and associations that are likely to emerge make obesity especially well-suited to test for the intersecting influences across contested race, gender, class, and body image boundaries.

In addition, the lack of public focus on obesity makes it likely that individuals will rely on pre-existing considerations such as core value beliefs, their causal narratives about obesity, and the beliefs about analogous policy issues.⁶ With our core values (Huntington 1981, McClosky and Zaller, 1984, Feldman 1988), one of the enduring albeit controversial findings from survey research is that beliefs about values and principles are often closely linked to

for our study is non-experimental, the differences between Zaller's "receive-accept-sample" and Lodge, et al's information processing model is not one that we can explicitly address in this paper.

⁵ For a discussion of the importance of issue-specific measures of political awareness and predispositions, and an extended treatment on Zaller's model, see Lee (2002).

⁶ Zaller's model of mass opinion demonstrates that survey responses are determined by some averaging out of "relevant considerations" on a given issue.

hostility toward groups that are perceived to violate those values and principles (Kinder and Sears 1981, Kinder and Sanders 1996, Gilens, 1999; but see Sniderman and Hagen 1985, Sniderman and Piazza 1993). The core belief that we think is especially likely to guide public views on obesity is the social norm of self-reliance.

Obesity may be absent from elite discourse in Washington, but it is very present in mass culture. In fashion trends, movies, television and magazines dating back to the Gibson Girl of 1890s, American popular culture has established thinness as a standard for health, fitness, moral rectitude, and even patriotism (Stearns 1997). In prime-time television, nine in ten females actors fall below a normal body weight (compared with fewer than four in ten in the general population) and heavy women were twice as likely to be the objects of derision or humor (Greenberg 2001). Discriminatory views against fat people are pervasive in employment, health care, and among the general public (Allon 1982, Cawley 2000, Harris et al. 1982). Public opinion may in significant measure be shaped by the public's views of obesity as an individual-level phenomenon and being obese as a violation of norms of self-reliance and individualism, much like public opinion on affirmative action (Kinder and Sanders, 1996) or welfare (Gilens 1999).⁷ In research on undergraduates, Crandall and Biernat (1990) report that anti-fat attitudes are closely linked to authoritarian and conservative political attitudes: "The main reason that the obese are so strongly disliked is that they are held responsible for their condition." (p. 228) Being seen as self-indulgent, lazy, and lacking self control, the obese are viewed as violating dominant norms of self reliance (Allon 1982).

⁷ For example, Gilens (1999) reports that three of four Americans agree with the statement that "People are responsible for their own well-being and have an obligation to take care of themselves."

The hypothesis that emerges is straightforward: individuals with strong commitments to the norm of self-reliance will oppose policies aimed at addressing the obesity epidemic. More important than the direct influence of core beliefs, we posit, are the beliefs that individuals hold about why people are overweight and obese. There is a growing body of evidence that opinion also relies critically on causal stories and interpretation (Kinder and Iyengar, 1987; Stone, 1998; Lau and Schlesinger, 2000). With obesity, we expect to find three kinds of competing causal explanations – that people are overweight because of heredity, a defect of personality, or environmental factors that predispose against healthy diet and regular exercise. Specifically, we expect public support for obesity related policies to weaken when obesity is understood as a result of individual motivation. By contrast, if obesity is viewed as genetic or environmental in basis (Brownell 2000), we expect to find greater levels of public support.⁸

A third kind of relevant consideration that we think the public is likely to use in forming judgments about obesity policy is one's views on analogous policy domains. Tversky and Kahneman (1974) have described the tendency of individuals under conditions of uncertainty to resort to a "representativeness heuristic" – that is, to consider how well the uncertain issue compares to an analogous category. In the case of obesity, one policy analog is especially prominent: smoking. The parallels – multi-factorial causal determinants and the contentious dynamics of individual autonomy, the nation's physical and economic well-being, and government regulation – are all present. Consequently, our hypothesis is that support for active government involvement to combat cigarette smoking may be an important predictor of support for active government involvement on obesity. Individuals may reference similar and familiar

⁸ Crandall (1994), for instance, finds that when given evidence that a fat person may not be to blame for his or her weight, antipathy towards the obese diminishes.

types of policies as guide for determining their opinions on topics like obesity to which they may be unfamiliar.

Finally, public opinion on obesity may be explained in terms of simple self-interest. If obesity policy has no obvious partisan or ideological bases, then respondents may also base their opinion on how specific policies may affect them. Thus we expect parents to be more supportive of school lunch initiatives or people who consume more pre-packaged foods to be less supportive of snack taxes. Similarly, we also expect individual weight to be a determinant of health policy opinion: overweight individuals should be more in favor of government protections to the obese.

Data and Sample

To test these hypotheses, we rely on unique telephone survey data developed by the authors and collected in April and May of 2001 by the Survey Research Center at Princeton University. The survey was created to measure public information and attitudes about obesity, negative stereotypes and discrimination against the obese, and support for public policies targeting obesity. The sample was designed to generalize to the U.S. adult population in telephone households, but also provide additional completed interviews with African American respondents over and above what would be obtained in a straight random sample of the general population.⁹ The total number of cases drawn was 909 adult respondents.

⁹ One sample of telephone numbers was selected that used straight random digit dialing methods (RDD) and interviews were conducted with a randomly selected adult member of the household. A second sample was used to obtain additional interviews with black respondents. This oversample of black respondents was obtained by using a separate sample of telephone numbers (also RDD) that was selected only from area code-exchange combinations with higher than average density of black households (in this case, 30% or greater). This targeted sample increased the likelihood that sampled telephone numbers would be associated with black households. Contacted households from this sample were screened to identify black respondents. Because of the targeted oversample, special weighting adjustments are required to restore the overall representativeness of the sample. Both telephone samples were provided by Survey Sampling, Inc. (SSI). The general population sample was drawn using standard list-assisted random digit dialing (RDD) methodology. Every active block of telephone numbers (area code + exchange

General Attitudes Towards Obesity

We start our analysis by outlining the general attitudes and knowledge of the public on questions of obesity. Respondents in the AATO survey were asked to rate the seriousness of a variety of health conditions on a five point scale.¹⁰ As illustrated in Table 1, obesity is not viewed by most Americans in the sample as a major health concern either for the country as a whole or particularly for themselves. Obesity ranks far behind cancer, AIDS, heart disease, and diabetes as a very serious concern among most Americans. Among the health problems mentioned, only depression was identified by a smaller percentage of the sample as being a very serious or serious problem. Even though obesity is a source of far more deaths than AIDS, most Americans see it as a less serious health problem.

Furthermore, few respondents see their own weight as a serious health matter. Although, like the general population, more than half the sample are overweight, fewer than one in four respondents see their body weight as a serious or very serious personal health concern. For most respondents, obesity is still not viewed as a major health issue in either a larger or personal context.

+ two-digit block number) that contained one or more residential directory listings was equally likely to be selected; after selection two more digits were added randomly to complete the number. This method guarantees coverage of every assigned phone number regardless of whether that number is directory listed, purposely unlisted, or too new to be listed. After selection, the numbers are compared against business directories and matching numbers are purged. This same methodology was used for the black oversample, however, the sample was generated only from area code-exchange combinations with density of 30% or more black households. Post-data collection weighting was done to correct for sampling disproportions and known demographic discrepancies. The margin of sampling error for the complete set of weighted data is 3.8%. The survey took approximately 17 minutes to complete and had a response rate of 23 percent. While this is an admittedly low response rate, low response rates have become endemic to opinion polling and an important recent study (Keeter, et al, 2000) suggests that multiple call-backs that secure higher response rates do not yield appreciably different distributions of public opinion.

¹⁰ Respondents were told, “We’d like to start by asking you some questions about how serious do you think the following health issues are for American society. In response to each health problem, could you tell us whether you think it is very serious, serious, not serious, or not a problem at all?” Don’t knows were also accepted. For the last item, respondents were asked, “how serious a health concern is your own weight?”

INSERT TABLE 1 HERE

At the same time, most respondents do in fact pursue information about nutrition. We asked respondents how often they read nutrition labels on the back of food products and how often they read books or magazines about eating right or healthy cooking, shown in Table 2. Just over half the sample reported reading nutrition labels either all or most of the time. Similarly, 62 percent of the sample said they read books or magazines about nutrition and eating better either sometimes or a lot. From these reports, it seems most Americans are gathering information about the types of foods they eat.¹¹ Thus Americans seem to harbor somewhat contradictory attitudes towards obesity. Even though most Americans do not see obesity as major health concern, either for the nation or themselves, most actively seek information about their health in food labels and news sources. This reflects an irony of America's obesity epidemic: at time when Americans arguably know more about food and nutrition than at any time in their history, they are gaining more weight.

INSERT TABLE 2 HERE

How do we console this seeming paradox between a lack of concern about obesity as either a person or national of importance and an individual attentiveness to information about one's diet? One important clue comes from the causal narratives that people hold about why individuals are overweight and obese. Respondents in the AATO were queried about three categories of items to explain the obesity epidemic: genetic, environmental, and personal attributes. Respondents were asked how much they agreed or disagreed that factors such as genetic inheritance, individual culpability, and unhealthy food in restaurants and supermarkets

¹¹ Respondents also reported high levels of exercise. When asked how often they exercise hard for at least 30 minutes, 22 percent said 5-7 times a week and 32 percent said 2-4 times a week. 23 percent of the sample reported never exercising at all.

were responsible for people being overweight.¹² Table 3 lists the distribution of responses on each of these items.

INSERT TABLE 3 HERE

Respondents in the AATO were far more likely to explain the growth in obesity to individual failing and were far less likely to explain obesity in terms of genetic sources. The most popular explanation for obesity was to blame individuals for lacking willpower to diet or exercise, an account favored by 65 percent of respondents. Not surprisingly, Americans also recognize multiple and contradictory sources for obesity. Respondents were also willing to blame environmental factors: 62 percent of respondents agreed that too much unhealthy food in restaurants and supermarkets were to blame and 57 percent agreed that diets were ineffective. A much smaller percentage of respondents were likely to attribute obesity to either genetic causes or from simply the overweight accepting their own body sizes. Only 40 percent of respondents thought obesity was something inherited from parents and 18 percent agreed that people were obese because they were “simply born that way.” Similarly, only 45 percent agreed that people were obese simply from not caring about what they ate and accepting their weight.

How do these patterns and paradoxes translate into public views on policies and government actions related to obesity? Table 4 reports the distribution of opinion along a five-point scale in response to a number of questions regarding policies that have been proposed to tackle America’s obesity epidemic. These include proposals to regulate junk food advertisements aimed at children, taxing snack foods to promote the distribution of healthy foods, and eliminating fast food and soft drink concessions from schools. These obesity policies

¹² Respondents were told, “We are now going to read a series of explanations people give about why Americans are overweight. In response to each statement, could you please tell us how much you agree with each, strongly agree,

were compared with items on requiring motorcycle riders to wear helmets, banning smoking in public places, and proposals to tax cigarettes to pay for the public health costs associated with smoking. Two other items asked how much respondents agreed that government should play a more active role in protecting the obese from discrimination and whether overweight people should be given the same protections offered to people with other disabilities.¹³ The full question wording is in the Appendix.

INSERT TABLE 4 HERE

Given the relatively low concern about obesity, it is not surprising that support for obesity targeted policies falls behind other major public health initiatives. Americans are far less likely to support proposals that tackle obesity issues than they are other types of public health concerns. For example, the least popular health initiative was the tax on snack foods. Only six percent of the sample strongly agreed and 27 percent agreed with a proposal to tax snack foods in order to subsidize the production and distribution of healthy food, while nearly 60 percent of the sample disagreed or disagreed strongly. Eliminating junk food in schools was nearly as unpopular – only 47 percent agreed with the proposal while 43 percent did not agree. The greatest support came in regulating food ads aimed at children, with 57 percent of the sample agreeing with this proposal. Nevertheless, none of these policies proposals have nearly the same level of support as similar health initiatives such as requiring motorcycle helmets (favored by 81 percent), taxing cigarettes (supported by 65 percent), or banning public smoking (favored by 68 percent).

agree, strongly disagree, disagree, or neither agree nor disagree.” Then six explanations for obesity were offered. The full wording of these is in the appendix.

¹³ Respondents were asked how much they agreed, on a five-point scale, with the following statements: 1) “The government should play a more active role in protecting overweight people from discrimination.” 2) “Overweight people should be subject to the same protections and benefits offered to people with other physical disabilities.”

Americans are almost evenly split in their agreement about providing more rights and protections to the obese. Roughly 47 percent of the sample agreed or agreed strongly that government should do more to protect the obese from discrimination and that the obese should be given the same benefits as the physically disabled. Roughly 43 percent disagreed with these positions. Thus unlike support for other types of disabilities, Americans are not overwhelmingly in favor of granting special protections for the obese.

Government regulations and civil protections are not the only proposals targeting obesity. Other policy experts have suggested using taxes specifically earmarked for increasing school nutrition and public spaces to promote exercise (Hill and Peters 2001). To gauge support for these policies, we queried respondents about whether they would be willing to pay \$50 a year more in taxes for the following items: more nutritious lunches in schools, the creation of more parks and public spaces for exercise, medicine for people with AIDS, and low income housing. The results of these questions are listed in Table 5.

INSERT TABLE 5 HERE

While a majority of the sample would be willing to spend more in taxes for all the items mentioned, the item with the highest level of public support is the school lunch program and that with the lowest support is the creation of parks for public exercise. Nearly two in three respondents would pay \$50 a year more in taxes for better lunches in schools compared to only 53 percent would pay the same amount for more parks and places for exercise. The latter item garnered less support than taxes to help medicine for people with AIDS (supported by 59 percent) and better housing for the poor (supported by 58 percent).

In sum, these findings indicate that while Americans are not generally averse to regulatory policies aimed at promoting public health, they are reluctant to support policies that

target the rise in obesity, particularly in the adult population. Taxing snack foods has the lowest level of support of any policy proposal mentioned with more respondents opposing the issue than favoring it. Similarly, survey respondents are almost equally divided in their support for eliminating fast-food and soft-drink concessions from schools as well as offering equal civil protections to the obese – nearly the same number of respondents disagree with the policy as agree with it. Interestingly, the policy that garners the greatest amount of support are those targeting obesity in children: regulating television food advertisements aimed at children and paying more in taxes for school lunches, supported by nearly two-thirds of the sample agreeing.¹⁴ Irrespective of these results, obesity policy, especially for the adult population, still lags far behind other commonly accepted health policies in levels of public support.

Explaining Attitudes towards Obesity-Related Policies

What explains this variation in opinion on obesity policy? How do these seemingly contradictory attitudes about obesity influence support for public policies? To answer these question we turn to multivariate regression analysis. We earlier described our general expectations for public opinion on a newly emerging issue such as the obesity epidemic. If we are correct, public views on obesity policy should vary as a function of predispositions rooted in prevailing social cleavages (and not conventional political cleavages), obesity-related measures of awareness, and considerations relevant to forming judgments about obesity policy such as one's adherence to norms of self-reliance, causal explanations of obesity, and reference to policy analogs.

¹⁴ Arguably, the proposal to eliminate fast food and soft drink concessions in schools is as much about school finance as it is about children's health.

Our general model, then, specifies sociodemographic variables that capture prevailing social cleavages that might be relevant to opinion on obesity policy – age, education, family income, race, and gender. Because two of our policy alternatives are directly aimed at childhood overweight and obesity, we also include whether or not respondents have children. Epidemiologically, we know that the risk of obesity increases with age, lower educational and income status, race, and gender.¹⁵ Thus these are the social groups and demographic categories that are likely to emerge prominently should obesity take center stage in policy debates and political contests.

From our theoretical discussion, we expect public opinion on obesity to policy to also vary with issue-specific measures of political awareness. Here we test for the effect of several possible sources of interest and attentiveness on the issue of obesity: individuals’ personal weight, their diet and exercise-related behaviors, their perceived importance of obesity and weight as a personal matter and as a matter of national importance, and finally, their consumption of information about nutrition from food labels, books, and magazines. With body weight, we take the relatively crude measure of BMI by quartile, with individuals in the second quartile as the comparison.¹⁶ With diet and exercise-related behaviors, we test for how often respondents dine out each week, how often they eat pre-packaged or prepared meals like TV or take-out dinners, and how often they exercise (“for at least 30 minutes at a stretch”) each week. In general, our expectation is that individuals who eat healthier food and exercise regularly will

¹⁵ Women in the aggregate are less likely to be obese than men, but women are likelier to become obese as they get older – i.e., ages 45-64 and 65 and older – (National Health Interview Survey, 1997).

¹⁶ Assignments to BMI quartiles are calculated separately for men and women. With body weight, we might expect substantively interesting and meaningful differences in the influence of body size and body image between men and women. Further, we might also expect the functional relationship between BMI and policy attitudes on obesity to be non-linear: women may hold distinct views about obesity if they are underweight as well as overweight. These are nuances in the analysis that we reserve for future analysis.

be more willing to support government action on obesity than those who do not. Our salience and information measures have been described before: we test for the influence of personal salience (importance of obesity to the respondent), general salience (importance of obesity to the nation), and attentiveness to information on proper nutrition. In each case, greater perceived salience and attentiveness ought to predict greater support for government action.

The remaining influences we test for are the predispositions and relevant considerations that are likely to shape public views about obesity policy. Following our earlier discussion, we examine beliefs about the responsibilities of individuals to take care of themselves and the obligations of government to care for the interests of those individuals who are unable to do so. Presumably, respondents who adhere to norms of self-reliance would be more resistant to any forms of government action on obesity.¹⁷ We also examine the influence of a policy analog heuristic – whether individuals look to analogous policies for their cues on what to think about obesity. The specific policy domain we test is smoking, measured as an additive index of whether respondents agreed that cigarette consumption ought to be taxed to pay for smoking-related medical costs and whether smoking ought to be banned in public places.¹⁸ Then we consider the influence of beliefs about what causes individuals to become overweight and obese. We test four causal explanations – that obesity is caused by heredity, by the lack of “willpower to diet and exercise regularly,” by the absence of effective diets, and by the abundance of “unhealthy and fatty food in restaurants and supermarkets.” Our expectations here are that environmental attributions are likely to generate support for policy action than are causal explanations about genetic predispositions or motivational deficits.

¹⁷ Respondents were asked how much they agreed with the statement, “Our governments’ policies take too much care of people and deprive them of too much individual responsibility.”

¹⁸ The alpha reliability score of this scale is 0.56.

Finally, we control for the key sources of opinion cues from our primary political institutions and ideologies. These are measured with dummy variables for liberal, conservatives, democrats, and republicans, with middle of the road and nonpartisans respectively as excluded categories. Our expectations here, given the relative absence of political and policy debates about obesity, are minimal. To the extent that some of our question wording may code for partisan and ideological cues – e.g, with the use of terms like “regulate,” “taxes,” and “discrimination” – we may also, however, find some significant statistical associations.

We test these explanations on three different types of policy questions. The first are general levels of support or opposition to a particular policy aimed towards curbing the epidemic of obesity. The three items here are regulation of junk food television advertisements aimed at children, taxing snack foods (with revenues used to promote healthy foods), and banning fast food and soft drink concessions in public schools. The second type are civil protections for overweight and obese individuals – specifically, whether government should actively protect overweight people from discrimination and whether overweight people should enjoy the same legal protections and benefits as individuals with other disabilities. The third type of policy question we consider is people’s willingness to pay additional taxes for programs they support – specifically, whether respondents would be willing to pay an additional \$50 per year to fund either additional public spaces for exercise or more nutritious lunches in public schools.

Results

The results bear out our expectations about how the American public views potential policy solutions to the obesity epidemic. Table 6 shows the results for the three general policy items. The starting observation from Table 6 is that the usual bookends of public opinion in America –

partisanship and ideology – tell us extraordinarily little about support for obesity policy. With the exception of regulation of television advertisements (where Democrats are about 10 percent more likely to support such a policy), none of our partisanship and ideology measures significantly predicts support for obesity policy.

[TABLE 6 ABOUT HERE]

The influence of demographic background is considerably greater. Older respondents are more supportive of government action across all three policy items we test for. With regulating television advertisements and banning vending machines, the effects are strong: 65 years olds are about 18 and 19 percent (respectively) more likely to support these policies than are 18 year olds.¹⁹ By contrast, high family income predicts opposition to obesity policies. Respondents with family incomes exceeding \$100,000 per year are about 11 percent (for snack taxes and concession bans) to 22 percent (for advertisement regulations) more likely to be opposed than are respondents with family incomes of \$15,000 a year or less. With education, the effects are mixed: college graduates are 16 percent more favorable towards a ban on public school vending machines, but about 20 percent more opposed to snack taxes (and appear more opposed to television regulations as well).

[TABLE 9 ABOUT HERE]

The effects of race, ethnicity, gender, and family structure are more mixed across the three policy items. African Americans and Latinos appear more favorable towards taxing snack foods (although the relationship for blacks falls just below statistical significance), but African Americans are more likely to oppose a ban on fast food concessions in public schools. Women

¹⁹ The magnitude of effects are calculated using CLARIFY (Tomz, Wittenberg, King, 2001; King, Tomz, Wittenberg, 2000). The full results are listed in Appendix B.

appear to favor regulating television ads and banning fast food concessions in public schools, and parents of children under 18 favor regulating advertisements. The magnitude of effects with these factors are, in almost every case, relatively modest (a seven or eight percent difference).

The diet and exercise profile of respondents are a major factor in public support for obesity policy. Individuals who are overweight or obese are more likely to support regulating junk food advertisements and eliminating fast food concessions from schools. Those who are underweight (in the first BMI quartile) are more likely to support a tax on snack foods. Exercise and dietary habits also play a role here. Individuals who exercise very regularly (five to seven times weekly) are considerably more likely to support policy action on obesity, while those who rely often on pre-packaged foods for meals are considerably more likely to oppose such policy action. The effects here are moderate, ranging from a 9 percent difference between regular exerciser and non-exercisers on support for banning fast foods in schools to a 14 percent difference between pre-packaged meal diners on that same question.

More powerful than these indirect measures of personal interest and awareness about obesity are the more direct measures of salience and attentiveness. While an individual concern over their own weight is rarely a factor, respondents who perceive obesity as a very important national problem are about 20 percent more likely to support snack taxes than those who do not see obesity as a problem at all. Respondents who are attentive to nutritional information are about 19 percent more likely to support regulating advertisements and about 14 percent more likely to support a ban on fast food vending machines in public schools.

The strongest predictors of public support for obesity policy, however, are beliefs about analogous policy issues and the etiology of obesity. Respondents who strongly agree that government should heavily tax cigarettes and that cigarettes ought to be banned from all public

places are a whopping 39 percent more supportive of regulation of TV ads aimed at children than those who strongly disagree on these policy analog issues. The effect of public support for anti-smoking policy is about 26 percent on snack taxes and 33 percent on banning fast foods in schools. With causal stories, the belief that obesity may stem from access to unhealthy foods in restaurants and supermarkets is singularly influential. Respondents who strongly agreed that obesity is due to easy access to unhealthy foods were a striking 47 percent more likely to support television regulations, about 26 percent more likely to support snack taxes, and about 34 percent more likely to support banning fast foods in schools than respondents who rejected any such environmental influence on obesity. None of the remaining causal explanations appear to predict public views on obesity policy, except the belief that obesity stems from the prevalence of ineffective diets (which makes one less favorably inclined toward regulating television advertisements).

The basic pattern of these results extends to the other two kinds of policy items we examine. With civil protections for the overweight and obese (Table 7), we find greater support among older, less educated, poor, African American, and Latino respondents. These effects are moderate to strong. Respondents with a college degree are 15.6 percent more likely to disagree that government should do more to protect the obese than respondents with less than a high school equivalency. Respondents with annual family incomes above \$100,000 are about 23 percent more likely to object to such an expanded government role than those with family incomes below \$15,000 a year. Perhaps unsurprisingly, African Americans are about 11 percent and Latinos about 21 percent more supportive of civil protections for the obese.

[TABLE 7 ABOUT HERE]

Again, issue salience and attentiveness and causal explanations play a key role in shaping public views on government protections for the overweight. Individuals who view obesity as a very serious national problem are about 19 percent more likely to support such protections than those who do not view obesity as a problem; individuals who are attentive to information about nutrition are about 13 percent more supportive. Unlike the prior set of policy issues, with civil protections, there is a wider range of influences among causal beliefs. Support for civil protections are much higher among respondents who view obesity as the inevitable consequence of one's heredity (by about 31 percent) and somewhat higher among those who believe that obesity is the result of an environment of unhealthy foods in restaurants and markets (by about 10 percent). By contrast, support for such protections falls when respondents view obesity as the result of poor willpower (by 13.6 percent). Public views about anti-smoking policy (taxing cigarettes and banning public smoking) have no bearing on support for civil protections, perhaps for the obvious reason that the "representativeness" heuristic no longer applies.

Finally, we test our model on the public's willingness to pay for programs aimed toward improving the nation's diet and exercise habits. It is a commonly stated, but less commonly tested claim that the American public is eager to support greater government spending across a broad array of programs, but much more discriminating about that support when asked explicitly about their willingness to pay for such programs. We have already seen that the public's willingness to spend additional tax dollars on public space for exercise and nutritious school lunch programs is relatively high, somewhat contrary to popular conceptions. The structure of public opinion on these items, however, is somewhat distinct. While age had previously predicted greater support on obesity policies, older respondents now appear significantly and substantially less willing to pay for the two proposed programs in question. Respondents who

are 65 or older are between 17 percent (on school lunches) and 21 percent (on public exercise spaces) more resistant to paying additional taxes than are 18 year olds. One can, of course, easily console this seeming disparity: the elderly are perhaps less likely to take advantage of public exercise spaces and certainly less likely to benefit from a school lunch program.

[TABLE 8 ABOUT HERE]

The most powerful predictors of willingness to pay for more public exercise space and more nutritious school lunches are public awareness and public views on smoking policy. Individuals who think obesity is a critical national problem are 22 percent more likely to support additional taxes for exercise spaces and almost 24 percent more willing to support taxes for school lunches. Individuals who are attentive to nutritional information are about 17 percent likelier to support taxes for school lunches. And strong support for anti-smoking policies increases one's willingness to pay for public exercise space and nutritious school lunches by 22 and 20 percent, respectively. On these willingness-to-be-taxed items, the only causal explanation that is predictive is the belief the obesity results from an abundance of unhealthy foods (by about 16 percent).

Discussion

Most studies of public opinion focus on policies that are relatively well defined in the public sphere. For example, in Page and Shapiro's (1992) model of the "rational public," social forces give rise to issues which are then analyzed by elites and the media, who then influence the nature of public opinion. This model has been replicated in most other major studies on the determinants of public attitudes. Little attention has been given, however, to less visible issues.

In the absence of elite cues, we have less understanding about what factors might influence the way citizens understand policy questions that have not become major public debates.

The case of obesity provides an excellent opportunity to the formation of mass opinion in the early stages of an issue's evolution. Obesity has increased dramatically in America over the past twenty years and the rates of increase show no signs of abating. Indeed, obesity is likely to soon become the number one cause of preventable death in the United States. Given the severe physical and economic costs of this problem, political solutions are likely to be eminent and elite discourse on obesity will rise.

At this point, however, public opinion has still not crystallized about obesity and most obesity policies do not enjoy broad support. Proposals for snack taxes, enhancing the civic protections offered to the obese, or increasing public spaces for exercise are still not endorsed by a majority of Americans, even though the public is not opposed to government interventions to promote other aspects of public health (we find high support for smoking restrictions and helmet laws). The most popular policies are ones that address juvenile obesity. Most respondents are in favor of regulating food ads targeting children and paying more in taxes for healthier school lunches, although most Americans are not willing to get rid of junk food in schools.

Much of this public reticence about obesity policy is clearly related to the level of awareness and attributions that people make about obesity. Most Americans do not see either the public's or their own weight as a serious health problem. Furthermore, while most Americans agree that we live in a poor food environment, the most popular explanation for obesity is in the individual failing of people to eat less and exercise more. Americans are able to recognize that obesity is a complicated issue, but most still place the source of obesity in the hands of the individual. Given these factors it is not surprising that there is little enthusiasm for imposing

regulations or taxes on food products or extending civil protections to the obese or that the most popular policies would be to extend protections to “innocent victims” such as children.

Yet these results do not mean obesity policies will never receive public support. As we have found, the three biggest predictors of support for obesity policy are public awareness about nutrition and obesity, public support for other preventive health policies, and an understanding of environmental sources of obesity. These factors are highly susceptible to change in the mass public from elite messages. Ironically, the current public tendency to place blame on individuals for their obesity is strikingly at odds with the discussions in the public health community who attribute obesity to mostly environmental and genetic factors. After all, the rise in obesity over the past two decades has not been caused by a sudden upsurge in moral failure among Americans. As more scientific studies on the sources of obesity filter down to the public and as the media picks up more stories on the health problems of obesity, it seems likely that public explanations for obesity will also shift. If the public embraces dominant opinion among experts and agree that obesity is the result of environmental and genetic factors, then we would predict greater support for obesity related policies.

Table 1 – American Evaluations of Serious Health Problems

| | Very Serious | Serious | Not Serious | Not Problem | Don't Know |
|----------------|--------------|---------|-------------|-------------|------------|
| Cancer | 76 | 23 | 1 | 0 | 0 |
| AIDS | 71 | 23 | 1 | 2 | 0 |
| Heart Disease | 60 | 37 | 3 | 0 | 0 |
| Diabetes | 48 | 47 | 3 | 1 | 1 |
| Smoking | 47 | 43 | 8 | 2 | 0 |
| Obesity | 36 | 50 | 11 | 1 | 1 |
| Depression | 33 | 52 | 12 | 2 | 1 |
| R's own weight | 9 | 13 | 24 | 54 | 0 |

(Each cell is the percent in that row. Ncases = 909). Source: AATO 2001.

Table 2 – Information Gathering About Food and Nutrition

| | Read Nutrition Labels on Food Items | Read Books or Magazines About Food and Nutrition |
|------------------|-------------------------------------|--|
| All of the Time | 27 | A lot 24 |
| Most of the Time | 27 | Sometimes 38 |
| Some of the Time | 25 | Rarely 22 |
| Rarely | 11 | Never 16 |
| Never | 9 | |

(Each cell is the percent in that column. Ncases = 909). Source: AATO 2001.

Table 3 – Explanations for the Prevalence of Obesity

| | Agree Strongly | Agree | Neither | Disagree | Disagree Strongly |
|---------------------------|----------------|-------|---------|----------|-------------------|
| <u>Genetic</u> | | | | | |
| Inherit from Parents | 4 | 36 | 12 | 40 | 6 |
| Born that way | 1 | 17 | 9 | 62 | 9 |
| <u>Environmental</u> | | | | | |
| Poor food in Restaurants | 20 | 42 | 5 | 28 | 5 |
| Diets ineffective | 14 | 43 | 6 | 31 | 4 |
| <u>Personal Attribute</u> | | | | | |
| Lack willpower | 17 | 48 | 8 | 23 | 3 |
| Obese don't care | 8 | 37 | 8 | 39 | 5 |

(Each cell is the percent in that row. Ncases = 909). Source: AATO 2001.

Table 4 – Support for Health Policy Initiatives

| | Agree Strongly | Agree | Neither | Disagree | Disagree Strongly | Don't Know |
|--------------------------------------|-------------------|-------|---------|----------|----------------------|---------------|
| Regulate Food Ads | 20 | 37 | 6 | 30 | 6 | 0 |
| Tax Snack Foods | 6 | 27 | 6 | 44 | 15 | 2 |
| No School Junk Food | 15 | 32 | 9 | 38 | 5 | 2 |
| Require Helmets | 39 | 42 | 2 | 13 | 3 | 0 |
| Cigarette Taxes | 23 | 42 | 4 | 24 | 7 | 1 |
| Ban public smoking | 34 | 34 | 4 | 20 | 7 | 0 |
| Govt more Active in Protecting | 7 | 39 | 9 | 37 | 6 | 1 |
| Equal Protect. For Obese | 7 | 41 | 8 | 37 | 5 | 1 |

(Each cell is the percent in that row. Ncases = 909). Source: AATO 2001.

Table 5 – Willingness to Pay \$50 More a Year in Taxes to Support...

| | Medicine For AIDS | More Parks for Exercise | Better Housing For the Poor | More Nutritious School Lunches |
|------------|----------------------|----------------------------|--------------------------------|-----------------------------------|
| Yes | 59 | 53 | 58 | 64 |
| No | 37 | 45 | 38 | 34 |
| Don't Know | 4 | 2 | 4 | 2 |

(Each cell is the percent in that column. Ncases = 909). Source: AATO 2001.

Table 6. Support for Policies that Address Obesity

| | Regulate Food Ads for Kids | Tax on Snack Foods | Ban Fast Foods in Schools |
|-------------------------------------|-------------------------------|-----------------------|------------------------------|
| Liberal | .106 (.108) | -.046 (.107) | .077 (.108) |
| Conservative | -.110 (.110) | -.099 (.110) | -.002 (.110) |
| Democrat | .252 (.103)* | .168 (.102)^ | .005 (.103) |
| Republican | .048 (.115) | -.067 (.116) | -.008 (.116) |
| Age | .010 (.003)** | .004 (.003) | .011 (.003)** |
| Education | -.072 (.043)^ | -.180 (.043)** | .103 (.042)** |
| Income | -.095 (.026)** | -.055 (.026)* | -.046 (.026)^ |
| Race = African American | .022 (.117) | .188 (.117) | -.225 (.118)^ |
| Ethnicity = Latino | .115 (.191) | .397 (.190)* | -.004 (.192) |
| Gender = female | .189 (.097)* | -.141 (.097) | .195 (.098)* |
| Parent | .178 (.091)* | -.047 (.091) | .075 (.091) |
| BMI 1st quartile | -.004 (.122) | .252 (.122)* | -.052 (.122) |
| BMI 3rd quartile | .205 (.120)^ | .019 (.120) | .201 (.120)^ |
| BMI 4th quartile | .272 (.127)* | .026 (.127) | .242 (.128)^ |
| Exercise | .059 (.023)** | .036 (.023) | .047 (.023)* |
| Eat out | .053 (.038) | -.001 (.038) | -.028 (.038) |
| Eat pre-pack foods | -.053 (.034) | .008 (.034) | -.074 (.034)* |
| Saliency (personal) | .028 (.050) | .043 (.050) | .004 (.050) |
| Saliency (national) | .068 (.057) | .210 (.058)** | .086 (.058) |
| Read labels/books | .070 (.025)** | .006 (.024) | .050 (.025)* |
| Government activism | .061 (.037)^ | .013 (.037) | .047 (.037) |
| Other health regulations | .128 (.021)** | .100 (.021)** | .109 (.021)** |
| Cause: born that way | -.032 (.047) | .005 (.046) | -.033 (.046) |
| Cause: lacking willpower | -.014 (.039) | -.019 (.039) | -.001 (.039) |
| Cause: ineffective diets | -.078 (.037)* | -.041 (.037) | -.000 (.037) |
| Cause: access to poor foods | .318 (.037)** | .198 (.037)** | .225 (.037)** |
| alpha (1) | .657 (.421) | .363 (.423) | -.727 (.422) |
| alpha (2) | 1.89 (.425) | 1.58 (.424) | .348 (.421) |
| alpha (3) | 2.11 (.426) | 1.75 (.425) | .598 (.421) |
| alpha (4) | 3.58 (.437) | 3.19 (.433) | 2.28 (.432) |
| Number of observations | 711 | 706 | 704 |
| Likelihood ratio ($\chi_{df=26}$) | 238.39 | 152.91 | 174.83 |
| Pseudo R-squared | .119 | .080 | .089 |

Source: 2001 AATO. Parameters were estimated as an ordered probit model using Stata v7.0. Figures in parentheses are standard errors; marks following the parentheses label the following significance levels, ^ = $p < .10$, * = $p < .05$, ** = $p < .01$.

Table 7. Support for Civil Protections for the Obese

| | Government Should Do More to Protect Obese | Overweight Should Get Same Protections as Disabled |
|-------------------------------------|---|---|
| Liberal | .156 (.108) | .119 (.108) |
| Conservative | -.030 (.110) | -.015 (.109) |
| Democrat | .097 (.103) | .097 (.103) |
| Republican | -.188 (.116) [^] | .001 (.116) |
| Age | -.003 (.003) | .007 (.003)** |
| Education | -.100 (.043)* | -.136 (.043)** |
| Income | -.098 (.027)** | -.077 (.026)** |
| Race = African American | .274 (.119)* | .166 (.117)** |
| Ethnicity = Latino | .536 (.194)** | .870 (.197)** |
| Gender = female | -.048 (.098) | -.006 (.098) |
| Parent | .152 (.092) [^] | .029 (.091) |
| BMI 1st quartile | -.101 (.122) | -.093 (.122) |
| BMI 3rd quartile | .007 (.120) | -.057 (.120) |
| BMI 4th quartile | .113 (.127) | .166 (.127) |
| Exercise | .011 (.023) | -.006 (.023) |
| Eat out | .031 (.038) | .040 (.038) |
| Eat pre-pack foods | .006 (.034) | -.002 (.034) |
| Saliency (personal) | .073 (.050) | -.030 (.050) |
| Saliency (national) | .161 (.058)** | .209 (.058)** |
| Read labels/books | .049 (.025)* | -.008 (.025) |
| Government activism | -.057 (.037) | -.107 (.037)** |
| Other health regulations | .031 (.021) | .012 (.021) |
| Cause: born that way | .201 (.047)** | .173 (.047)** |
| Cause: lacking willpower | -.086 (.039)* | -.035 (.039) |
| Cause: ineffective diets | .036 (.037) | .089 (.037)* |
| Cause: access to poor foods | .063 (.036) [^] | .035 (.036) |
| alpha (1) | .673 (.421) | -.395 (.421) |
| alpha (2) | 2.28 (.427) | 1.12 (.421) |
| alpha (3) | 2.57 (.428) | 1.36 (.421) |
| alpha (4) | 4.14 (.440) | 2.92 (.432) |
| Number of observations | 710 | 709 |
| Likelihood ratio ($\chi_{df=24}$) | 154.57 | 131.12 |
| Pseudo R-squared | .083 | .071 |

Source: 2001 Americans Attitudes Toward Obesity. Parameters were estimated as an ordered probit model using Stata v7.0. Figures in parentheses are standard errors; marks following the parentheses label the following significance levels, [^] = $p < .10$, * = $p < .05$, ** = $p < .01$.

Table 8. Willingness to Pay \$50/Year to Address Diet and Exercise

| | Parks and Public Space for Exercise | Nutritious Lunches in Public Schools |
|-------------------------------------|--|---|
| Liberal | .177 (.131) | -.004 (.139) |
| Conservative | -.049 (.133) | -.176 (.136) |
| Democrat | .106 (.124) | .178 (.132) |
| Republican | .085 (.139) | -.062 (.143) |
| Age | -.012 (.003)** | -.011 (.003)** |
| Education | .010 (.052) | -.088 (.053)^ |
| Income | .063 (.032)* | -.000 (.033) |
| Race = African American | -.268 (.141)^ | .076 (.152) |
| Ethnicity = Latino | .002 (.232) | -.006 (.246) |
| Gender = female | -.212 (.117)^ | -.203 (.124)^ |
| Parent | .222 (.111)* | .494 (.119)** |
| BMI 1st quartile | -.193 (.147) | -.045 (.153) |
| BMI 3rd quartile | .033 (.145) | -.004 (.151) |
| BMI 4th quartile | .001 (.155) | -.075 (.162) |
| Exercise | .061 (.027)* | .030 (.028) |
| Eat out | .081 (.046)^ | .095 (.048)* |
| Eat pre-pack foods | -.051 (.041) | -.093 (.044)* |
| Saliency (personal) | .098 (.061) | .075 (.064) |
| Saliency (national) | .190 (.069)** | .216 (.071)** |
| Read labels/books | .025 (.029) | .067 (.031)* |
| Government activism | -.004 (.044) | .000 (.047) |
| Other health regulations | .069 (.025) | .072 (.026)** |
| Cause: born that way | -.025 (.056) | .005 (.060) |
| Cause: lacking willpower | -.052 (.047) | -.044 (.050) |
| Cause: ineffective diets | -.064 (.045) | -.088 (.047)^ |
| Cause: access to poor foods | .069 (.043) | .111 (.046)** |
| constant | 1.61 (.505) | 2.50 (.538) |
| Number of observations | 704 | 703 |
| Likelihood ratio ($\chi_{df=24}$) | 83.80 | 98.68 |
| Pseudo R-squared | .087 | .112 |

Source: 2001 Americans Attitudes Toward Obesity. Parameters were estimated as an ordered probit model using Stata v7.0. Figures in parentheses are standard errors; marks following the parentheses label the following significance levels, ^ = $p < .10$, * = $p < .05$, ** = $p < .01$.

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Appendix A – Wording of the Questions

Questions on Nutrition Information:

How often do you read the nutrition labels on the back of food? All of the time, most of the time, some of the time, rarely, or never?

1. All of the time
2. Most of the time
3. Some of the time
4. Rarely
5. Never

How often do you read books or magazines about eating right and healthy cooking? A lot, sometimes, rarely, or never?

1. A lot
2. Sometimes
3. Rarely
4. Never

Questions on Obesity Policy

Now we'd like to ask you some general questions about government policies and society. There are no right or wrong answers here. We'd just like to know your feelings about some political and social issues that people often talk about. To each of the following questions, could you tell us whether you agree, agree strongly, disagree, disagree strongly, or neither agree nor disagree?

... We should outlaw smoking in all public places like restaurants, airports, and stadiums.

... There's too much advertising for junk food and fast food on television that is aimed at children and the federal government should regulate these ads the way they do for cigarettes and alcohol.

... The government should impose snack taxes[@] on unhealthy food and use the proceeds to support the production and distribution of nutritious foods.

... The government should require all people on a motorcycle to wear helmets.

... We should eliminate fast food and soft drink concessions from our public schools.

... We should tax cigarettes to pay for all the public medical costs caused by smoking.

... Our governments' policies takes too much care of people and deprives them of too much individual responsibility.

... The government should play a more active role in protecting overweight people from discrimination.

... Overweight people should be subject to the same legal protections and benefits offered to people with other physical disabilities.

Support for taxes

We'd now like to ask you about a few government programs that people have proposed but would cost more in taxes. For each of the following items, would you be willing to pay \$50 more a year in taxes for

- to help purchase medicine for people with AIDS?
- the creation of more parks and other public spaces for exercise?
- better housing for low income people?
- more nutritious lunches in your local public schools?

1. Yes
2. No
3. Don't know.
9. Refused

Attributions for Obesity

We are now going to read a series of explanations people give about why Americans are overweight. In response to each statement, could you please tell us how much you agree with how much it explains the fact that people are overweight B agree strongly, agree, disagree strongly, disagree, neither agree nor disagree.

... There is too much unhealthy and fatty food in restaurants and supermarkets.

... Being overweight is something you inherit from your parents.

... Most diets are not very effective.

... Most people lack the willpower to diet or exercise regularly.

... Most overweight people eat whatever they want and don't view their weight as a problem.

... Most people are overweight because they are simply born that way.

Appendix B. Simulated Effects on Support for Obesity Policies

| | Regulate Food Ads for Kids | Tax on Snack Foods | Ban Fast Foods in Schools |
|-----------------------------------|-------------------------------|----------------------------|------------------------------|
| <i>Demographic profile</i> | | | |
| Age (18 to 65 yr olds) | 17.9% (8 to 28.5) | n.s. | 18.9% (8.6 to 29.4) |
| Education (below H.S. to college) | n.s. | -19.9% (-10.6 to -30.9) | 16.0% (2.8 to 29.9) |
| Income (<15K to >100K) | -22.1% (-10.4 to -34.4) | -11.2% (-0.5 to -22.9) | -10.9% (-0.1 to -22.8) |
| African Americans | n.s. | n.s. | -8.7% (0 to -18.2) |
| Latinos | n.s. | 14.6% (1.1 to 29.6) | n.s. |
| Females | 7.5% (0 to 15.3) | n.s. | 7.4% (0 to 14.3) |
| <i>Key explanatory factors</i> | | | |
| Issue salience (min-max) | n.s. | 20.1% (9.4 to 30.8) | n.s. |
| Issue attentiveness (min-max) | 19.0% (5.7 to 32.5) | n.s. | 13.9% (0 to 28.8) |
| Policy analog (min-max) | 39.1% (26.2 to 52.3) | 26.0% (15.7 to 35.9) | 33.3% (21.4 to 45.1) |
| Cause: access to foods (min-max) | 47.1% (35.6 to 58.8) | 26.1% (16 to 36.2) | 34.1% (22.1 to 45.4) |

Source: 2001 Americans Attitudes Toward Obesity. Cell entries represent the mean predicted effect for each demographic control and explanatory variable. Figures in the parentheses below these mean predicted effects are their corresponding 95 percent confidence intervals (see Tomz, Wittenberg, and King, 2000). “n.s.” refers to effects that are not statistically significant at the 95 percent confidence level.

Appendix (continued)

| | Civil Protections for the Obese | Fund Public Exercise Space | Fund Lunches in Schools |
|-----------------------------------|------------------------------------|-------------------------------|----------------------------|
| <i>Demographic profile</i> | | | |
| Age (18 to 65 yr olds) | n.s. | -20.6% (-9.2 to -32.1) | -17.1% (-6.7 to -27.3) |
| Education (below H.S. to college) | -15.6% (-2.9 to -28.8) | n.s. | n.s. |
| Income (<15K to >100K) | -22.7% (-10.8 to -35.3) | -14.9% (-0.5 to -22.9) | n.s. |
| African Americans | 10.9% (1.3 to 20.2) | n.s. | n.s. |
| Latinos | 21.1% (7.0 to 34.7) | n.s. | n.s. |
| Females | n.s. | -7.9% (0.1 to -16.6) | n.s. |
| <i>Key explanatory factors</i> | | | |
| Issue salience (min-max) | 18.7% (5.1 to 31.4) | 22.3% (6.4 to 37.4) | 23.6% (9.4 to 38.5) |
| Issue attentiveness (min-max) | 13.3% (0.5 to 26.2) | n.s. | 16.8% (1.6 to 31.2) |
| Policy analog (min-max) | n.s. | 21.7% (6.9 to 36.9) | 20.4% (6.1 to 34.0) |
| Cause: hereditary (min-max) | 31.3% (17.4 to 58.8) | n.s. | n.s. |
| Cause: motivation (min-max) | -13.6% (-2.0 to -25.2) | n.s. | n.s. |
| Cause: access to foods (min-max) | 10.2% (-0.6 to 21.3) | n.s. | 15.9% (3.1 to 28.4) |

Source: 2001 Americans Attitudes Toward Obesity. Cell entries represent the mean predicted effect for each demographic control and explanatory variable. Figures in the parentheses below these mean predicted effects are their corresponding 95 percent confidence intervals (see Tomz, Wittenberg, and King, 2000). “n.s.” refers to effects that are not statistically significant at the 95 percent confidence level.