

The Polarizing Effect of News Media Messages About the Social Determinants of Health

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Framing health problems in terms of the social determinants of health aims to shift policy attention to nonmedical strategies to improve population health, yet little is known about how the public responds to these messages. We conducted an experiment to test the effect of a news article describing the social determinants of type 2 diabetes on the public's support for diabetes prevention strategies. We found that exposure to the social determinants message led to a divergence between Republicans' and Democrats' opinions, relative to their opinions after viewing an article with no message about the causes of diabetes. These results signify that increasing public awareness of the social determinants of health may not uniformly increase public support for policy action. (*Am J Public Health*. 2009;99:2160–2167. doi:10.2105/AJPH.2009.161414)

Public health advocates have been increasingly promoting the importance of the social determinants of health—the nonmedical, social, economic, political, or environmental factors that influence the distribution of health and illness in the population. Some experts argue that strategically framing health problems in terms of their social determinants could help to turn the public's and policymakers' attention to policies that might effectively improve population health and ameliorate health disparities.^{1–3} For instance, the World Health Organization Commission on the Social Determinants of Health recently recommended that governments actively incorporate social determinants into their political agendas, making investments in raising public awareness about the impact of social determinants on population health.⁴ In the United States, experts suggest that advocates use the media strategically to educate the public and policymakers about determinants of health other than medical care and health behaviors.^{5–7} The implicit assumption of these efforts is that public and political attention to the social determinants of health will lead to increased support for policy interventions to improve public health. However, the claim behind this call to action has received little empirical scrutiny.⁸

Substantial theoretical and empirical evidence supports the conventional wisdom that when the public believes that a health problem results from external factors (i.e., from social or environmental determinants) instead of from

individuals' own behaviors or shortcomings, they will be more likely to support social or governmental attempts to address the problem.^{9–13} Yet, political science research suggests 2 reasons to challenge this assumption. First, if policymakers and the media emphasize a connection between low socioeconomic status and illness, they will draw attention to a particular social group: those living in poverty. Research indicates that attitudes about social groups are powerful influences on public opinion toward health and social policy. When particular populations are highlighted in the media, people draw upon their attitudes and even prejudices toward these populations when making judgments about policies relevant to the problem at hand.^{14,15} Second, empirical research demonstrates that Americans systematically differ in their underlying beliefs about the major causes of poverty, with Republicans less likely to acknowledge the role of social structural factors in influencing socioeconomic status than Democrats and believing more strongly in personal responsibility for social status.^{16,17} As a result, political partisans may respond differently to messages about the social determinants of health because of their differing underlying attitudes about those in poverty and the role of personal responsibility.

Previous research has demonstrated associations between the public's perceptions of the causes of illness and their policy opinions. For instance, Oliver and Lee¹¹ and Barry et al.¹⁸

showed that Americans who believed that obesity is caused by an obesity-promoting environment were more likely to support public health policies that target obesity's environmental determinants (such as regulating school concessions or food advertising). Reutter et al.¹⁹ found that Canadians who believed in structural explanations for health inequalities were more supportive of social policies to address poverty than were those who endorsed behavioral or medical explanations. However, each of these studies, by relying on cross-sectional survey evidence, can only demonstrate correlations, not causation. No previous research to our knowledge has investigated the causal impact of messages about the determinants of health on public attitudes toward specific policies. Yet, given the increasing attention to the health policy implications of social determinants, systematic empirical assessment of this relationship is warranted.

We designed an Internet-based experimental study to assess the impact of news media messages about the social determinants of health on public health policy opinions. For this study, we chose type 2 diabetes as an exemplar of the social determinants of health. Type 2 diabetes is the sixth-leading cause of mortality in the United States, and racial, ethnic, and class-related disparities abound in its incidence and prevalence. Although type 2 diabetes is commonly associated with health behaviors (in particular, poor diet, lack of physical activity, and concomitant obesity), these risk factors occur within a context of social and economic influences, including neighborhood environments (e.g., food marketing, price of fruits and vegetables, school concessions) that facilitate unhealthy diets and social stressors that can directly affect insulin resistance.^{20,21} In addition, scientists have recently identified and replicated numerous genetic variants that increase susceptibility to type 2 diabetes.²² When selecting a particular cause of diabetes to feature in a news article, that is, when “framing” the causes of diabetes for the public, journalists might choose

from among a genetic predisposition frame, a behavioral choices or lifestyles frame, a social determinants frame, or some combination.^{23–25} This selection of a causal frame could affect public support for particular strategies to address diabetes (i.e., regulating food marketing or intervening in schools), because public perceptions of the causes of diabetes would affect what level and type of intervention they view as most effective or appropriate.²⁶

The goal of our study therefore was to assess the impact of news media framing of the determinants of health—using type 2 diabetes as the example—on public health policy opinions by comparing a social determinants explanation with one that identified genetic predisposition, behavioral choices, or provided no causal explanation. By randomly distributing which hypothetical news article a study participant viewed online, we were able to identify the impact of these causal explanations on participants' beliefs about the social determinants of diabetes as well as their opinions about policies to prevent diabetes. Given potential differences in predisposing attitudes about the social determinants of health between political partisans, we also assessed whether the impact of the news messages depended on the political orientation of the viewer.

METHODS

The study sample consisted of members of a panel maintained by Survey Sampling International (SSI) of more than 1 million ethnically diverse US adults who agreed to take Internet-based surveys for research purposes. Panel members are recruited via random-digit dialing, banner ads, and other opt-in techniques. These study participants are not representative of US adults as a whole. SSI sent e-mail invitations to a stratified random sample of panel members with the goal of achieving a diverse sample meeting the following quotas: 60% White, 25% Black, 12% Hispanic, and 3% Asian. Within each racial or ethnic stratum, SSI drew 3 age-group samples of 37.5% aged 18 to 39 years, 37.5% aged 40 to 59 years, and 25% aged 60 years or older, to approximate the US age distribution. SSI adjusted the number of e-mail invitations to participate in the study in each demographic subsample until

the quotas were achieved. A total of 2838 persons were enrolled in the study, and 2490 (87.7%) completed the relevant diabetes section of the survey in late April 2007. The survey was anonymous, and SSI handled all correspondence with the participants. The participants indicated their consent to participate by clicking on the link to begin the online survey.

The sample of study participants was diverse across a variety of relevant characteristics. The sample was 50.9% female, 58.6% non-Hispanic White, 22.9% non-Hispanic Black, and 18.5% of some other race or ethnicity. Sixty-seven percent of the sample had completed less than a college education, and 19% had completed only high school or less. Twenty-six percent of the sample reported annual household incomes under \$30 000. Particularly relevant to this study, 35% reported they were Democrats (strong or moderate), 41.6% reported they were Independents (including those Independents who leaned toward one of the parties), and 23.3% reported they were Republicans (strong or moderate). Finally, 14.1% of the sample reported that they had ever been diagnosed with diabetes, and 64.4% reported that close family or friends had diabetes.

Design

Every study participant was randomly assigned to view 1 of 4 hypothetical news articles that appeared at the start of the Internet-based survey. The articles, which were designed to resemble an article from an online news source and were modeled after existing news stories and a press release from the American Diabetes Association, described lobbying activities in Washington, the increasing prevalence of type 2 diabetes, and its medical consequences (for the full text of the article and a screen shot, see the Appendix, available as a supplement to the online version of this article at <http://www.ajph.org>). Articles were identical except for which 1 of 4 causal frames (genetic predisposition, behavioral choices, social determinants, or no causal language) was embedded in the text. The text of the causal frames is shown in Table 1. Images accompanying the article were also randomly assigned, but the present analysis pooled across the photo treatments, because they did not

significantly influence the participants' attitudes. The total sample size in each treatment group was as follows: genetic predisposition (n=615), behavioral choices (n=592), social determinants (n=695), and no causal explanation (n=588).

Measures

The key independent variables were the randomly assigned causal frames (genetic predisposition, behavioral choices, and social determinants), and the no-causal-explanation condition served as the reference group. Randomization ensured that any observed differences across the groups could be attributed to the experimental manipulation. We compared each of the 4 groups across sociodemographic and political characteristics (race/ethnicity, age, income, educational attainment, political party identification, ideological identification [a measure of how liberal or conservative the participant reports to be], diabetes prevalence, and family or friends with diabetes) and identified no significant ($P<.05$) differences.

To assess whether the causal frames influenced the participants' causal understanding of diabetes, we asked the participants the extent to which they agreed, ranging from 1=strongly disagree to 5=strongly agree, with the following statements: "People with diabetes got their illness because of the social and economic conditions in which they live" and "People with diabetes got their illness because of the genes they inherited from their parents."

The main outcome of interest was the participants' opinions about 7 nonmedical governmental policies that target the environmental, neighborhood, or economic determinants of diabetes. We asked participants whether they agreed, ranging from 1=strongly disagree to 5=strongly agree, with the following policies: public school bans on fast food concessions, government incentives for grocery stores to establish locations in areas where there are currently few, *trans* fats bans, government investment in parks, regulating junk food advertisements, imposing taxes on junk food, and subsidizing the costs of healthy food. These items were adapted from recent scholarly articles that presented policy options targeting the social determinants of obesity or diabetes.^{11,26–28}

TABLE 1—Causal Frames and Photo Captions in Experimental News Media Article About Type 2 Diabetes: United States, 2007

	Genetic Predisposition Frame	Behavior/Lifestyle Choices Frame	Social Determinants Frame
Causal Claim #1	Researchers believe that certain genes increase the chances of getting type 2 diabetes.	Researchers believe that the way people behave increases their chances of getting type 2 diabetes.	Researchers believe that the conditions in the neighborhoods where people live increase their chances of getting type 2 diabetes. Rates of diabetes are highest among people living in poor neighborhoods.
Causal Claim #2	Diabetes expert Dr. Howard Smith says, "People who have a specific genetic variation in the TCF7L2 gene on chromosome 10 are much more likely to develop diabetes than people who do not have this variation." Several other scientific studies have supported the idea that genes are associated with the development of diabetes.	Diabetes expert Dr. Howard Smith says, "People who choose to eat too much food that is high in calories and who choose not to exercise are much more likely to develop diabetes." Several other scientific studies have supported the idea that lifestyle choices are associated with the development of diabetes.	Diabetes expert Dr. Howard Smith says, "People who live in neighborhoods where the majority of stores sell food with high calories and low nutritional value, such as fast food restaurants or convenience stores, are much more likely to develop diabetes." Several other scientific studies have supported the idea that people's neighborhoods, including not having convenient or safe places to exercise, and being exposed to many advertisements selling high-calorie foods, are associated with the development of diabetes.
Caption (for photo)	Shirley Jackson, 42, has type 2 diabetes. She recently found out that she carries the genetic variant that makes her more susceptible to diabetes. "Since both of my parents had diabetes," she said, "I wasn't surprised when I got it too."	Shirley Jackson, 42, has type 2 diabetes. She said, "What can I say, I just love to eat junk food and I hate to exercise. I guess it finally caught up to me."	Shirley Jackson, 42, has type 2 diabetes. She said, "It's really hard for me to eat well. Where I live, there are no grocery stores with any fresh vegetables. When I walk down the street, all I see are fast food restaurants."

Note. These sentences appeared within a hypothetical web-based news article of approximately 350 words entitled "People with Diabetes Lobby Congress This Week." Each article described the activities of a group from the American Diabetes Association lobbying Congress for attention to type 2 diabetes and described basic epidemiologic facts about diabetes and its medical consequences. The control condition was the article stripped of any of the causal claims and with a neutral caption.

We created a summary measure of the participants' support for these nonmedical public health policies by averaging across participants' responses to the 7 items and deleting any cases in which data were missing for any of the 7 items (mean=3.3; SD=0.9). The distribution of this summary measure was approximately normal, and the reliability of the scale was high (Cronbach $\alpha=0.82$), suggesting consistency in the participants' opinions about these public health policies.

We also measured a variety of other participant characteristics (all via self-report), including race (non-Hispanic White, Black/African American, and other racial/ethnic identities), political party identification (a 7-point scale ranging from strong Democrat to strong Republican), ideological self-identification (a 7-point scale ranging from very liberal to very conservative), age, educational attainment, income, participant's diabetes status, and whether the

participant's family members or friends have diabetes.

Analysis

The first step in the analysis was to test whether the experimental treatment influenced the participants' beliefs about the social determinants of diabetes. We consider this a manipulation check to assess whether people exposed to the article describing social determinants were, in fact, more likely to agree that social factors cause diabetes. We compared the mean proportions of people who agreed with social determinant explanations across the 4 treatment groups. Next, we regressed the policy opinion variables (by using ordered probit regression or ordinary least squares regression, depending on whether the individual policy outcomes or the summary scale outcome was used) on the dummy variables for the causal frames while

controlling for random variation in demographic characteristics across groups. We also tested whether the effects of the causal frames differed depending on the political orientation of the participant (i.e., whether party identification was a moderator of the frame effect) by fitting a model with interaction terms between the frame and the participants' party identification (strong and moderate Republicans versus Independents versus strong and moderate Democrats, which was the reference category). We performed regression analyses separately for each policy variable (available from authors upon request), but we identified very similar patterns when we used the dependent variable representing the summary across the 7 policy items, thus only the latter was reported here. To interpret the regression results, we calculated the predicted values for the outcome variable and plotted these values by the

frame participants viewed and their political party identification (with all other variables in the model set to the sample mean). All analyses were performed by using Stata version 9.0 (Stata Corp, College Station, TX) and used Long and Freese's²⁹ SPost programs, when relevant, for interpreting outcomes from categorical regression models.

RESULTS

The participants' opinions about the 7 public health policies are shown in Table 2. The participants expressed the highest level of support for public schools' eliminating their fast food concessions, government investment in parks, and government subsidizing the costs of healthy food. They expressed the least support for the government imposing taxes on unhealthy food.

Framing Effects on Acknowledging Social Determinants

To assess whether the causal frames had any influence on the participants' agreement with the social determinants of diabetes, we compared the proportions of people who agreed or strongly agreed that "people with diabetes got their illness because of the social or economic circumstances in which they live" across the 4 treatment groups. As expected, more people in the social determinants treatment group (29%; 95%

confidence interval [CI]=22.6, 29.2) than in the control group (17.4%; 95% CI=14.3, 20.5) agreed that social determinants cause diabetes, a small but statistically significant difference. In the genetic group, 13.3% (95% CI=10.6, 16.0) agreed that social determinants cause diabetes, which was fewer than the 21.4% (95% CI=18.1, 24.7) of those in the behavioral choices group who agreed with this statement, which suggests some recognition among study participants who viewed the behavioral choices frame that social factors can shape behavioral choices. Regardless of frame, the participants endorsed relatively low support overall for the idea of social causation of type 2 diabetes, because participants overall were more than twice as likely to agree or strongly agree that "People with diabetes got their illness because of the genes they inherited from their parents" (44.7%; 95% CI=42.7, 46.6) than they were to agree or strongly agree with social causation (19.7%; 95% CI=18.1, 21.3). As expected, those exposed to the genetic predisposition frame were most likely to agree with genetic causation.

Comparing proportions across the treatment groups, however, masks significant differences within these groups. We observed a distinctly different pattern of responses to the item assessing agreement with social determinants when we compared Democrats, Independents, and Republicans both within and across the

treatment groups (Figure 1). Across all groups, Democrats were more likely to agree with social determinants than were Republicans and Independents, although these differences were not statistically significant in the control, genetic, or behavioral choices groups. Republicans expressed low levels of agreement with social determinants across all of the treatment groups. Republicans in the social determinants treatment group reported statistically significantly lower levels of agreement with this item relative to the Independents and Democrats in that group. Only Independents expressed statistically significantly higher agreement with social determinants when they were exposed to the social determinants frame (30.7%; 95% CI=24.7, 36.7) than when they were exposed to the control condition (16.4%; 95% CI=11.4, 21.4).

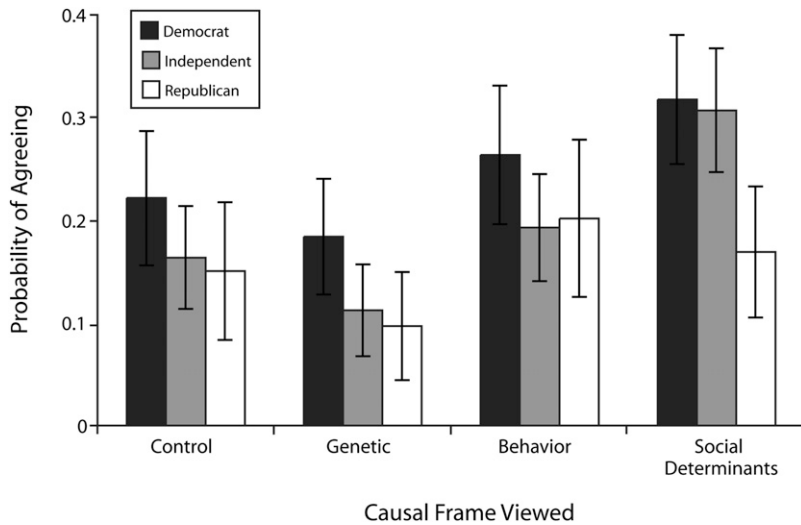
Framing Effects on Public Health Policy Opinions

Next, we assessed whether the causal frames influenced the participants' opinions about public health policies. We identified no significant effects of any of the 3 causal frames, compared to the control condition, on the summary measure of policy opinions for the full sample. (When we examined the individual policy opinions separately, the only full sample framing effect we observed was that those exposed to the social determinants frame were significantly more likely, relative to the control condition, to support bans on *trans* fats.) Thus, the experimental treatments had little to no effects on the study participants' opinions about diabetes prevention policies for the full sample.

To ascertain whether these very limited effects might have been because the experimental frames had different effects on different people, we examined the predicted values obtained from the ordinary least squares regression model of public health policy opinion on the causal frames, fitted with interaction terms with party identification (Figure 2). This model indicated a significant interaction between viewing the social determinants frame and participants' party identification (b of interaction term=-0.45; $P=.005$), indicating that the effect of the social determinants frame was significantly different for Democrats and for Republicans. (For full regression model results, see the Appendix, available in the online

TABLE 2—Participant Opinions About Nonmedical Public Health Policies, Full Sample (N=2490): United States, 2007

Proposed Public Health Policy	% Agree or Strongly Agree
Public schools should eliminate their fast food concessions.	63.5
The government should invest in parks and safe places to exercise in urban areas.	62.9
The government should use some of its tax revenue to make healthy food (like fruits and vegetables) more affordable.	61.9
The government should provide financial incentives to encourage grocery stores to locate in areas where there are few.	48.1
Local governments should ban restaurants from cooking with <i>trans</i> fats.	41.6
The government should regulate advertisements for junk food like it does for cigarettes and alcohol.	40.7
The government should impose higher taxes on food high in calories and fat, like it does for cigarettes.	22.1



Note. Error bars represent 95% confidence intervals around the proportion who agreed with the statement.

FIGURE 1—Probability of agreeing with the statement that “People with diabetes got their illness because of the social or economic circumstances in which they live,” by causal frame viewed and political party of viewer: United States, 2007.

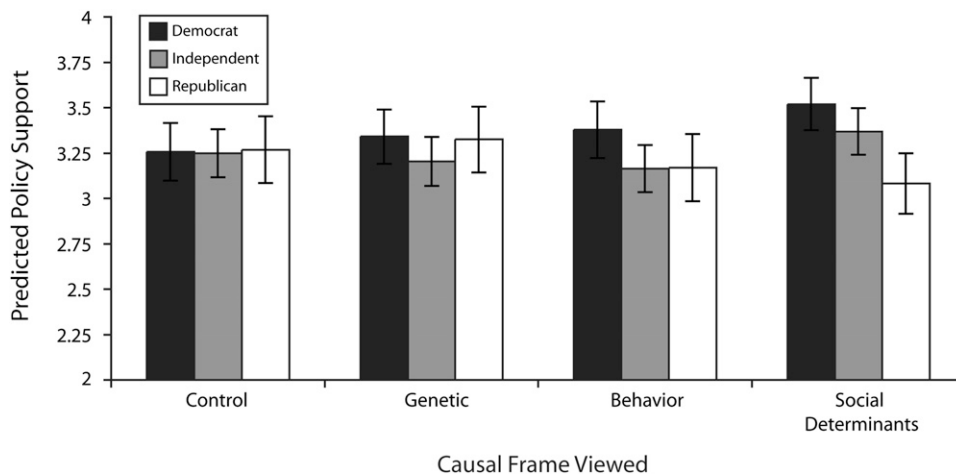
condition, whereas Republicans expressed a lower level of support for the public health policies relative to the control condition. Although we found no significant differences between Republicans’ and Democrats’ adjusted opinions toward the public health policies in the control condition, the genetic condition, or the behavioral choices condition, exposure to the social determinants message produced a divergence in opinion by political party, with Democrats and Republicans differing in their opinions by nearly 0.5 units of the 5-point scale.

DISCUSSION

Policy experts have increasingly been paying attention to the social determinants of health. Some experts have recommended that information about social, nonmedical determinants should be disseminated to the general public to build support for policies that address such determinants and to move policy interventions aimed at population health beyond medical care. In this study, we assessed how the public responds to messages about the social determinants of health. We found that people exposed to the

version of this article at <http://www.ajph.org>) As shown in Figure 2, the social determinants frame had opposing influences on the study participants depending on their political

orientation: after exposure to the social determinants media message, Democrats expressed a higher level of support for the public health policies relative to the control



Note. Participant opinion for each public health policy based on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), averaged across 7 policies. Error bars represent 95% confidence intervals around the predicted mean support for public health policies (where higher values indicate more support). Difference between Democrats and Republicans in social determinants condition relative to control condition is statistically significant (b of interaction term from ordinary least squares regression = -0.45; P = .005). The ordinary least squares regression model included controls for study participants’ age, gender, race (White, Black, other), ideological self-identification (liberal, conservative, middle), income, educational attainment, and diabetes status of self and family or friends.

FIGURE 2—Degree of support for public health policies after exposure to a news media article about type 2 diabetes, by causal frame viewed and political party of viewer: United States, 2007.

social determinants message were in general more likely to acknowledge the existence of social factors in type 2 diabetes, but the overall level of agreement with social determinants was relatively low across the sample. These low levels of acknowledgment of social factors as important influences on health are consistent with Robert et al.'s survey of Wisconsin residents.⁷ Yet, we found that agreement varied significantly by political party identification. In particular, Republicans reacted negatively to the social determinants message, tending to disagree with the idea of social determinants after viewing an article that deliberately described these factors. Not only did the social determinants message receive less acknowledgment from the Republican subgroup, but it also triggered differing opinions toward a variety of public health interventions. The opinions of Republicans and Democrats toward public health policies diverged when they were exposed to information about the social determinants of diabetes, but no such divergence was observed with other framings of the issue. This reaction suggests that the social determinants message contained embedded values-based cues to which political partisans responded.

We advance several potential explanations (occurring independently or simultaneously) for why we observed political resistance and even polarization in response to the social determinants message. First, the social determinants media frame may have presumed a liberal worldview to which the Republican study participants disagreed or found factually erroneous (i.e., not credible), but with which Democrats felt more comfortable or found more familiar. Previous research has shown that people are more likely to resist messages when those messages are inconsistent with their predisposing worldviews.³⁰ Republicans may have counter-argued the social determinants frame, reacting more negatively than they might otherwise against public policy intervention into personal behavior.^{31,32}

Second, media consumption is becoming increasingly polarized by party identification, and a large proportion of the public perceives the media as being biased against their worldview.^{33–36} The social determinants media message may have appeared particularly biased to Republicans. Moreover, we know that social determinants messages about diabetes are not

equally distributed in the news media, which suggests there may be systematic differences in the public's prior exposure to these types of messages.²⁵

Third, the social determinants frame may have primed, or activated, study participants' underlying attitudes about the social group (people with diabetes living in impoverished neighborhood conditions) highlighted in the news article mentioning social determinants. The policy opinions that study participants subsequently expressed may have reflected whether they viewed these people with diabetes as deserving of their plight.³⁷

Fourth, participants' party identification likely serves as proxy for an unmeasured characteristic, that is, values held regarding personal versus social responsibility for health.³⁸ People who hold strong values of personal responsibility would likely disagree with a social determinants message that suggests social or governmental responsibility for improving population health. The WHO Commission on Social Determinants of Health report, for example, assumes such responsibility in its presentation of recommendations to promote action for health equity. The Commission recommends that governments should "place responsibility for action on health and health equity at the highest level of government, and ensure its coherent consideration across all policies."^{4(p11)} Our findings provide evidence illustrating Wallack and Lawrence's 2005 commentary in this Journal that some Americans' strongly held personal responsibility values can conflict with the language and values of public health.³⁹

Limitations and Future Directions

These study results must be interpreted in light of several limitations. The goal of this experiment is not representativeness, but an assessment of causal inference, for which this type of experiment and sample are ideally suited. Yet, these findings may not necessarily be generalized to the full population of Americans. Second, the media messages used in this controlled context do not mimic the real-world media environment, given that mass media messages about type 2 diabetes tend to convey multiple competing causes simultaneously, not the single causal frame we used within the experiment.²⁵ Third, the

study findings may not necessarily apply to framing of other diseases that have causal narratives that differ from that of type 2 diabetes. Finally, although the size of the effects of the frames in this study were small, it should be noted that the experimental stimuli were quite subtle—just a few sentences tweaked within a longer article.

This research suggests the importance of experimental methods and political communication theory for understanding the impact of public health messages on the public's opinions and attitudes. Whereas health communication research traditionally assesses the effect of health information on behaviors, researchers less frequently evaluate the impact of health messages on policy opinions. Future research might incorporate more sophisticated media effects (such as evaluating the influence of multiple simultaneous frames in the public discourse—e.g., a behavioral choices frame and a social determinants frame—on public opinion) and evaluate more thoroughly the interaction of media messages with the public's predisposing values and beliefs.⁴⁰

Health Policy Implications

Americans' opinions about health policy are polarized on political partisan lines, with recent survey evidence demonstrating that Republicans and Democrats seemingly disagree on nearly every aspect of health care and approaches to reform.⁴¹ Our experimental findings contribute to this evidence, showing that Democrats and Republicans also differ in the ways in which they receive and react to messages about the social determinants of health. We know that many Americans strongly hold values of personal responsibility, and such views may come into conflict with a social determinants perspective that does not acknowledge individuals' roles.^{42,43}

These findings suggest that some advocates' proposed strategy of publicizing the social determinants of health will be unlikely to uniformly increase the American public's support for public health policies that target these determinants. Divergence in opinions could make it difficult to achieve the goal of building the public consensus for action on the nonmedical determinants of health, which Alvin Tarlov argued is required: "an evident desire must

develop at a high enough priority among a sufficient proportion of the population to create a national agenda.”^{3(p286)} We suggest that achieving the goal of mobilizing the public to support policies to improve population health may require a segmented communication approach, based on evidence from studies such as this one, to ensure that subgroups find a social determinants message credible and not antagonistic to a worldview that values personal responsibility. For instance, advocates seeking to mobilize the public to support policies to improve public health might consider disseminating information to the media about social influences in addition to individual behavioral factors, to avoid triggering resistance among subgroups that find an exclusive focus on social factors not credible.^{8,42,43} We expect that over a longer period of time, careful communication of the social determinants of health message could build the message’s credibility and familiarity among the public and policy-makers alike, ultimately influencing the health policy process.⁴⁴ ■

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This article was accepted April 11, 2009.

Contributors

S. E. Gollust originated the study, conducted the empirical analyses, and led the writing. P. M. Lantz contributed to the study design, provided guidance throughout the project, and provided critical revisions of the article. P. A. Ubel contributed to the study design and sample recruitment and provided critical revisions of the article.

Acknowledgments

We received funding for this study from a small grant from the Robert Wood Johnson Foundation Health and Society Scholars Program at the University of Michigan as well as the Center for Behavioral and Decision Sciences in Medicine (NIH grant R01 CA087595). S. E. Gollust also received support from a University of Michigan Rackham Predoctoral Fellowship.

An early version of this paper was presented at the Midwest Political Science Association annual meeting on April 3, 2008.

We acknowledge very useful feedback on study design and data collection support from Brian Zikmund-Fisher, as well as helpful comments on an earlier version of this article from Renée Anspach, Scott Greer, Nicholas Valentino, and Erika Franklin Fowler. We thank the Robert Wood Johnson Foundation Health and Society Scholars Program for its financial support.

Human Participant Protection

The study received an exemption from human subjects review by the University of Michigan Medical School institutional review board, because no personally identifying or sensitive information was collected from the survey participants.

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Toward a Dynamic Conceptualization of Social Ties and Context: Implications for Understanding Immigrant and Latino Health

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Researchers have posited that social ties and social support may contribute to better-than-expected health outcomes among Mexican immigrants vis-à-vis their US-born counterparts. However, in our review of studies examining social ties and health by immigration-related variables among this group, we found little support for this hypothesis. To better understand the social factors that contribute to the health of Mexicans in the United States, we conducted a qualitative analysis of social relationships and social context among first- and second-generation Mexican women. Our results highlight the interplay between immigration processes and social ties, draw attention to the importance of identity support and transnational social relationships, and suggest ways to reconceptualize the relationship between social contexts, social ties, and immigrant and Latino health. (*Am J Public Health*. 2009;99:2167–2175. doi:10.2105/AJPH.2008.158956)

The complexities in Latino health patterns^{1–5} call for a deeper examination of the social contexts that influence them, including those related to immigration. Through a qualitative analysis of social ties and social context among Mexican immigrant women and their second-generation counterparts, we sought to better understand how social factors influence Latino and immigrant health.

LATINO HEALTH PARADOXES AND COMPLEXITIES

Studies have suggested that the health of Latinos relative to non-Latino Whites is better

than anticipated when one considers their average low socioeconomic status.^{6,7} However, this pattern appears most evident among immigrants relative to US-born Latinos, and is not generalizable within or across Latino subgroups.^{1,2} The literature on health differentials by nativity or generational status among Mexicans in the United States suggests that Mexican immigrants experience better health compared with US-born Mexicans for certain outcomes, including low birthweight,⁸ infant mortality,⁹ psychiatric disorders,^{10,11} adult all-cause mortality,^{12–14} and obesity.^{15–16} Further evidence suggests that immigrants' health deteriorates with increasing length of residence in the United

States.^{17,18} Other studies, however, have found poorer health status (e.g., more symptoms of depression,¹⁹ poorer self-rated health⁴) and reduced access to health care^{20–22} among recent Mexican immigrants relative to longer-term immigrants and US-born Mexicans.

Some scholars have suggested that inconsistencies in these findings may be attributable to poor data quality or challenges associated with tracking mortality as individuals cross borders.^{6,23–25} Others have proposed that immigrants represent a healthier self-selected group and may, thus, exhibit better health outcomes than would otherwise be expected.^{13,26,27} Yet others have suggested that better health outcomes may be attributable to culturally specific health-protective behavioral or social characteristics, such as social ties and social support.^{7,28,29} More recently, observed variations in health patterns among Mexicans across regions within the United States suggest the importance of understanding the contributions of contextual factors to health outcomes.¹⁶ The evidence to date regarding any one of these potential explanations, however, is inconclusive, and it is likely that several factors may be operating simultaneously to shape health patterns across generations.¹⁶ In this study, we explore the interplay between contextual factors