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The Construction of News: Energy Crises, Advocacy Messages, and Frames toward Conservation

Toby Bolsen[1]

Abstract

Much of what people learn about politics comes from the mass media. How media outlets construct their reports have direct consequences for what people think about politics. Scholars and pundits have long debated about the factors that shape media choices. Yet there have been few direct investigations into how three major determinants shape political news: world events, advocacy groups, and the government. This article examines the relative impact of these factors by focusing on the construction of news related to energy conservation in the United States. Specifically, it looks at how events, messages crafted by interest groups, and government-sponsored public service announcements (PSAs) affect news frames and attributions of responsibility for the extant energy situation. It finds that events are the most important factor driving news coverage; advocacy groups are second, followed by PSAs. This suggests that news about conservation is driven more by events than messages supplied by agents seeking to influence public discourse. Thus, groups with specific agendas such as government and advocacy organizations can, at least at times, be limited in terms of their capacity to shape news coverage—which has implications for theories of media choice.

Keywords

media, news construction, framing, energy conservation

[1]Georgia State University, Atlanta

Corresponding Author:
Toby Bolsen, Department of Political Science, Georgia State University,
38 Peachtree Center Ave., Suite 1005, Atlanta, GA 30303
Email: tobybolsen@gmail.com

Much of what people learn about politics comes from the mass media. How media outlets construct their reports have direct consequences for what people think about politics. Scholars and pundits have long debated about the factors that shape media choices. Yet there have been few direct investigations into how three major determinants shape political news: world events, advocacy groups, and the government. I examine the relative impact of these factors by exploring the construction of news related to energy conservation in the United States. Specifically, I look at how events, messages crafted by interest groups, and government-sponsored public service announcements (PSAs) affect news frames and attributions of responsibility for the nation's energy situation.

I begin by reviewing extant literature on factors driving the construction of news. This work demonstrates that events, advocacy groups, and government can shape the content of news; but few studies consider the influence of these factors, in concert, in determining coverage. I then review distinct eras in the history of U.S. energy policies. This leads to predictions about how coverage likely will shift over time. I test these predictions by analyzing the content of stories in a traditional news source, PSAs, and advocacy messages from four nonprofit conservation organizations in the United States. I find that events are the most important factor driving news coverage; advocacy groups are second, followed by PSAs. This suggests that news construction, as related to the U.S. energy situation, is driven more by events than the information supplied by agents seeking to shape public discourse. Thus, groups with strategic agendas such as government and advocacy organizations can, at least at times, be limited in terms of their capacity to shape news—which has implications for theories of media choice.

Events, Elite Discourses, and the Construction of News

Scholars have given significant attention to the process by which the public, political elites, and the media provide meaning to political issues through portrayals carried in mass communications (Baum and Potter 2008; Entman 2004; Gamson and Modigliani 1989; Groeling and Baum 2008; Nisbet et al. 2003; Nisbet and Huge 2006). As is typical, I study this process by analyzing frames in news coverage. A *frame* refers to "words, images, phrases, and presentation styles that a speaker (e.g., a politician, a media outlet) uses when relaying information about an issue or event to an audience" (Chong and Druckman 2007b: 100). To *frame* is to select and highlight specific aspects of an object so as to promote a particular interpretation, evaluation, or solution to a problem (Entman 2004: 5).[1] Because framing entails selectively choosing how to describe a topic, it has been characterized as "a discursive strategy utilized by journalists to define the nature of a particular event" (Allan et al. 2010: 29).[2]

A prominent way to capture media coverage is through content analyses, particularly by studying frames in the news (Chong and Druckman forthcoming; Entman 2007; Gamson and Modigliani 1987, 1989; Goffman 1974; Shah et al. 2002; Tankard 2001; Tewskbury et al. 2000). I focus on communications that may influence how individuals think about taking action to conserve energy. This includes frames about *actions* such

as purchasing fuel-efficient vehicles, reducing gasoline usage, conserving energy at home, purchasing energy-efficient appliances, and a host of related behaviors (Bolsen 2010; Bolsen and Cook 2008; Nolan et al. 2008; Stern 2000). These actions affect government policy and marketplace activities, and thus, governments and advocacy groups (e.g., environmental organizations) have an incentive to shape the public's behavior in this domain.

A challenge in these behaviors is that most actions aimed at conserving energy involve the promotion of a public good—that is, the payoff is, in part, to a contribution to the public good of energy conservation. When an individual forms an evaluation about whether or not to engage in a behavior (i.e., a *behavioral intention*), he or she develops an attitude toward the behavior (Ajzen and Fishbein 1980, 2005). This attitude consists of weighted assessments about various aspects of the behavior (e.g., its consequences) (Chong and Druckman 2007a, 2007b). For instance, if media focus on the positive environmental consequences of energy conservation, it may increase the likelihood of action, whereas if the focus is on costs to consumers it may decrease likely action. I refer to these as *effect frames*, since the focus is on the effects of an action. In addition to identifying frames associated with the consequences of taking action, I also consider a related set of considerations regarding *attributions of responsibility* for the nation's energy problems. Along these lines, frames that attribute responsibility to *individuals* for dealing with the nation's energy problems likely increase perceptions about the efficacy of taking action. This can be conceptualized as a dimension such that the more individuals see themselves as responsible for collective outcomes the more likely they will be to take action (Lubell et al. 2007). The consideration is the salience of individual contributions; that is, will taking action have a positive impact on the collective outcome.

I account for three key determinants of news construction: (1) events, (2) messages constructed by advocacy groups, and (3) government. First, events play a central role in this process. Gamson and Modigliani (1989: 2) argues that world events create perturbations that spark changes in the content of frames toward issues. For example, the energy crisis of the 1970s stimulated the rise of a new consideration (frame) associated with nuclear energy (i.e., *energy independence*). Other research documents how draught and extreme temperatures in the United States in the summer of 1988 focused public attention on the issue of global warming and gave rise to news coverage about this issue (Ungar 1992: 490; 1995). Most recently, events were found to be the primary cause of news about various threats to public health (e.g., West Nile virus, avian flu, and mad cow disease; see Shih et al. 2008).

Scheufele (1999) refers to choices over the selection of frames in news as part of a *frame-building process*. Frame building refers to the dynamics of how speakers, such as media outlets, choose among frames to communicate issues to the public. In this process, "competing interests operate as news sources, supplying strategically packaged news items and story information to journalists" (Nisbet et al. 2003: 42). Gamson and Modigliani (1989) explain that the growth and presence of antinuclear groups in the 1970s partially accounts for the rise of alternative frames toward nuclear energy following Three Mile Island and Chernobyl, for example, the Union of Concerned Scientists,

Friends of the Earth, and Critical Mass. Although advocacy groups are a second source of frames in news, scholars have paid little attention to the effectiveness of "competing claims-makers who seek to establish their own particular interpretations of situations" (Allan et al. 2010: 29; but see, Bakir 2005; Driedger 2008; McCarthy et al. 2008).[3]

Thirdly, government itself can play a role. Bennett (1990) argues that mass media "tend to 'index' the range of voices and viewpoints in both news and editorials according to the range of voices and viewpoints expressed in mainstream government debate about a given topic" (p. 106). This has been referred to as the Media Indexing Hypothesis (Groeling and Baum 2008). The indexing literature is an attempt to explain the behavior of leading press organizations in terms of how they report on events; because of the media's dependency and reliance on official sources to legitimize stories, these organizations privilege interpretations sponsored and/or disseminated by government (Sigal 1973; Zaller and Chiu 2000: 68).[4]

To summarize, we know that frames in the news emerge as a consequence of events and the frame-building efforts of strategic actors; however, few studies explore the extent to which each factor influences the outcomes of frames in the news over time. According to a recent review of this literature, "how frames in a communication emerge continues to befuddle researchers" (Chong and Druckman 2007c: 117). One advantage of studying this process in the context of energy conservation is that major events (e.g., price shocks, environmental disasters) are not the result of frame-building efforts by advocacy groups. This allows a comparison of the relative impact of each force on news construction.

Studying News Frames toward Energy Conservation

To investigate frames in the news, I followed guidelines developed by Chong and Druckman (forthcoming) on an initial sample of news articles about energy conservation. I identified five *effect frames*: economic effects, environmental effects, societal effects (i.e., the impact of one's action on the collective outcome), personal effects (i.e., lifestyle changes resulting from conservation), and moral or ethical effects.[5] Table 1 lists each frame, its central focus, and examples of how the frame is used in a text. For instance, economic effect frames focus on the positive or negative pecuniary consequences of conservation—for example, paying a cost premium for energy-efficient goods versus the benefits of realizing long-term savings.

This initial sample also allowed me to identify the actors portrayed as responsible for extant problems. *Causal attributions* focus on the origin of a problem and help individuals understand why a problem is occurring, while *treatment attributions* relate to whom responsibility is assigned for dealing with the situation, that is, "who or what has the power to alleviate the problem" (Iyengar 1994: 9). I identified the following causal attribution frames in the initial sample: industry behavior (e.g., oil, auto, and electric companies), U.S. government, consumers, foreign nations (e.g., oil-exporting nations), growing energy demand/dwindling supplies, and natural events (e.g., disasters, hurricanes); and treatment attributions associated with industry, government, consumers, and foreign nations. Prior to describing methods for collecting, coding, and analyzing these data,

Table 1. Frames Associated with the Effects of Energy Conservation

Dimension	Focus	Examples of Frame Use in Story
Economic effects	Focus is on the negative (e.g., higher upfront costs) or positive (e.g., money saved from reduced consumption) consequences of taking action.	Conservation saves money (*positive valence*) Conservation requires investments (*negative valence*)
Environmental effects	Focus is on the environmental consequences (generally positive in valence) of taking action	Conservation reduces pollution (*positive valence*) Unintended consequences of promoting harmful technologies (*negative valence*)
Societal impact effects	Focus is on whether taking action is efficacious, i.e., will the individual's choice make a difference for the collective.	Your decisions affect the national energy supply (*positive valence*) Your decisions have almost no impact on the national energy supply (*negative valence*)
Personal (lifestyle) effects	Focus is on how energy conservation may affect one's standard of living, e.g., by making sacrifices or improvements.	Reducing consumption is easy and improves standards of living (*positive valence*) Reducing consumption requires sacrifices and reduces standards of living (*negative valence*)
Moral effects	Focus is on moral and ethical considerations associated with energy usage (universally positive)	Conservation is the "right thing" to do (*positive valence*) No negative usage of this frame

I review three eras in the history of U.S. energy policies to generate predictions about frames likely to emerge.

Eras of Action toward Energy

The United States has adopted different approaches to managing the nation's configuration of energy resources over time. Table 2 lists three distinct eras, the event(s) that gave rise to each period, and key legislation enacted.

As Table 2 reports, an *Era of Crisis* began on October 15, 1973, when the Organization of Petroleum Exporting Countries (OPEC) declared an oil embargo on the U.S. for sending support to Israel in the Yom Kippur War. The ensuing events sparked what came to be called the First Energy Crisis and led to heightened media attention to the nation's energy supply. Figure 1 charts the volume of stories about energy policy appearing in the

Table 2. Eras of Action toward Energy Consumption

	Origin of the Period	Major Events and Key Legislation	Policy Focus
Era of crisis, 1973–1981	Arab Oil Embargo (sparks the First Energy Crisis) October 15, 1973	• *Emergency Petroleum Allocation Act of 1973*—created a two-tier pricing system that promoted domestic exploration • *Energy Policy and Conservation Act of 1975*—gradual decontrol of oil prices; created strategic petroleum reserve; established first fleetwide fuel-economy standards (18 mpg) • *Department of Energy Organization Act of 1977*—President Carter declares the nation's energy situation the "moral equivalent of war" • Second Energy Crisis 1978–1979 • *National Energy Act of 1978*—tax preferences for developing renewable energy sources; gas-guzzler tax for sale of autos with low fuel-efficiency; tax credits for energy-efficient consumer purchases	Interventionist; favors renewables and demand reduction
Era of production, 1982–1999	Ronald Reagan elected President (November 1980). Precipitous decline in oil prices in this period	• *Economic Recovery Act of 1981*—price of oil decontrolled; funding for alternative fuels cut; conservation programs eliminated • Global recession reduced global demand for oil; OPEC raises production and oil prices crash in 1986 • Repeal of the *Windfall Profit Tax 1988* • *Energy Policy Act of 1992*—reestablished tax credits for renewable; promoted oil and gas exploration; oil prices record lows in 1998/1999	Free-market deregulation; favors oil and gas producers and demand growth
A Return to Crisis, 2000–2007	OPEC cuts production in 1999 California electricity crisis begins in 2000	• California Energy Crisis 2000–2001 • Northeast Electricity Blackout 2003 • *Energy Policy Act of 2005*—provided more than $11 billion in tax incentives for producers of various energy sources and to promote energy efficiency and conservation • *Energy Independence and Security Act of 2007*—increased corporate average fuel economy standards; increases the mandatory producing and blending of alternative fuels; increased funding for research and development for renewable and alternative energy	Interventionist; favors renewables and demand reduction

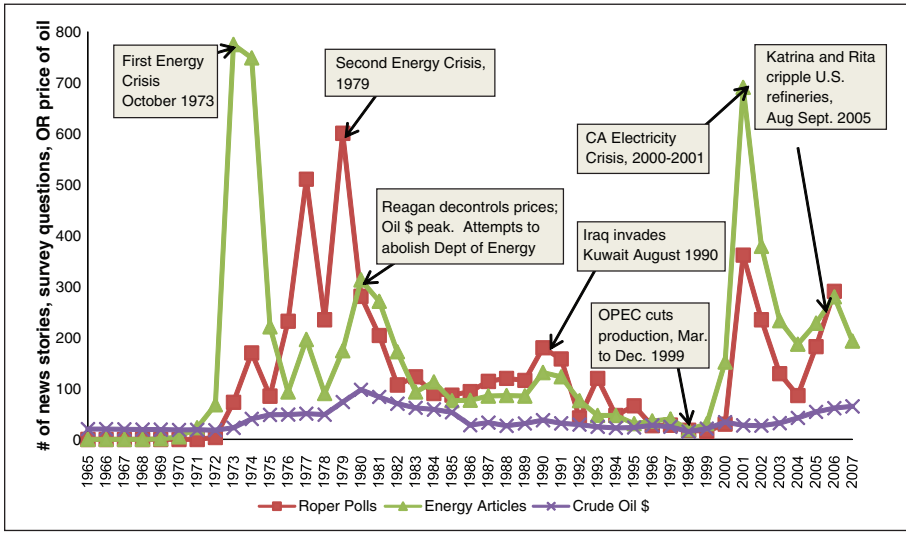

Figure 1. The salience of energy issues in the United States, 1965–2007
Note: *Energy articles* is the number of articles appearing in the *New York Times* with the terms *energy policy*, *energy crisis*, *energy plan*, or *energy shortage* appearing anywhere in the article; *Crude oil $* shows the annual average crude oil price adjusted for inflation (November 2008 prices) using the Consumer Price Index (CPI-U) as presented by the Bureau of Labor Statistics; *Roper polls* is the number of survey questions about energy topics in the Roper Center Archives (Bolsen and Cook 2008).

New York Times from 1965 through 2007. Prior to 1973, stories about energy conservation were virtually nonexistent; however, hundreds of articles began to appear after the initial crisis. The country experienced a Second Energy Crisis in 1978 and 1979 sparked by an interruption in global oil supplies resulting from the overthrow of the Shah in Iran and the country's subsequent war with Iraq. Energy issues remained in the news until the early 1980s when gasoline prices began to decline in real dollars amid a global recession.[6]

The election of Ronald Reagan as President in November of 1980 marked the beginning of a sharp change in the direction of U.S. energy policies (Smith 2002: 30). Reagan campaigned on a free-market approach that involved reducing government involvement in energy markets. Table 2 refers to this period as the *Era of Production* because the U.S. shifted its approach from active involvement in markets—with policies targeting demand reduction and the promotion of alternative fuels—to one guided by laissez faire, free-market principles, with policies favoring the oil and gas industries.

Reagan's election coincided with the most serious recession the U.S. had faced since the 1930s, leading to a decrease in the demand for energy in the first half of the 1980s. Facing declining demand and increasing competition, OPEC responded initially by reducing production in an attempt to stabilize prices. However, in December of 1985, OPEC shifted course and increased production to defend its markets, leading to an oil price collapse: Between December 1985 and July 1986, crude oil dropped from $23/barrel to

less than $10/barrel (Lazzari 2007). Energy prices remained low throughout the latter part of the 1980s and through most of the 1990s. Accordingly, as Figure 1 shows, stories about energy conservation virtually disappeared from the news.

Oil prices hit inflation-adjusted record lows in 1999 and OPEC again agreed to a series of production cuts. Consequently, crude oil prices rose from $24/barrel in January to $34/barrel by March of 2000. This marked the beginning of a period referred to in Table 2 as a *Return to Crisis*. Public outrage over gas prices made energy politics a central issue in the 2000 presidential campaign. The focus of the debate was not over whether the government should intervene in energy markets but rather the extent to which the focus should be on increasing production (e.g., drilling the Arctic National Wildlife Refuge) versus curbing demand (e.g., mandating energy efficiency and conservation) (Bamberger 2006). The words "energy crisis" also resurfaced in response to electricity shortages and rolling blackouts in California and neighboring Western states. Geopolitical events in the ensuing years (e.g., 9-11 terrorist attacks, occupation of Afghanistan and invasion of Iraq in 2003) highlighted security concerns about America's reliance on imported oil. These events, coupled with record-high prices for oil and gasoline, led to the passage of landmark energy legislation in 2005 and 2007 (see Table 2).

Hypotheses

Based on the events reviewed above, I make several predictions about frames likely to emerge toward energy conservation over time:

1. Economic effect frames will be most frequently associated with conservation because spikes in news coverage result directly from increases in energy costs (*hypothesis 1*).
2. Attributions of causal responsibility toward "foreign nations" will arise in the initial period of crisis, reflecting the role that OPEC played in sparking the First Energy Crisis (*hypothesis 2*).
3. Environmental effect frames will emerge more recently as a result of growing evidence showing a connection between energy consumption and global warming (*hypothesis 3*).
4. Lifestyle effect frames will change in direction over time—from relatively negative to positive in valence—because of technological advances that reduce the perceived need to make costly behavioral changes in order to conserve energy (*hypothesis 4*).

Method

To investigate frames toward conservation in a traditional news source, I conducted a content analysis of stories appearing in the *New York Times* between January of 1965 and December of 2007 (Figure 1 graphs the total number of stories captured over time).[7] I created a coding instrument using an initial sample of articles, for example, identifying behaviors mentioned, effect frames, and responsibility attributions. Subsequently,

I searched the Lexis-Nexis and Proquest databases for articles that included the terms *energy conservation*, *conserve energy*, *energy consumption*, or *consume energy* in the headline and lead paragraph of a story. Articles that included such information were content analyzed with the instrument I developed.[8]

In addition to sampling articles from a traditional news source, I transcribed and coded all publicly accessible PSAs targeting energy conservation that were aired during energy crises.[9] Part of the mission of the U.S. Department of Energy (DOE) is to raise awareness to energy issues and promote energy conservation by citizens. These messages consist of "government directed and sponsored efforts to communicate to the mass public or a segment of the public in order to achieve a policy result" (Weiss and Tschirhart 1994: 83). I transcribed and coded all accessible energy conservation PSAs sponsored by government.[10]

Finally, I evaluated communications disseminated by four major U.S.-based nonprofit organizations in the field of energy that have published information about conserving energy. These organizations include Alliance to Save Energy (ASE), Union of Concerned Scientists (UCS), Earth Policy Institute (EPI), and the American Council for an Energy Efficient Economy (ACEEE). Each organization provides a link on its Web site to press releases disseminated in the past decade. Two of these organizations are supported, in part, from funds provided by industry (ASE and ACEEE), while the other two organizations have an environmental focus (UCS and EPI). I downloaded the universe of press releases with information about energy conservation. Table 3 lists the number of articles/ads analyzed from each source ($N = 367$).

To identify causal attributions in stories, I use a dichotomous code of 1 if blame is explicitly assigned to one of the following actors (0 otherwise): industry, the U.S. government, consumers, foreign nations, growing energy demand, or natural disasters. I do the same for attributions of treatment responsibility when industry, government, consumers, or foreign nations are mentioned as responsible for dealing with the situation.[11] Each article was coded for the presence of the aforementioned effect frames associated with taking action, as well as a corresponding "direction" code—contingent on whether the frame has a positive or negative valence.[12] Whereas the vast majority of studies on frames in the news focus on the prevalence (i.e., frequency) of a frame's actual usage—assuming that the salience, or relative accessibility, of various considerations is the key determinant of media effects—Chong and Druckman (forthcoming) argue that "framing effects also depend on the relative applicability and strength of frames, the combination of frames encountered, and the sequence of frames" in the news (pp. 10-12). Thus, in addition to accounting for the prevalence of effect frames and attribution frames, I also assess (1) the number of frames used in different environments; (2) the direction of frames relative to the action; and (3) changes over time in the number and direction of frames in the news.

To identify frames, each coder proceeded by reading the entire article carefully to ensure they understood it. I encouraged coders to make notes directly on the article or on a separate page as they coded each article. To assess the reliability of coders, I randomly sampled approximately 30% of the articles and transcripts from each source and had a second coder evaluate these stories. I found 91% agreement between coders (Cohen's Kappa = .85).

Table 3. Media Sources for the Content Analysis

Source	No. of "relevant" articles from each source	Type
New York Times	190	Traditional news
Department of Energy/Flex Your Power	28	Government PSAs
Alliance to Save Energy	81	Advocacy group
Union of Concerned Scientists	22	Advocacy group
Earth Policy Institute	5	Advocacy group
American Council for an Energy Efficient Economy	41	Advocacy group

Note: PSAs = public service announcements.

Table 4. Causal and Treatment Attributions for Energy Issues across Sources

	Traditional newspaper (Causal)	Govt. PSAs (Causal)	Advocacy sources (Causal)	Traditional newspaper (Treatment)	Govt. PSAs (Treatment)	Advocacy Sources (Treatment)
Industry	26	0	10	28	0	19
Government	31	0	9	46	0	49
Consumers	16	46	0	27	100	38
Foreign nations	14	0	3	1	0	0
Growing demand	15	11	21	–	–	–
Natural disasters	6	0	5	–	–	–
Total	$n = 190$	$n = 28$	$n = 149$	$n = 190$	$n = 28$	$n = 149$

Note: Values are percentages. PSAs = public service announcements.

Results

Table 4 reports the frequency of attributions of responsibility linked to energy shortages in traditional media, PSAs, and advocacy messages. There is a great deal of variation across sources. PSAs are far more likely to blame consumers for *causing* energy problems compared to stories in traditional news (46% vs. 16%, respectively; *t*-test of difference in means, t score = 11.39, $p < .00$, two-tailed test). Similarly, as one might expect given their objective is to motivate conservation, *every* PSA included a frame assigning consumers responsibility for dealing with the extant problem. Although advocacy groups do not blame anyone for existing problems, these agents are more likely to assign responsibility directly to consumers for *dealing with* energy problems compared to traditional news (38% to 27%, respectively; t score = 2.82, $p < .00$, two-tailed test).

Another interesting result, reported in Table 4, is the timing of the emergence of causal attribution frames associated with "foreign nations" and "natural disasters." Because the PSA and advocacy communications are exclusively from the most recent crisis period,

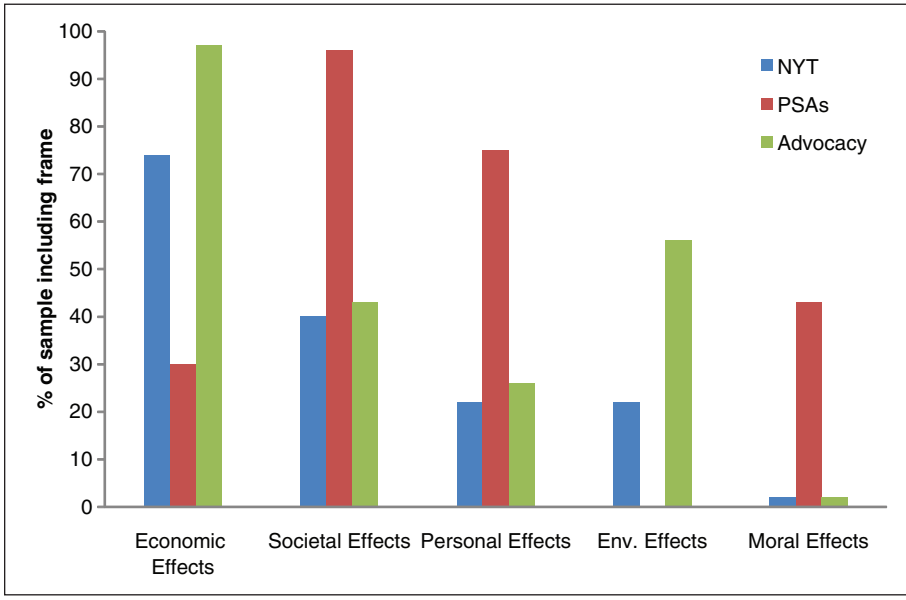

Figure 2. Frames regarding the effects of conservation across sources
Note: Effect frames in the PSAs and advocacy communications are universally positive in direction; the percentages displayed for the *New York Times* sample includes positive and negative frames.

almost none of these messages blame foreign nations for U.S. energy problems; however, 14% of stories in traditional news do so. Because the sample of traditional news stories covers the entire period from 1965 to 2007, I can assess variations in terms of when specific attribution frames emerged in public discourse. In the initial crisis period, 21% of the stories blamed foreign nations for energy problems, but this declined to 6% of stories in the most recent crisis period. This change reflects the direct role of OPEC in causing the initial crisis (supporting hypothesis 2, t score = 3.42, $p < .00$, two-tailed test). In addition, the small percentage of articles attributing energy shortages to natural disasters (6%) appear exclusively in the most recent period as the result of Hurricanes Katrina and Rita in the fall of 2005, which crippled nearly one quarter of the United States' refining capacity.

I next compare the usage of effect frames across sources. Figure 2 reports the percentage of articles in each sample that include each effect frame. For both traditional news and advocacy messages, the economic effects associated with conservation is the predominant frame (97% and 74%) (supporting hypothesis 1). For advocacy groups, *all* of the press releases frame energy conservation as a way to *save* money (i.e., the *direction* of this frame includes uniformly positive consequences); however, this is not the case in traditional news stories (as I will display later in Figure 4), which include a mix of positive and negative economic outcomes resulting from conservation.

Figure 2 shows that PSAs predominantly emphasize the positive impact of individuals' actions on the national energy supply (i.e., the efficacy of individual contributions)—to

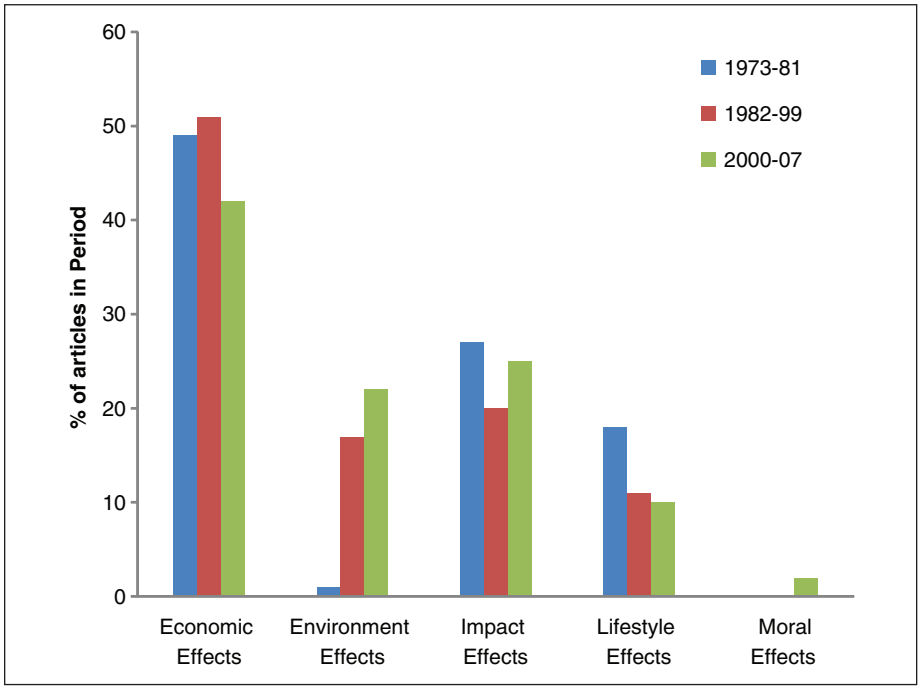

Figure 3. Effect frames toward actions over time (*New York Times* sample only)

a significantly greater extent than do traditional news and advocacy communications. Ninety-six percent of PSAs include a prosocietal effect frame compared with 43% of advocacy messages; although 40% of traditional news articles include this frame as well, its usage varies in valence (see Figure 4 below); that is, some of the societal impact frames in traditional news focus on the relatively minor impact that individual contributions make in terms of the nation's overall energy situation.

Figure 3 reports variation in the usage of effect frames associated with conservation over time. The data support my expectation that economic effect frames would be the most prevalent dimension associated with these actions.[13] Nearly half of all stories in traditional news relate conservation to economic consequences. The data also support my expectation that environmental effect frames would emerge in more recent years (hypothesis 3). In the initial crisis period, few stories referenced the environmental effects associated with energy conservation, compared to the most recent period when nearly a quarter of the articles do so (t-score = 11.83, $p < .00$, one-tailed test). There is also a decline in the prevalence of frames associated with the effects of conservation on individuals' lifestyles, which may indicate that technological advances have made the personal costs associated with conservation less salient.

Figure 4 charts the percentage of each effect frame that is positive (in *direction*) over time.[14] Economic effect frames tend to be dominated by positive messages about the

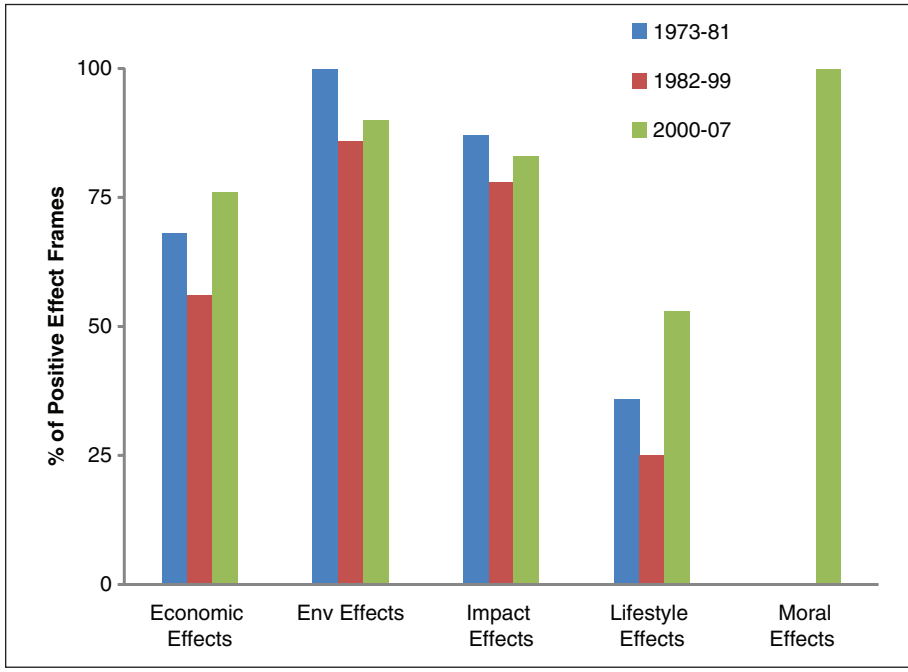

Figure 4. Direction of effect frames over time (*New York Times sample only*)

savings associated with these actions. Similarly, the balance of frames related to the societal impact of individuals' actions tends to be largely positive (87%, 78%, and 83% over each energy era); environmental and moral/ethical effect frames are generally always positive as well. The lone dimension with a predominance of negative frames related to conservation is toward individuals' lifestyle changes (e.g., driving and traveling less, using less hot water), which are sometimes regarded as necessary but "costly" actions. However, as shown in Figure 4, the balance of frames on this dimension shifts markedly from the first period of crisis to the most recent years (from 36% to 53% positive, emphasizing the ease with which one can conserve energy). This suggests that technological innovations have altered the valence of frames about the personal costs associated with conservation, for example, by focusing on the ease of switching to energy-efficient devices as opposed to making lifestyle sacrifices. This may also suggest some degree of responsiveness to advocacy efforts.

Discussion

The results presented above focus on news construction as related to two specific frames about energy conservation: (1) information regarding the effects, or consequences, resulting from taking action and (2) information about the actor, or actors, responsible

for the nation's energy problems. In addition to identifying the prevalence of these frames across three sources of messaging, I charted each frame's direction and sequencing over time, as recent work shows these factors can have important consequences for how the public understands political issues (Chong and Druckman, forthcoming). I find that when energy prices rise, news about conservation is more prominent. Consequently, the "strongest" effect frame toward conservation, in terms of prevalence in news, is its economic implications.

I also find significant differences in coverage across sources of messaging. Relative to traditional news, frames promoted by advocacy groups and government focus more on consumer action as a way to solve energy problems and save money. PSAs emphasize the efficacy of individual action in determining collective outcomes to a much greater extent than traditional news. Importantly, communications developed by advocacy organizations and government consist entirely of one-sided frames designed to encourage energy conservation by consumers, whereas frames toward conservation in traditional news include a mix of competing considerations about the degree to which consumers are responsible for extant problems and the impact of individuals' voluntary choices to conserve on collective outcomes. Thus, frames in traditional news seem to be more reflective of the actual conditions in the world, whereas PSAs (and advocacy messages to a lesser degree) are purely strategic and designed to motivate action—as is evident in their focus on individual attributions of responsibility for the nation's energy situation and greater usage of effect frames about the efficacy of individuals' actions in shaping collective outcomes.

Public opinion is inextricably linked to choices media make regarding how to frame its coverage. Communication scholars recently have called for research that specifies the conditions under which frames in the news emerge. Although scholars have long understood the importance of studying how media construct narratives toward issues (Bennett and Entman 2001; Funkhouser 1973; Neuman et al. 1992; Schudson 1995), little research has explored the impact of events, government, and advocacy groups in a single study. The few existing studies that explore *frame building* suggest that interest groups and government can play a critical role in determining the media's selection of frames in reporting the news. For instance, Entman's (2007) model of news construction focuses on how multiple actors attempt to anticipate arguments that will resonate with the public.[15] This raises questions about the degree to which strategic actors can shape the nation's policy agenda and collective outcomes, for example, by determining the relevant aspects of a debate. However, I find that frames in traditional news emerge mostly from occurrences in the world, for example, price shocks and natural disasters. Moreover, although PSAs and advocacy messages are characterized by one-sided frames promoting conservation, this is not reflective at all of the balance of frames in traditional news. This suggests that strategic actors competing to shape the media's selection of frames in the news may be hindered, at least to some degree, by conditions in the world. Additional research is necessary to determine whether these findings generalize to other policy relevant issues and contexts. Furthermore, an unanswered question is whether

exposure to *effect frames* and various *attributions of responsibility* for energy problems shapes citizens' attitudes and willingness to take action to conserve energy. This calls for experimental research designs that can identify treatment effects resulting from exposure to these frames in a communication.

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Notes

1. A second usage of the term *frame* refers to an individual's cognitive understanding of a situation, sometimes called *frames in thought* (Druckman 2001a). A *framing effect* occurs when a frame in a communication alters an individual's frame in thought (Chong and Druckman 2007a, 2007b; Druckman 2001a, 2001b, 2004, 2005). For instance, frames advanced by the Bush administration regarding the Patriot Act were instrumental in securing public support for the bill (Domke et al. 2006: 291). Similarly, Tewskbury et al. (2000) show that frames employed by policy advocates on a local issue (i.e., a debate over large-scale hog farms in Illinois) altered individuals' support for policies associated with regulations toward the industry.
2. Nisbet and Huge (2006) explain that "by giving more weight to some dimensions of a controversy over others, the frames in news coverage help guide policy maker and citizen evaluations about the causes and consequences of an issue, and what should be done" (p. 11).
3. A sizable literature explores related questions regarding the extent to which media is biased, or slanted, in terms of its portrayals of events, candidates, and issues (Dalton et al. 1998; Gilens and Hertzman 2000; Hofstetter 1976; Kahn & Kenney 2002; Kuklinski and Sigelman 1992; Niven 2001, 2003); however, this research continues to struggle with standards to assess "bias." While some scholars find evidence of slanted coverage (e.g., Goldberg 2002; Groseclose and Milyo 2005), other work suggests that comparable events produce comparable results (e.g., Niven 2003). Recent work makes clear that one effective approach is to make relative comparisons in media content, e.g., across sources (e.g., Druckman 2005; Druckman and Parkin 2005).
4. Although this model has been applied largely to explain the government–media nexus with respect to foreign policies and interventions, similar relationships shape news construction across policy domains. For instance, research has shown that on complex technical issues

(e.g., issues involving scientific controversies)—such as debates over stem cells (Nisbet et al. 2003) and biotechnology (Nisbet and Lewenstein 2002)—government and other elites (e.g., scientists) dominate news coverage (see also Sigal 1973; Tuchman 1978).

5. This is in line with the mean number of frames identified (per issue) in Chong and Druckman's (forthcoming) content analysis of fourteen distinct national, state, and local issues, examined over time.
6. An alternative interpretation of the trend detailed in Figure 1 is that rather than being driven by the events outlined here, attention to this issue represents iterations in an "issue attention cycle" driven by journalists' values and the need for drama and conflict resolution (Downs 1972; Hilgartner and Bosk 1988; McComas and Shanahan 1999; Nisbet and Huge 2006; Shih et al. 2008; Trumbo 1996). According to this model, an issue rests in a preproblem stage until a "triggering event catapults it into public attention" (Downs 1972: 6). The triggering event is followed by a period of public concern and collective enthusiasm for solving the problem, and then declines in salience during the denouement and resolution of the problem (McComas and Shanahan 1999; Nisbet and Huge 2006; Trumbo 1996: 272-273).
7. Chong and Druckman (forthcoming: 12) explain that the *New York Times* is "often regarded as the national newspaper of record in the United States and an agenda-setter for other newspapers and mass media." The choice to focus on this elite national newspaper is because stories tend to spread vertically within the news hierarchy (Nisbet and Huge 2006: 18-19).
8. I excluded articles that did not include any information about individuals' or households' energy consumption decisions.
9. I could not locate public service announcements (PSAs) aired during the *Era of Production*—when there was little coverage about energy issues. Thus, comparisons across sources are limited to the most recent *Return to Crisis Period* (2000–2007).
10. In the more recent period, I include DOE-sponsored commercials as well as televised advertisements developed for the State of California's *Flex Your Power* public information campaign to encourage residents to conserve energy during the regional shortages in 2001 and 2002.
11. Stories can include multiple causal and/or treatment attributions (and effect frames).
12. The direction code provided meaningful variation only for the stories published in the *New York Times*; i.e., PSAs and advocacy messages were universally positive (one-sided) and emphasized the benefits of taking action on each of the effect frame dimensions.
13. I follow others using one-tailed significance tests when making directional predictions (e.g., Druckman 2005; Druckman and Parkin 2005). A difference in proportions test indicated a significantly greater frequency of economic effect frames compared to environmental ($z = 9.21$, $p < .000$), impact ($z = 4.87$, $p < .000$), lifestyle ($z = 6.57$, $p < .000$), and moral effect frames ($z = 10.42$, $p < .000$).
14. Again, this is exclusively for data from the *New York Times* because the direction of frames toward conservation in government and advocacy statements is uniformly positive.
15. These strategies may be particularly effective in the early stages of opinion formation toward issues in specific contexts (Chong and Druckman 2007c; Druckman and Bolsen forthcoming).

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Bio

Toby Bolsen is an Assistant Professor in the Department of Political Science at Georgia State University. His research focuses on the study of political behavior, preference formation, mass communications, and experimental methods.