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Americans' opinions about policies to reduce consumption of sugar-sweetened beverages

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ABSTRACT

Objective. Strategies to reduce consumption of sugar-sweetened beverages are a key component of public health promotion and obesity prevention, yet the introduction of many of these policies has been met with political controversy. The objective of this study is to assess the levels of and determinants of U.S. public support for policies to reduce consumption of sugar-sweetened beverages.

Methods. An Internet-based survey (N = 1319) was fielded with a nationally-representative sample of U.S. adults aged 18–64 during fall 2012.

Results. Respondents have the highest support for calorie labeling (65%) and removing drinks from schools (62%), and the lowest support for taxes (22%) or portion size restrictions (26%). Examining several determinants of support simultaneously, Democrats and those with negative views of soda companies are more likely to support these policies.

Conclusions. The results provide policymakers and advocates with insights about the political feasibility of policy approaches to address the prevalent consumption of sugar-sweetened beverages, as well as the role of attitudes toward soda companies as an independent predictor of the public's opinions.

Introduction

Research demonstrates a link between consumption of sugar-sweetened beverages (SSBs, drinks sweetened with sugar, corn syrup, or other caloric sweeteners) and poor health outcomes, including type 2 diabetes, obesity, and dental caries (Heller et al., 2001; Malik et al., 2013; Vartanian et al., 2007). Public health experts have consequently recommended policies to reduce SSB consumption, such as taxing them, changing their marketing or labeling, restricting sales over a certain size, or reducing their availability (IOM, 2012; Pomeranz, 2012). However, these policies have been met with substantial political controversy in the United States (Dorfman, 2013).

While excise taxes on SSBs have been proposed in many U.S. jurisdictions in recent years, none have been enacted (Rudd, 2013a), although such a tax (one peso per liter) was implemented in Mexico as of January 1, 2014. Organizations linked to the American Beverage Association (the primary trade association for beverage companies) have been instrumental in building coalitions to oppose the tax in the U.S., with efforts financed at levels far beyond the resources spent by health advocates (Mejia et al., 2013). Similarly, New York City's approach to restrict portion sizes for SSBs to 16 oz or fewer was overturned due to concerns about its perceived arbitrariness and impact on minority-owned businesses; this debate also featured considerable beverage company involvement (Fairchild, 2013; Shelley et al., 2014).

Other strategies to reduce consumption of SSBs include removing them from school environments, adding front-of-package nutrition labels, and imposing regulations to reduce their marketing to children, all strategies recommended by the Institute of Medicine (IOM, 2012; Wartella et al., 2010), but with varying degrees of implementation. Until federal standards on foods sold outside of the federal meal program are implemented (expected during the 2014–2015 school year) (USDA, 2013), the availability of SSBs in vending machines, school stores, and a la carte lines in cafeterias will continue to vary by state and school district (Chriqui et al., 2014). There is no mandatory federal policy concerning front-of-package labeling, although companies are voluntarily implementing such labels on SSBs and other products, with questionable effectiveness (Brownell and Koplan, 2011). Regulations to reduce unhealthy food and beverage marketing to children have been considered for many years in response to evidence of harmful effects (Harris et al., 2009). While the Federal Trade Commission's Interagency Work Group on Food Marketed to Children issued voluntary principles in 2011, the draft guidelines were never finalized due to negative responses from the food industry and Congress, leaving individual television networks and companies to rely on self-regulation over what

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constitutes an appropriate mix of healthy vs. unhealthy advertising (Dietz, 2013).

The lack of strong federal or state government action on these policy options indicates that their political feasibility is uncertain. Public opinion is one important factor affecting political feasibility. Indeed, when such policies appear on ballot initiatives (as did the soda tax in two cities in California in 2012), majority public support is required for passage. Polls can provide insight into levels of public support, but the determinants of support are also meaningful. Several types of factors contribute to citizens' opinions on policies, including socio-demographic factors, political affiliations, and attitudes about the groups in society perceived to benefit or be harmed by the policy (Kinder and Sanders, 1996; Lau and Heldman, 2009).

With regard to the latter, Americans' attitudes toward beverage companies likely contribute to policy support. When the media paint a picture of companies as unsympathetic and deserving of blame, theory suggests that the public will have more punitive attitudes, including greater support for government regulation of the companies (Kersh and Morone, 2002; Schneider and Ingram, 1993). Indeed, U.S. support for tobacco control policies grew as public understanding shifted from a dominant view of tobacco use as a free choice to the notion of tobacco as an addictive product aggressively marketed and manipulated by the tobacco industry (Nathanson, 1999; Pacheco, 2011). This sort of industry-centric framing of sugary drinks is underway: a commentary on the New York City portion size restrictions framed the policy as "not about attacking individual choice but rather about limiting corporate damage… The target is not the individual: it is the beverage industry, corporate America" (Fairchild, 2013, p. 1766).

No previous research has examined whether public attitudes toward beverage companies contribute to support for policies to reduce SSB consumption above and beyond other determinants of policy opinion. In fact, no previous research has produced evidence on the levels of Americans' support for multiple policy approaches aimed at lowering SSB consumption, despite the strong focus on SSBs in the public health and obesity prevention communities. This research fills these gaps using data from a 2012 national public opinion survey.

Methods

Data

Participants were recruited from a panel maintained by the GfK survey firm (formerly Knowledge Networks). Panelists are recruited through random-digit dialing and address-based sampling, covering 97% of American households. Respondents without Internet access or hardware are provided with it, and the panel includes households with listed and unlisted numbers and those with only cell phones. Panelists aged 18 to 64 were invited to participate in a survey between October 5 and December 4, 2012. Of those contacted, 65.3% completed the survey. The GfK panel used probability sampling at the first stage of panel recruitment, and the panel recruitment rate was 16.6%. After agreeing to participate, panelists were randomized to treatment arms providing information about SSB taxes or a no-exposure control group which received no such information (see Niederdeppe et al., under review for an analysis employing the randomized experiment). For this study, data from the control group only (N = 1319) were used. See Appendix A for sample characteristics.

Measures

The main dependent variables are participants' support for SSB-related policies (described to respondents as "sugary drinks"), including: (1) taxing sugary drinks; (2) prohibiting the sale of sugary drinks larger than 16 oz; (3) prohibiting advertising of sugary drinks on kids' TV; (4) requiring TV stations to provide free air time for public service announcements on healthy eating and exercise equal to the time used advertising sugary drinks; (5) prohibiting schools from selling sugary drinks on school property; and (6) including large and prominently placed calorie labels on sugary drinks (presented to respondents in a random order). Before answering these items, respondents read this statement: "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?"

The main independent variables are respondents' demographic characteristics (obtained from GfK panelist data), their political predispositions, and attitudes toward beverage companies. We also included a battery of socio-demographic characteristics: age (18–29, 30–49, 50–64), gender, highest level of education completed (high school or less, some college, or a college degree or higher), household income, and race (white, non-white). Given the wording of the policy items as related to "deal[ing] with the issue of obesity in children", we also measured two characteristics that might have been made salient by this framing: respondents' body mass index (BMI; calculated from self-reported weight and height) and whether they are a parent of a child under 18 years old.

Political party identification was measured by asking respondents "Generally speaking, do you think of yourself as a…" and response options included "Republican", "Democrat", "Independent", "Another Party" and "No preference." Indicator variables for Republican, Democrat, and Independent were constructed by excluding those who said "Another Party" (n = 29, 2.2%) and including those who said "No preference" with Independents. Finally, we asked respondents to report on a seven-point scale how they felt about soda companies (as well as fast food and cigarette companies) from "very unfavorable" to "very favorable."

Analyses

First, we calculated the distribution of support for the six policy items for the full sample and by political party identification. Next, we compared respondents' favorability ratings of soda companies with those of fast food and tobacco companies. Finally, we estimated a series of ordinary least squares (OLS) regression models, regressing policy support on socio-demographic characteristics, political affiliation, and the measure of soda company favorability. OLS is an appropriate estimation technique for 7-point Likert scales when only the poles are labeled (Norman, 2010). While results were consistent when estimated using ordered logit regression, we present OLS results to estimate the variance explained by each class of predictor variables (R-squared). Since 151 cases had missing BMI data, regression models were estimated both using indicator variables for missing BMI and using multiple imputation (using survey weights, modeling BMI with a normal distribution, and using 20 imputations); regression coefficients were nearly identical, so non-imputed models are presented. To interpret the associations between favorability ratings and policy support, predicted probabilities of policy support (from logit regression models) were calculated using "margins" commands in Stata 11.0. All analyses incorporated survey weights to adjust the sample to be nationally representative by accounting for panel selection deviations, panel non-response and attrition, and survey-specific non-response.

Results

Table 1 displays public support for the six policies. Support was lowest for SSB taxes (21.6%) and portion size restrictions (25.5%), and highest for requiring large and prominently placed calorie labels on SSBs (65.0%) and restricting the sale of SSBs on school property (61.5%). Support for the two policies addressing child-focused marketing of SSBs hovered around 50%. The two least popular policies also generated the strongest opposition, with about one-quarter of respondents indicating they "strongly opposed" SSB taxes and portion size restrictions. Fig. 1 shows statistically significant differences in support between Democrats and Republicans for 5 of the 6 policies. Only for calorie labeling did Republicans and Democrats have similar levels of support, at 60.9% and 69.9%, respectively (p = 0.06).

Table 2 shows unadjusted favorability ratings toward soda companies in comparison with fast food and cigarette companies. Just under one-third reported a favorable attitude toward soda companies (30.0%) and fast food companies (29.4%), compared with only 6.4% reporting favorable attitudes toward cigarette companies. A far larger share of respondents viewed cigarette companies "very unfavorably" (46.9%) compared with soda or fast food companies.

Table 3 displays relationships between respondent characteristics and their policy support. Two variables consistently predict support for each of the six policies: political party identification and favorable perceptions of soda companies. Republicans supported all policies less