

BRIEF REPORT

Where There's a *Will*: Can Highlighting Future Youth-Targeted Marketing Increase Support for Soda Taxes?

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Objective: Amid concern about high rates of obesity and related diseases, the marketing of nutritionally poor foods to young people by the food industry has come under heavy criticism by public health advocates, who cite decades of youth-targeted marketing in arguing for reforms. In light of recent evidence that the same event evokes stronger emotional reactions when it occurs in the future versus the past, highlighting youth-targeted marketing that has yet to occur may evoke stronger reactions to such practices, and perhaps, greater support for related health policy initiatives. **Method:** In a between-subjects experiment, Web participants ($N = 285$) read that a major soda company had already launched (past condition) or was planning to launch (future condition) an advertising campaign targeting children. Measures included support for a soda tax and affective responses to the company's actions. **Results:** Greater support for the soda tax was observed in the future condition than in the past condition. Moreover, participants in the future condition reported heightened negative emotions about the company's actions, which mediated the observed effect on soda tax support. **Conclusion:** The same action undertaken by the food industry (here, marketing soda to children) may evoke stronger negative emotions and greater support for a health policy initiative when it is framed prospectively rather than retrospectively.

Keywords: food marketing, soda tax, childhood obesity, past and future, sugar-sweetened beverages

Public health experts widely acknowledge that the consumption of sugar-sweetened beverages (SSBs; e.g., nondiet sodas, fruit and energy drinks containing refined sugars such as high-fructose corn syrup, etc.) is linked to childhood obesity (Ludwig, Peterson, & Gortmaker, 2001), raising concerns about the food industry's practice of marketing these products to youth (Harris, Pomeranz, Lobstein, & Brownell, 2009; Nestle, 2006). Research suggests that such advertising is indeed linked to children's increased soda consumption and obesity rates in the United States,¹ prompting increased scrutiny of the industry's marketing practices (Brownell & Frieden, 2009). At the same time, public health advocates have proposed numerous policy initiatives aimed at reducing soda consumption among the public at large (e.g., Mayor Bloomberg's 16-ounce "portion cap" in New York City restaurants) and children specifically (e.g., banning soda from elementary schools). Among the most widely debated proposals are taxes on SSBs, which research suggests could lower consumption and help ameliorate obesity (Sturm, Powell, Chriqui, & Chaloupka, 2010; Wang, Coxson, Shen, Goldman, & Bibbins-Domingo, 2012). Despite their popularity among health professionals, such taxes ap-

pear to be less popular among the American public (Harris Interactive, 2013; Marlow, 2013) and have failed to pass in over 30 jurisdictions (Dorfman, 2013), perhaps in part reflecting the wide disagreement over where responsibility for the obesity crisis ultimately rests (e.g., unhealthy situational factors vs. personal responsibility; Barry, Gollust, & Niederdeppe, 2012).

Given the significant consequences of childhood obesity for individuals and society, it is important to better understand the factors that affect public support for related health-policy initiatives. In monitoring food industry practices and arguing for reforms, public health advocates commonly inform the public about youth-targeted marketing that has already occurred (i.e., in the past; e.g., Schwartz & Ustjanaukas, 2012). Presumably, highlighting past instances of seemingly exploitative practices would intuitively feel more persuasive, in part because the past is more certain than the future (e.g., Lazarus, 1999). However, recent evidence suggests that highlighting future instances might be more persuasive. Studies find that future events evoke stronger emotional reactions than equivalent past events (Caruso, 2010). As Caruso (2010) describes, these asymmetric emotional responses may be rooted in the different cognitive appraisals that accompany retrospective versus prospective simulation. For instance, in addition to being less certain (which reduces imaginative constraints

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¹ According to the Centers for Disease Control and Prevention (2013), nearly one fifth (i.e., 18%) of U.S. children between the ages of 6 and 11 were clinically obese in 2010, up from 7% in 1980.

and allows for more extreme reactions), the future is also more controllable than the past, which may promote stronger emotional responses and other action tendencies in line with functional theories of emotion (e.g., Frijda, 1987; Schwarz, 2012; Smith & Ellsworth, 1985).

Although informing the public about youth-targeted marketing practices may help build support for taxing SSBs, scant research has addressed this possibility directly. In light of evidence that people respond more strongly to events occurring in the future than in the past, the effect of this information on public attitudes may depend on its temporal location: whether the ad campaign has already occurred (in the past) or has yet to occur (in the future). Specifically, because people are generally expected to react negatively after learning that a company markets nutritionally poor food to children, this study investigated whether a soda company's youth-targeted advertising campaign would elicit stronger negative emotions and greater support for a soda tax when it was described as occurring in the future as compared with the past. In doing so, the work aims to help illuminate conditions that promote support for soda taxes and to explore implications of past/future message framing for policy preferences.

Method

Participants

Web participants ($N = 285$) were recruited via Amazon.com's crowd-sourcing worksite, Mechanical Turk, to complete an "opinion survey" in exchange for a nominal fee (\$0.25). Participants' mean age was 34.8 years ($SD = 12.9$), about 57% ($n = 163$) were female, and the majority (88%) reported at least some college education (49% had graduated college). Given the topic of study, self-reported height, weight, and political variables were also collected. Body-mass index (BMI) was calculated based on self-reported height and weight, and participants were distributed among the four BMI categories used by the U.S. government as follows: underweight ($BMI < 18.5$; 3.2%), normal weight ($18.5 \leq BMI < 25.0$; 45.3%), overweight ($25.0 \leq BMI < 30.0$; 22.7%), and obese ($BMI \geq 30$; 22.8%). Politically, the sample leaned liberal ($M = 3.60$, $SD = 1.63$; 1 = *very liberal* to 7 = *very conservative*) and political party affiliation was distributed as follows: 18% Republican, 34% Democrat, 40% Independent, 8% something else.

Materials and Procedure

Past versus future framing. Participants were asked to read a news article reporting on a youth-targeted marketing campaign by a major soda brand, which was adapted from a Web page monitoring food industry marketing practices hosted by the Yale Rudd Center for Food Policy and Obesity (<http://www.yaleruddcenter.org>). Specifically, the article reported on an ostensible TV advertising campaign by the Sprite brand targeting children, which was said to involve a partnership with a music star (the hip-hop artist Drake) and a tie-in with the National Basketball Association. The article went on to describe the concerns of public health advocates about the ill effects of the industry's "intensive and aggressive food marketing and advertising practices." Depending on their randomly assigned condition, the advertising campaign was

framed as having occurred in the past (e.g., the headline read, "Sprite launched a new ad campaign targeting kids" either "yesterday" or "last month") or as occurring in the future ("Sprite will launch a new ad campaign targeting kids" either "tomorrow" or "next month").^{2,3} Besides this temporal framing, the articles were identical. The full text of the news article appears below (alternative wordings in parentheses; temporally distal version depicted):

Sprite Launched (Will Launch) a New Ad Campaign Targeting Kids Last Month (Next Month)

Sprite launched (will launch) a new campaign last month (next month) that is encountering opposition from those who are concerned that kids are already drinking too much soda. The new TV advertising campaign has been (will be) timed to coincide with a busy week in NBA basketball. Sprite has also launched (will also launch) a campaign to contribute funds to neighborhood parks and basketball courts. As a Sprite's representative said, "Basketball . . . is a way to get teens around the world to express their passion and show off their moves." Another representative said that Sprite's park campaign, and its collaboration with hip-hop artist Drake, has also helped to engage teens.

Experts, however, have expressed concern. A research group at Yale School of Public Health argues that U.S. children and adolescents have increasingly been targeted with intensive and aggressive food marketing and advertising practices. While multiple factors influence the eating behaviors and food choices of young people, many health experts believe that one potent force is food advertising that promotes increased soda consumption. Last month (Next month), it appears that Sprite contributed (will contribute) to this potent force with its new ad campaign.

Measures. After reading the article, participants completed the following policy support and emotion response measures. The key dependent measure, support for a soda tax, was solicited with the following question adapted from previous national surveys (Rivard, Smith, McCann, & Hyland, 2012): "Do you support or oppose a tax on regular (i.e., nondiet) soda and soft drinks?" (1 = *oppose strongly*, 2 = *oppose somewhat*, 3 = *support somewhat*, 4 = *support strongly*). The tax support question was counterbalanced with a question assessing attributions of blame toward the company for its actions ("Sprite is to blame for its new campaign," from 1 = *totally disagree* to 7 = *totally agree*), which enabled us to test whether the article was perceived as implicating the company and whether the effect on tax support was bolstered when the blame judgment preceded it.⁴ Participants then completed the emotion measures, by rating how *angry*, *upset*, *bad*, and *disgusted* they felt about the company's actions on separate scales (0 = *not at all* to 5 = *very*), which were averaged to create a single negative emotion index (Cronbach's $\alpha = .94$, $M = 1.06$, $SD = 1.28$). Participants then reported on the individual difference items mentioned above and were debriefed. Importantly, partic-

² Suggesting that our randomization was successful, the experimental groups did not differ significantly across any of the demographic groups we collected ($ps > .05$).

³ Varying temporal distance ("yesterday" vs. "last month"; "tomorrow" vs. "next month") allowed us to explore whether psychological distance influenced the outcomes of interest (e.g., Eyal, Liberman, & Trope, 2008). No such differences emerged, and so we collapsed across this variable in the analysis.

⁴ Overall, participants attributed above-average levels of blame to the company relative to the scale midpoint ($M = 5.08$, $SD = 1.79$), $t(284) = 10.15$, $p < .001$.

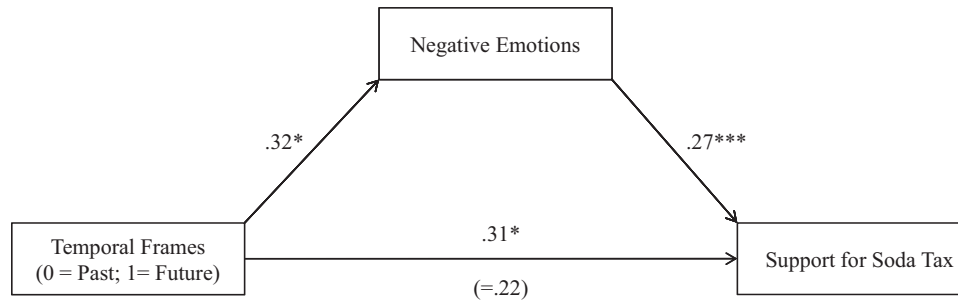


Figure 1. Model depicting the mediating role of negative emotions on the relationship between temporal framing (retrospective vs. prospective) and support for soda tax. Coefficients are unstandardized regression coefficients. The coefficient in parentheses is the direct relationship between the independent variable (temporal frames) and the dependent variable (support for soda tax), controlling for the proposed mediator (composite measure of negative emotions). * $p < .05$. *** $p < .001$.

ipants were informed that the news story they read was fictional and was constructed for research purposes. The experimental procedure was approved by the Cornell University Institutional Review Board and lasted approximately 15 minutes on average.

Results

Recall that we expected to observe greater support for a soda tax when the soda company's youth-targeted marketing campaign was framed prospectively rather than retrospectively. Consistent with this prediction, participants in the future condition expressed significantly greater support for a soda tax ($M = 2.33$, $SD = 1.05$) than did participants in the past condition ($M = 2.03$, $SD = 1.07$), $t(283) = 2.44$, $p = .02$, $d = 0.29$. Likewise, participants in the future condition reported significantly greater negative emotion toward the company ($M = 1.22$, $SD = 1.38$) than did those in the past condition ($M = 0.90$, $SD = 1.16$), $t(283) = 2.10$, $p = .04$, $d = 0.25$. To test whether heightened negative emotion mediated the effect of temporal condition on tax support, we employed a bootstrapping procedure with 5,000 resamples (Hayes, 2013). Results revealed that negative emotion was significantly associated with increased support for soda taxes, $b = .27$, $t(282) = 5.74$, $p < .001$, and that the original effect of temporal condition (i.e., future vs. past) fell to nonsignificance when accounting for this mediation pathway, $t = 1.83$, $p = .07$ (95% bias-corrected bootstrap CI for the indirect effect: 95% CI [.01, .18]; see Figure 1).

Finally, although participants attributed more blame to the company in the future condition ($M = 5.24$, $SD = 1.73$) than in the past condition ($M = 4.92$, $SD = 1.84$), this difference was not significant, $t(283) = 1.53$, $p = .13$. In addition, no effects of question order were observed. Although we observed some main effects of individual difference variables on the tax and emotion measures—for example, conservatism negatively predicted support for soda tax ($r = -.30$, $p < .001$)—the effect of temporal framing did not vary by age, gender, education, political orientation, or BMI ($ps > .20$).⁵

Discussion

When informing the general public about youth-targeted marketing by soda companies and its implications for childhood obesity, public health advocates commonly point to advertising campaigns that have already occurred in attempting to build public support for reforms.

However, recent psychological research suggests that, when possible, experts should highlight the industry's *future* (rather than past) advertising practices in their messages to achieve greater impact. Indeed, the present study found that reading about the same youth-targeted marketing campaign engendered greater support for a soda tax when the campaign was described as occurring in the future as opposed to the past. Moreover, participants' negative emotions toward the company's actions were found to mediate this effect, suggesting that asymmetric emotional responses to future versus past events (Van Boven & Ashworth, 2007) may have implications for meaningful policy outcomes—here, support for taxing a sugar-sweetened beverage (specifically, soda).

This study is not without limitations. First, our convenience sample was not representative of the American public, which may limit the generalizability of these findings. Given the potential national-level policy implications of this work, future research may explore the effect of the temporal framing of youth-targeted advertising with a representative sample of the voting public. It should be noted, however, that this concern is mitigated somewhat by the randomized experimental nature of the current research (as opposed to a descriptive survey), which offers strong internal validity and the ability to draw causal inferences (see Druckman & Lupia, 2012, for a relevant discussion). Second, although the observed temporal framing effects were significant, effect sizes were modest (Cohen's $ds < 0.30$), and negative emotion ratings as well as soda tax support remained low in absolute terms across conditions (below the scale midpoint, on average). We would note, however, that the effects were produced by a rather subtle experimental manipulation and that even modest effect sizes may be practically important in the broader context of public opinion on national policy issues.⁶ Third, although we observed elevated attributions of blame to the company in the future compared

⁵ The other significant correlations with outcome variables involved BMI and sex (coded 0 = male, 1 = female): BMI with negative emotions and tax support ($r_s = -.17$, $ps < .01$); sex with negative emotions ($r = .24$, $p < .001$) and tax support ($r = .15$, $p = .02$).

⁶ We note another potential explanation of the low negative emotion and tax support ratings. In the mock news article, the soda company was depicted as engaging in an act of corporate social responsibility (i.e., donating money to help fund neighborhood parks and basketball courts), which may have evoked some positive feelings toward the brand (e.g., Klein & Dawar, 2004).

with the past condition, this difference was not significant. This may be due to the limited variance engendered by this question, which assessed blame for the marketing campaign as opposed to childhood obesity more generally, thus making it difficult for participants to blame anyone besides the company itself. More generally, the present work may have inadvertently overlooked some potentially relevant individual difference variables, such as personal soda consumption, parenting status, and concerns about healthy eating, to name a few, which future research may incorporate to help uncover important boundary conditions for these effects. In addition, given that public health advocates are unlikely to have (or rarely have) detailed advanced knowledge of a given company's marketing plans, future research may test whether similar framing effects emerge when a message focuses on the future actions of the soda industry in general rather than on the specific actions of a specific brand.

Limitations aside, the present results offer important insights for both theory and practice. Theoretically, they suggest that in addition to its influence on emotional responses to events themselves and to related moral judgments (Caruso, 2010; Van Boven & Ashworth, 2007), future versus past temporal framing can affect a timely and politically contentious policy preference—here, support for soda taxes. The correlation between negative emotions about the soda company's actions and support for a soda tax observed here may also be worth noting as it suggests that affective states play a role in mobilizing social actions (Peters & Slovic, 2000). From a practical standpoint, they suggest that attempts to recruit public opinion in favor of obesity-reducing initiatives by implicating youth-targeted marketing in the nation's health crises may enjoy greater success simply by highlighting practices that will occur.

Finally, although there is a growing recognition of the value of judgment and decision-making research in the development of behavior-change interventions and policy making (e.g., Shafir, 2012; Thaler & Sunstein, 2008), informed message design based on the psychology of human judgment has seen fairly limited application in public health messaging. The current work contributes to building a more systematic, research-grounded knowledge base for more effective public health message design.

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