

Can Citizens Be Framed? How Persuasive Information More than Emphasis Framing Changes Political Opinions

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Abstract

More than two decades of research has shown that political elites can powerfully shape citizens' political opinions by framing policy issues. However, it is unclear what this research actually demonstrates because most experimental framing studies involve an empirical confound between framing, true to its theoretical definition, and the supply of persuasive information. Elaborating a theory of opinion formation that reconciles persuasion and framing theories, we propose a new approach to studying elite influence on policy opinions. Building from a qualitative review and quantitative meta-analysis of 20 years of published experimental framing research, we develop a novel experimental paradigm that separately manipulates persuasive information and emphasis framing. Across 14 distinct randomized experiments (combined $n=5,292$), covering a diversity of issues, we find strong and consistent effects of persuasive information on opinions, but limited effects of emphasis framing, suggesting a fundamental reinterpretation of existing evidence for “framing” effects and their normative implications.

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A basic premise of representative democracy is that citizens can form and express their preferences for which public policies they want government to pursue and that elected representatives, in turn, respond to these public preferences (Dahl 1989). Yet there is a tension between the democratic ideal and political reality, because, as Disch (2011, 101) notes, “citizens’ capacity to form preferences depends on the self-interested communications of elites,” and fifty years of empirical research has demonstrated that politicians and other elites can powerfully shape citizens’ political preferences (Kinder 2003; Chong and Druckman 2007a).

At the forefront of this literature is the repeated finding that “framing”—understood to mean a communicator’s selective presentation and interpretation of an issue or event—can have a sizeable impact on citizens’ opinions. For example, if a hate group rally is framed by emphasizing the idea of free speech, most citizens will tend to support allowing the rally to be held. In contrast, if the rally is framed by emphasizing public order, citizens will tend to oppose allowing the rally (Nelson, Clawson, and Oxley 1997). Based on framing studies, it has become a widely held view among political scientists that “(often small) changes in the presentation of an issue or an event produce (sometimes large) changes of opinion” (Chong and Druckman 2007a, 104).

However, despite a dramatic growth in framing studies in the past thirty years (Scheufele and Iyengar 2017, 619), it is far from clear what this body of research actually tells us about how easily or by what means political elites can influence public opinion. The reason for this is a mismatch between the *theoretical definition* of framing as a psychological emphasis or weighting of subsets of issue-relevant considerations and the *empirical paradigm* for studying framing effects. A notable feature of most, if not all, framing studies is that they confound testing the impact of the *framing* of an issue with the impact of *persuasive information* (see Scheufele and Iyengar 2017, 619-620; de Vreese and Lecheler 2012, 299). Consequently, even though

framing theory is understood as an “indirect effects” alternative to “direct effects” persuasion models of opinion formation, the experimental paradigm used to study framing is indistinguishable from that used to study argument-based persuasion (see, e.g., Boudreau n.d.; Chong and Druckman 2007b; Druckman and Leeper 2012; Hopkins and Mummolo 2017; Jerit 2009; Sniderman and Theriault 2004).¹ This confound in the existing literature has monumental political implications, particularly related to debate about the malleability of public opinion (see, e.g., Chong 2000, 118; Chong and Druckman 2007a, 120; Jacoby 2000, 751). If all a politician must do to influence citizens’ policy preferences is mention a dimension of the issue, elite influence can seemingly be achieved with ease (Chong 2000, 118; Jacoby 2000, 751). Framing is seen as important precisely because direct media influence is thought to be so difficult. Yet no previous study has distinguished the effects of framing from persuasive information.

We propose a new approach to studying the influence of mass communication on policy opinions. Theoretically, we elaborate a familiar but underdeveloped model of opinion formation that reconciles persuasion and framing theories, highlighting the distinct influences of *persuasive information* and *emphasis framing*. Methodologically, building from a qualitative review and quantitative meta-analysis of 55 experimental research articles spanning 20 years of framing research, we develop a novel experimental paradigm that separately manipulates information and emphasis framing. Empirically, we employ this design across 14 original experiments (combined

¹ Scheufele and Iyengar (2017, 620) describe the framing literature as in a “state of conceptual confusion” (also see Chong and Druckman 2007a, 115-116; de Vreese and Lecheler 2012, 299). The problem extends to observational studies of framing which assess frames in news coverage that also contains persuasive arguments (e.g., Baumgartner, De Boef, and Boydston 2008; Hopkins n.d.).

$n=5,292$), covering a diversity of issues including health care, a hate group rally, immigration, terrorism, and energy. We find strong and consistent effects of persuasive information on opinions, but we find limited effects of emphasis framing. These findings provide a fundamental reinterpretation of evidence for “framing” effects and the ease with which citizens are swayed by effortless manipulation by elites. We conclude by encouraging researchers to focus attention on our more complete model of opinion formation, and identify several new paths for research.

Emphasis Framing versus Information-based Persuasion

The concept of framing is used differently by scholars across disciplines, from sociologists’ focus on frames as means for social mobilization (Gamson and Modigliani 1989) to media scholars who study generic features of news coverage (de Vreese and Lecheler 2012) to psychological and behavioral studies of the consequences of using logically “equivalent” frames (Druckman 2001). Iyengar and colleagues (Cacciatore, Scheufele, and Iyengar 2016; Scheufele and Iyengar 2017) have recently advocated to use the framing concept in a restricted sense to include only “equivalence frames” that use “different, but logically equivalent, words or phrases” (Druckman 2001, 228). Although we appreciate the precision of this definition, equivalence framing is clearly not the most widespread in political discourse (e.g., Sniderman and Theriault 2004, 115-116; de Vreese 2003: 27). In contrast, we focus on the dominant understanding of framing in the literature, what public opinion scholars call “issue” or “emphasis” framing (Druckman 2001).

Public opinion scholars define an emphasis frame as a communication that puts “an emphasis in salience of some aspects of a topic” (de Vreese 2003, 27) by stressing “specific elements or features of the broader controversy, reducing a usually complex issue to one or two central aspects” (Nelson, Clawson, and Oxley 1997, 568). Importantly, “frames supply no new information. Rather, by offering a particular perspective, frames *organize*—or better, *reorganize*—information that citizens already have in mind” (Kinder 2003, 359). While framing

is thought to work by merely highlighting beliefs present in a debate or the public’s minds, theorizing suggests frames are powerful. The reason is that citizens often possess a mix of considerations that could be used to form an opinion. These considerations might point in different directions such that emphasis frames are thought to shift public opinion via “framing effects” where during “the course of describing an issue or event, a speaker’s emphasis on a subset of potentially relevant considerations causes individuals to focus on these considerations when constructing their opinions” (Druckman and Nelson 2003, 730).

With this definition, it is clear that emphasis framing stands in sharp contrast to the direct influence theory of persuasion. Indeed, persuasion means changing people’s opinions by “the supply of arguments and evidence through which people are induced to change their minds about some aspect of politics” (Kinder 2003, 367; see also Chong and Druckman 2007a, 115; Zaller 1992, 118). More formally, the distinction between emphasis framing and information-based persuasion can be illustrated by the expectancy-value model of attitude formation (Ajzen and Fishbein 1980), a psychological theory many framing studies rely on (Chong and Druckman 2007a, 105-106; Jerit 2009, 412; Nelson, Oxley, and Clawson 1997, 225-228). In this model, an opinion towards an object (e.g., a policy) reflects the weighted sum of a set of evaluative beliefs about that object:

$$\text{opinion} = \sum_{i=1}^I \text{consideration}_i \times \text{weight}_i$$

where *consideration_i* is the evaluative belief on dimension *i* and *weight_i* is the subjective weight or importance the individual attaches to that dimension, for all *I* belief dimensions. The first component of opinion is *considerations*, that is, “any reason that might induce an individual to decide a political issue one way or the other” (Zaller 1992, 41). The second component of opinion is *emphasis*: the weight of importance or salience attached to particular considerations.

For example, an opinion towards a health care policy might be a weighted sum of a positive consideration that the policy will improve patients' health (i.e., a reason to support the policy) and a negative consideration that it will increase costs (i.e., a reason to oppose the policy). Depending on the relative weight or importance an individual attaches to each of these considerations, opinion on the policy might be positive, negative, or neutral. Accordingly, there are two processes by which opinions might change: change in the content of opinion-relevant considerations and change in the weights attached to considerations already in memory. The former is the very definition of persuasion: "*in light of new information*, people come to think that the president is smarter than he first seemed, or that school segregation is ineffective and should be abandoned" (Kinder 2003, 367, emphasis added).

Conversely, emphasis framing will affect opinion by changes in weights independent of this persuasive shifting of the content of considerations—recall that “frames supply no new information” (Kinder 2003, 359), but instead put an “emphasis on a subset of potentially relevant considerations,” leading “individuals to focus on these considerations when constructing their opinions” (Druckman and Nelson 2003, 730). For example, framing the above health care policy by emphasizing costs might lead an individual to focus on the consideration that the policy is costly and for this reason lower policy support, even though the content of considerations about the policy are unchanged.

Drawing such a clear distinction between opinion change caused by persuasive information and emphasis framing has important theoretical and normative implications. Lacking a clear theoretical and empirical distinction between the two processes, “we cannot be sure that there is anything truly ‘unique’ about this phenomenon; that framing cannot be subsumed under some other generally understood concept, such as persuasion” (Nelson, Oxley, and Clawson 1997, 223). Indeed, an explicit reliance on the expectancy-value model shows that framing

should not be seen as a theoretical rival to persuasion or as a mere synonym for it, but rather as its complement. Because persuasion theories focus on change in content of considerations, whereas framing theories focus on changes in emphasis or weighting, neither is a sufficiently complete theory of opinion formation. Normatively, a public that requires evidence and argumentation before changing its views implies a democratic process more closely aligned to popular conceptualizations of the democratic ideal of citizens forming “enlightened” preferences (Dahl 1989, 108-112) than one where the public can be easily coopted by the slightest of rhetorical shifts (see discussion by Druckman 2014, 474-475). The strategic appeal of framing lies in the belief that it is easier to remind citizens of particular pre-existing beliefs than it is to use persuasive information to change those beliefs (e.g., Chong 2000, 118; Iyengar and Kinder 1987, 117; Jacoby 2000, 751). The normative implications of any evidence for elite influence hinges on whether it is persuasive information or emphasis alone that produce such effects.

Previous Estimates of Framing Effects on Policy Opinion

It is widely believed that emphasis framing can powerfully shape opinions. Yet our knowledge of framing effects must be understood in terms of the research designs used to generate those claims. To better understand how framing has been studied, we conducted a qualitative and quantitative synthesis of the framing literature, covering all research published in fourteen political science and communication journals over the twenty-year period January 1997 to December 2016. We begin with a discussion of exemplar framing experiments and then quantitatively summarize the apparent framing effects revealed by all experiments.

It would appear that emphasis framing studies rarely, if ever, follow the strict definition of only changing the emphasis of an issue dimension (cf. Chong and Druckman 2007a, 115-116; Scheufele and Iyengar 2017; de Vreese and Lecheler 2012, 299). Instead, framing studies have typically assessed the impact of experimental manipulations that provide both persuasive

information (e.g., factual policy information and arguments) *and* emphasis.² A paradigmatic example is Druckman and Leeper’s (2012) study of opinion toward the Patriot Act, framed as either “weakening the protection of citizens’ civil liberties” or as a way “to identify terrorist plots on American soil and to prevent attacks before they occur.” Beyond emphasizing these dimensions, the manipulations also presented participants with different information about policy content—either, in the former framing condition, that under the Patriot Act, “the government has access to citizens’ confidential information from telephone and e-mail communications” or, in the latter framing condition, that “the government has more resources for counterterrorism, surveillance, border protection, and other security policies.” This combination of emphasis framing and persuasive information creates an experimental confound that muddles the mechanism by which opinions were changed. In another well-known experiment, a government spending proposal was framed by either stating that it “means higher taxes” or gives people “a better chance of getting ahead in life” (Sniderman and Theriault 2004). These statements obviously refer to different policy dimensions, but they also argue for different consequences of the policy, again making it difficult to know if opinion changes were caused by the mere emphasis on alternative dimensions or by the provision of different policy information.

Rather than merely emphasizing a dimension in order to activate existing considerations, experimental stimuli in studies like these also provide new persuasive information that could modify the content of considerations. This design feature makes studies vulnerable to the

² Notable exceptions are Berinsky and Kinder’s (2006) study of journalistic storytelling and Druckman et al.’s (2010) study of candidate evaluations. Druckman and Bolsen (2011) investigated framing combined with factual information, but did not manipulate information and framing separately.

alternative interpretation that their effects on opinion are, at least partly, caused by variation in the content of information, not emphasis. This operational confounding of framing and information is further confused by the sometimes reference to frames and arguments interchangeably (e.g., Chong and Druckman 2007b, 641; Druckman et al. 2013, 57; Jerit 2009, 412).

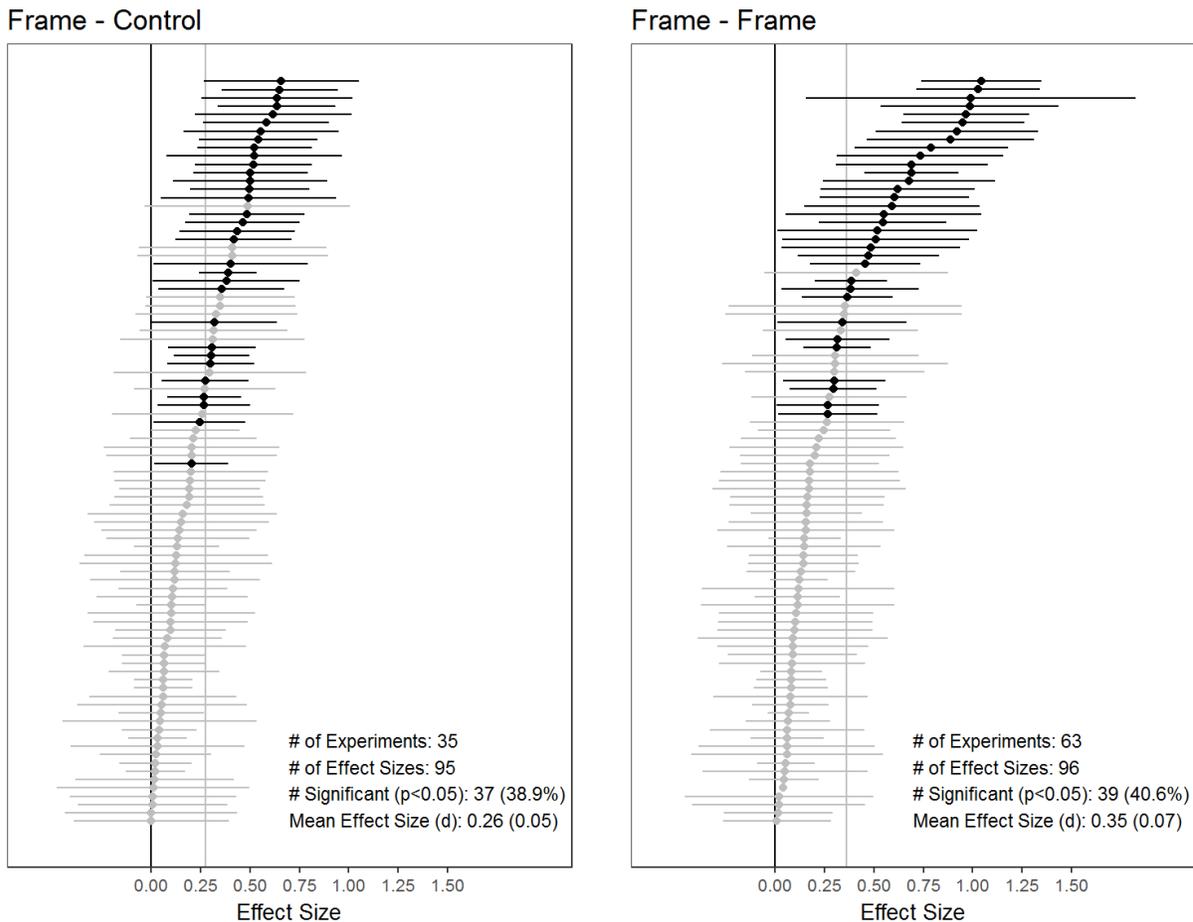
But how large are the claimed effects of emphasis framing in existing literature? Our meta-analysis identified 262 articles ostensibly about framing, 55 (21%) of which provided experimental evidence on emphasis framing effects on political opinions conducted in the United States. A total of 80 experiments were reported in these 55 articles, for which 52 (65%) were presented in sufficient detail to calculate Cohen's d , a standardized effect size measure for between-subjects experiments, for the framing effect in each study. We calculated framing effect sizes where possible, yielding a total of 191 effect estimates, 95 of which compared exposure to a "frame" to a control condition and 96 of which compared two frames to each other.³

Figure 1 reports the effect sizes for frame-control comparisons (left panel) and frame-frame comparisons (right panel), along with 95% confidence intervals for the effects (which convey the sample size used in the mean comparison). A random-effects meta-analysis with standard errors clustered by article indicated frame-control had an average effect size of 0.26 ($se=0.05$) and frame-frame comparisons had an even larger effect size of 0.35 ($se=0.07$). Effects ranged in size from 0 to maximum of 0.84 for frame-control and 1.19 for frame-frame

³ The Supplemental Information contains full details of our search procedures, included journals, criteria used to identify studies from this sample, full reference list, and descriptive statistics on the sample of articles, experiments, and effect sizes.

comparisons. Consistent with our qualitative review, fully 51% of all studies used news article-style manipulations of framing, suggesting that they likely manipulate more than emphasis alone.

Figure 1. Effect Sizes for Extant Framing Studies, 1997-2016



A New Approach to Studying Communication Effects

Given the extensive use of information-rich, article-length manipulations of “framing,” substantively interpreting these moderately large effects through the lens of an emphasis-only theory of opinion formation is problematic. The “framing” effects observed might result from the influence of both emphasis framing and persuasive information. Instead, we need to be able to separately and clearly test two distinct hypotheses: the *persuasive information hypothesis* and the

emphasis framing hypothesis. The *persuasive information hypothesis* expects that persuasive arguments and information will shape beliefs about a political object (e.g., a policy) and influence opinion in the direction implied by the evaluative content of the information (Chong and Druckman 2007a, 115-116; Kinder 2003, 359). The *emphasis framing hypothesis* expects the mere emphasis on a dimension or aspect of a policy will influence the importance of beliefs and change opinion in the direction implied by the content (positive or negative) of the evaluative beliefs emphasized (Nelson, Oxley, and Clawson 1997). Based on the expectancy-value model and the body of existing empirical evidence, we theorize both persuasive information provision and emphasis framing to be effective communication strategies—that is, we expect to find support for both hypotheses. Yet previous work provides no way to separate the two types of effects.

We therefore propose a novel methodological approach, which we elaborate in a number of ways. The basic design separately operationalizes persuasive information and emphasis framing in a full-factorial design using stimuli true to our theoretical model. The design provides clearly identified experimental treatments that independently test the framing hypothesis and the information hypothesis. Even though persuasive information and emphasis framing often co-exist outside the lab, our separate manipulation of them is crucial to distinguish our two hypotheses. We believe we are the first to conduct an empirical test of the emphasis framing hypothesis in its pure form.

Overview of Studies

We apply our design in fourteen original survey experiments that all follow from the designs used in Studies 1-2 (see Table 1). In these experiments, we provide participants with persuasive information on a policy issue through mock news articles modified from recent news coverage to convey objectively positively valenced information (e.g., a proposed policy has low

costs) or objectively negatively valenced information (e.g., a proposed policy is expensive).⁴ According to the *persuasive information hypothesis*, this information should lead respondents to form positive or negative evaluative beliefs on the issue, respectively. After a distractor activity, we then cross this with a manipulation of emphasis on alternative dimensions of consideration in a political debate to adjust which dimension of the policy (i.e., which evaluative belief) study participants should most heavily rely upon when forming their opinion, which provides us with an independent test of the *emphasis framing hypothesis*. This component of Studies 1 and 2 (and indeed all of our experiments) is critical to our test as it manipulates emphasis framing in a manner true to its theoretical definition. Because participants hold beliefs formed during persuasive information exposure, the manipulation of framing can be implemented without supplying new persuasive information and thus we avoid contaminating our test of the emphasis framing hypothesis.

⁴ We intentionally wrote articles in journalistic style and masked the final purpose of the study so that participants were led to believe that they were simply evaluating journalistic quality. Though one could argue that this information is itself framed, by emphasizing the discussed persuasive information rather than providing some counterfactual informational content, we attempt to hold this constant in Studies 3-10 by providing all respondents with persuasive information about both dimensions that we use as emphasis stimuli.

Table 1. Description of Experiments

Experiment	Basic Design	Issue(s)	Sample size
Study 1	Information before emphasis		750
Study 2	Information before emphasis	Electronic medical records	743
Study 3	Information before emphasis; cross-pressured information		806
Study 4	Information before emphasis; no time lag		Hate group rally
Study 5	Emphasis before/after	Electronic medical records	974
Study 6	information	Hate group rally	
Study 7	Emphasis before/after	Electronic medical records	1010
Study 8	information; nationally representative sample	Hate group rally	
Studies 9a-c	Vignettes; emphasis before or after information	DREAM Act, Patriot Act, drilling	*
Studies 10a-c	Vignettes; emphasis before and after information		**

*Study 9 was conducted on the sample of respondents as Study 4.

**Study 10 was conducted on the sample of respondents as Studies 5-6.

In our subsequent 12 experiments, we modify this paradigm to replicate and extend our findings across a range of variations in policy issues, order of presentation of stimuli, and the precise wording and length of the manipulations. In each new study, we modify the design in ways that favor the emphasis framing hypothesis:

- Study 3 provides cross-pressured (pro and con) persuasive information to induce mixed considerations among participants.
- Study 4 replicates Studies 1-3, but on a new issue (a hate group rally).
- Studies 5 and 6 extend Studies 3 and 4 by providing emphasis stimuli both before *and* after the information treatment.
- Studies 7 and 8 replicate Studies 5 and 6 on a nationally representative sample to see if our findings in Studies 1-6 are driven by type of sample.

- Studies 9a-c further test whether the *order* of information and emphasis manipulations matter using vignette-style studies on three additional issues drawn from previous framing studies (the DREAM Act, the Patriot Act, and off-shore drilling).
- Studies 10a-c replicate these vignette experiments with emphasis stimuli both before *and* after the information manipulation (in the manner of Studies 5-6).

In all, our ten studies include 14 experiments on a cumulative sample of 5,292 respondents from the United States.⁵ For all but Studies 7 and 8, we recruited participants using the Amazon Mechanical Turk (MTurk) crowdsourcing platform and randomized respondents into experimental conditions using Qualtrics. While MTurk is not a representative online panel, respondents is more diverse than traditional convenience samples and results from experiments performed on MTurk closely match those performed on other samples and in other settings (Mullinix et al. 2015). Still, to mitigate concerns that our results might depend on a particular sampling, we replicated our findings with a nationally representative sample (Studies 7 and 8). The Supplemental Information contains complete details on the manipulations and question wordings used in the studies, along with summaries of all relevant parts of the experimental analysis.

Studies 1 and 2

We begin by describing the design and results of Study 1 in detail, how we manipulated persuasive information and emphasis framing, and how we measured our key variables. We then describe Study 2, which replicates the results of that study using modified treatments.

⁵ While a small number of participants took part in multiple studies, we restricted our samples such that no participant was exposed to the same issue more than once.

Study 1 Design

We recruited 750 participants for Study 1. At the beginning of the 10 minutes survey, experimental participants were told that they would participate in a study “about the quality of journalism” and that they would “read a few short excerpts from a news article.” To provide a fair test of the persuasive information and emphasis framing hypotheses, we use a real issue of modest salience on which it should be possible to observe both effects. Specifically, we focus on citizens’ support for the implementation of electronic medical records, which are a digital replacement for paper records typically maintained by physicians, clinics, and hospitals.⁶ We focus on two important and commonly debated dimensions of the issue—the policy’s fiscal cost and the policy’s impact on a particular target group—that tend to also be the important dimensions by which many policies are evaluated (see Jerit 2009).

⁶ We intentionally use an issue that resembles the modal issue typically studied in many framing experiments (Druckman and Nelson 2003; Nelson, Clawson, and Oxley 1997) and avoid one on which opinions are likely to be crystallized (Druckman and Leeper 2012). This issue provides an excellent case for studying the influence of persuasive information and emphasis framing. First, the topic is a real and substantively important policy issue. In recent years the estimated number of physicians and hospitals using electronic medical records have varied from 50% to nearly 80%, meaning that their use is not yet widespread or uncontroversial (Miller and Sims 2004; Ford et al. 2006). Second, the issue—at the time of the study—had not received significant, recent media attention. Thus, we avoid studying a more salient issue where citizens would possess more crystallized opinions. Third, and most importantly, electronic medical records raise potentially conflicting considerations, including whether they increase or decrease the cost of health care and whether they have any impact on the quality of patient care.

Persuasive Information Manipulation. We randomly assigned participants to one of four treatment conditions or a control group. In each treatment group, participants then read a sequence of four excerpts of an article created by the study investigators that described (fictional) discussions by the American Medical Association about the proposed use of electronic medical records.

Each condition contained a different version of the articles. In the High Cost information condition, participants read information about the *high* costs of electronic medical records, while in the Low Cost condition other participants read information about the *low* costs of electronic medical records. In the High Impact condition, participants read information about the *high* (positive) impact of electronic medical records on health care, while in the Low Impact condition participants read information about the *low* impact of electronic medical records. In the control condition, participants read about an unrelated topic.

As a manipulation check of the persuasive information treatments, we asked participants two questions to gauge their beliefs about the policy. Specifically, the Cost Belief question read: “The article you read discussed a proposal to standardize electronic medical records. From what you read, will health care costs be more expensive or less expensive under the proposed changes?” and recorded their answers on a seven-point scale from “much less expensive” (coded -1) to “much more expensive” (coded 1). The Impact Belief question asked: “From what you read, will health care quality be improved or harmed under the proposed changes?” and recorded their answers on a seven-point scale from “Harmed a lot” (-1) to “Improved a lot” (1).

Participants then answered some general questions about the written quality of the excerpts (consistent with our cover story), answered some demographic questions, and then participated in an unrelated study (which served as a distractor activity). We intentionally did not

measure policy opinion during the t_1 persuasive information phase to avoid any consistency biases in opinion reports during the framing phase of the study.

Emphasis Framing Manipulation. After completing the intervening material, participants completed the final part of the survey where we exposed them to emphasis frames about the policy. This part of the survey was introduced by telling participants that “The third study asks you for your opinion about a recent political issue” and then asked them to read a text that emphasized either the costs or health impact of electronic medical records.⁷ This emphasis framing manipulation was carefully crafted to not supply any additional valenced or persuasive information about the issue, but rather only emphasized one dimension or the other. This provides a clean test of whether emphasis framing alone can move opinions. Participants were randomly assigned to receive either the Cost Frame or the Impact Frame:

Recently there has been some debate in Congress about a new proposal regarding electronic medical records. Some support the proposal. Others are opposed because they say that we should judge the proposal based on whether it [**is costly** | **will affect the health of average Americans**].

This manipulation is fully crossed with the t_1 information conditions, yielding a 5x2 factorial design with 10 experimental conditions in total. After reading the emphasis framing treatment, respondents were asked for their opinion on the electronic medical records proposal: “Given this information, to what extent do you favor or oppose this proposal?” and could supply their response on a fully labeled seven-point scale from “strongly favor” to “strongly oppose” (with

⁷ We use one-sided frames because we want to test the impact of framing when it is theorized to be most powerful (effects of competing frames tend to cancel; Chong and Druckman 2007b; Sniderman and Theriault 2004).

“neither favor nor oppose” as the middle category). In the analysis, this measure was recoded to scale from 0 to 1, with higher scores indicating support.

We also included a secondary dependent variable as an additional way of gauging emphasis framing effects. This measure allows us to test whether participants in the Cost (Impact) Frame condition said that costs (impact on patients’ health) were a more important consideration when thinking about the issue (Druckman and Nelson 2003; Nelson, Clawson, and Oxley 1997). Specifically, we provided participants with a list of six ideas (“improving technology,” “costs,” “errors in medical records,” “the health of average Americans,” “the opinions of doctors,” and “patient privacy”) and asked them to rate the importance of each idea on a five-point scale from “not at all important” (coded 0) to “extremely important” (coded 1).

As a manipulation check of the emphasis framing treatment, we asked all respondents the following: “Please think again about the proposal regarding electronic medical records. Do opponents say we should judge the proposal according to its costs, its impact on health, both, or neither?” We then measured the percentage of respondents correctly identifying the dimension emphasized by proposal opponents (which is what was manipulated in the framing vignettes). This enables us to test whether the frames were “received” by the participants, thus allowing us to rule out inattention as an alternative explanation in the event that we find weak framing effects.

Study 2 Design

Study 2 resembles Study 1 in nearly every respect, though we modified our experimental protocol to create more favorable conditions for finding support for the emphasis framing hypothesis. The framing manipulation was magnified to:

Recently there has been some debate in Congress about a new proposal regarding electronic medical records. Some support the proposal. Others are opposed because they say that we should judge the proposal based on whether it **[is costly | will affect the health of average**

Americans]. Indeed, much of the debate over the proposal now revolves around [**the question of costs | the proposal’s impact on patients’ health**].

Unlike in Study 1, this manipulation highlights that the emphasized frame is has won the public debate. The question wording for our main outcome measure also reinforced the emphasized frame: “Based on whether you think the proposal will [**mean higher or lower costs | have a large or small impact on patients’ health**], to what extent do you favor or oppose this proposal?” This question wording reinforces the framing manipulations by asking participants to explicitly weight particular beliefs while, again, not supplying any new persuasive information. The remainder of the questionnaire was identical.

We recruited participants from MTurk, excluding those who had participated in Study 1, with the additional provision of a quota sampling procedure based on self-reported party identification to ideologically balance the sample, lest the liberal-Democratic leanings of MTurk participants had any influence on the results. For Study 2 (and all subsequent studies) we used a Qualification Test to identify workers who were self-described Democrats, Republicans, and Independents and then capped the number of participants from each of these groups.⁸ While the demographics of our Study 2 sample closely mirror those for Study 1 in terms of race, age, and education, the Study 2 sample of 743 participants is notably more conservative, Republican, and male, thus providing us with a more face-representative sample.

⁸ We accomplished this using three separate HITs (one for each group), though the other questions in the Qualification test meant that workers were naïve to why they qualified for only one of the three HITs (Leeper, 2012).

Study 1 and 2 Results

We begin by examining whether the persuasive information manipulation influenced participants' beliefs about electronic medical records. Study 1 results are reported in Table 2, with column 1 showing results for the Cost Belief question and column 2 showing results for the Impact Belief question. As should be immediately clear, those who received High Cost information saw electronic medical records as much more costly than those in any of the other conditions, but differed only marginally from those in the Low Cost information condition when it comes to perceptions of the policy's impact on health care quality.⁹ By contrast, individuals in the High Impact condition saw the policy as offering substantially improved health care quality compared to those in the Low Impact condition. While these two groups differed somewhat in their perceptions of the cost of electronic medical records, both conditions were much closer to neutral on average than either of the costs conditions.¹⁰ Yet the effects of the information manipulations are clear: Participants' beliefs about the issue were substantially influenced by exposure to just a few short paragraphs of information. This result supports the persuasive information hypothesis. (Table 3 reports the analogous and substantively similar results for Study 2.)

⁹ For clarity of presentation, we place all statistical significance tests in Tables A2-A11 in the Supplemental Information. For all of Studies 1-8, there is *always* significant variation in opinions across informational conditions that is statistically significant at $p < 0.05$. Emphasis framing effects on opinion, conditional on information, are never significant at this level, except where noted in the text; but there are *always* significant differences in our emphasis manipulation check.

¹⁰ We acknowledge that the impact information manipulations produced a somewhat smaller difference in impact beliefs than did the cost information for cost beliefs.

Table 2. Beliefs about Cost and Impact by Information Condition (Study 1)

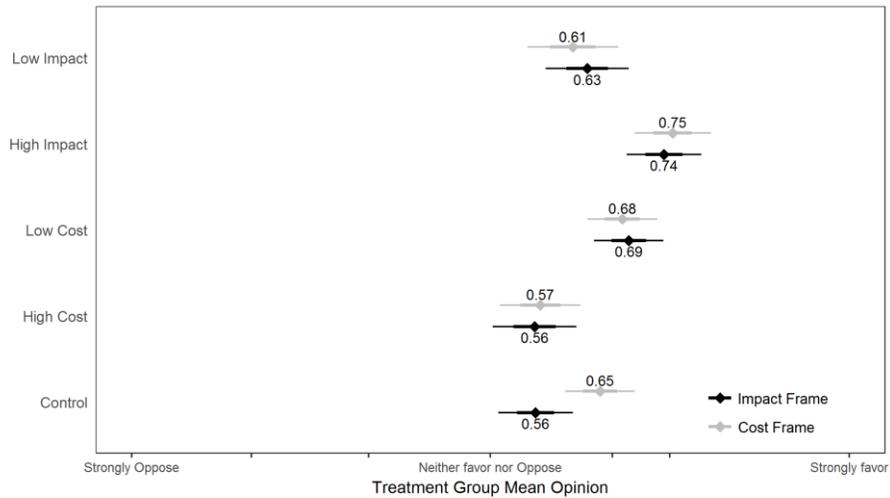
Information Condition	Cost Beliefs	Impact Beliefs
High Cost	0.81 (0.02)	0.22 (0.03)
Low Cost	-0.65 (0.03)	0.33 (0.03)
High Impact	-0.25 (0.04)	0.88 (0.02)
Low Impact	-0.03 (0.03)	0.17 (0.03)

Table 3. Beliefs about Cost and Impact by Information Condition (Study 2)

Information Condition	Cost Beliefs	Impact Beliefs
High Cost	0.81 (0.02)	0.23 (0.03)
Low Cost	-0.70 (0.03)	0.41 (0.03)
High Impact	-0.23 (0.04)	0.89 (0.02)
Low Impact	0.03 (0.02)	0.14 (0.02)

With the mechanism underlying the persuasive information hypothesis supported, we can then examine the mean level of policy support in each of our experimental conditions. If persuasive information affects opinions, then these groups should differ based on what information they received in the information treatment phase. If emphasis framing matters, then groups that received the same information treatment should differ based only on what dimension is emphasized in the framing treatment phase. We present the Study 1 results in Figure 2, as pairs of points representing treatment group means with error bars representing one- and two-standard errors of the mean. In each pair, the gray bar represents the Cost Frame condition and the black bar the Impact Frame condition. The findings are easy to interpret: framing an issue by emphasizing a particular issue dimension (be it cost or impact) has no effect on participants' opinions. Only in the control group (where respondents received no information treatment) do we see anything close to a framing effect and it is arguably in the opposite direction of what might be expected, given those in the Cost Frame condition are more supportive.

Figure 2. Mean Opinion by Information and Framing Conditions (Study 1)



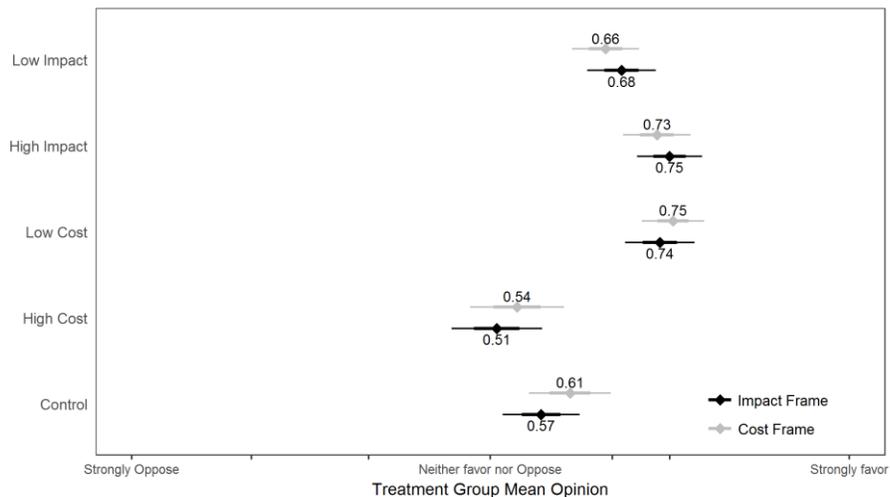
Note: Points are mean levels of policy support, by information and framing conditions. Gray points represent Cost Frame conditions and black points represent Impact Frame conditions. Bars represent one and two standard errors of the treatment group mean.

How should we interpret these results in light of the persuasive information and emphasis framing hypotheses? Looking again at Figure 2, we see that persuasive information clearly mattered. Individuals in the High Impact and Low Cost information conditions were more supportive on average than those in the Low Impact, High Cost, or control conditions. When individuals have received favorable information about a policy, they are more supportive and when they have received unfavorable information about that policy, they are less so. This lends clear support to the information hypothesis and suggests that persuasive information is vital to shaping preferences. Emphasis framing, by contrast, seems to matter very little. Simply because the debate shifts to emphasize one particular feature of the policy does not mean that the public is easily swayed to change their opinions. Information, not emphasis, changes opinions.

Turning to the results for Study 2 (see Figure 3), we again find that the persuasive information treatments have large and intuitive effects on opinions: Those exposed to favorable information (High Impact or Low Cost) are more supportive than those who are told the policy

has a low impact on health or those in the control group. Participants in the High Cost condition are particularly unfavorable. Information matters, yet—despite our efforts to strengthen the emphasis framing manipulation to create favorable conditions for the framing hypothesis—we once again find no support for framing. Emphasis alone did not change opinions.

Figure 3. Mean Opinion by Information and Framing Conditions (Study 2)



Note: Points are mean levels of policy support, by information and framing conditions. Gray points represent Cost Frame conditions and black points represent Impact Frame conditions. Bars represent one and two standard errors of the treatment group mean.

One could argue, however, that the Study 1 and 2 results do not challenge the framing hypothesis; rather they simply indicate that the framing manipulation did not “work” experimentally and thus there is a null finding. It may simply be that participants did not notice that a particular dimension of the policy was being emphasized. Fortunately, our framing manipulation check (measuring whether participants correctly perceived the frame used by the proposal’s opposition) allows us to know whether participants picked up on the frame being emphasized. For Study 1, in the Cost Frame condition, 63% (SE=2.50) of respondents correctly perceived the debate as emphasizing costs and only 6% (1.19) perceived the debate as

emphasizing impact. Similarly, in the Impact Frame condition, 34% (2.46) of respondents correctly perceived the debate as emphasizing impact and only 24% (2.21) of respondents perceived the debate to be emphasizing costs. While this manipulation check indicates that participants were better able to identify the Cost Frame than the Impact Frame, the significant differences in responses indicate that the two framing conditions clearly emphasized different dimensions. The framing treatments therefore seem to have “worked” as intended and were received by the study participants.

We can further probe the possibility of finding framing effects with our secondary dependent variable on belief importance. Consistent with the results on opinion, however, we find that framing a given dimension did not sizably change the importance participants attached to that dimension. In the Cost Frame condition, respondents rated the importance of costs at 0.72 (0.01) (on the 0 to 1 scale) and rated the importance of health impact at 0.75 (0.01). Similarly, in the Impact Frame condition, respondents rated the importance of health impact at 0.79 (0.01) and the importance of impact at 0.76 (0.01). In other words, pure emphasis framing in the form of asking citizens to consider a given dimension as important apparently is not enough for them to substantially value that dimension more and, consequently, may explain why framing alone did little to change opinions toward the issue. This is important because it means that framing does not work empirically as it is thought to work in theory through emphasis alone.

The manipulations also appear to have worked in Study 2: in the Cost Frame condition, 64% (2.50) of respondents correctly perceived the debate as emphasizing costs and only 7% (1.35) perceived the debate as emphasizing impact. Similarly, in the Impact Frame condition, 34% (2.46) of respondents correctly perceived the debate as emphasizing impact and 29% (2.35) of respondents perceived the debate to be emphasizing costs. While it may be that the Impact Frame did not adequately steer participants’ attention to impact, the Cost Frame clearly did so,

and still, we did not find support for the framing hypothesis even in the Cost Frame conditions. We also find that the framing treatment in Study 2 did not substantially affect the importance participants attached to issue-relevant beliefs. In the Cost Frame condition, respondents rated the importance of costs at 0.71 (0.01) (on the 0 to 1 scale) and rated the importance of health impact at 0.74 (0.01). Similarly, in the Impact Frame condition, respondents rated the importance of health impact at 0.78 (0.01) and the importance of impact at 0.75 (0.01). The result of our first two experiments is clear: information, not emphasis, changes opinions.¹¹

Studies 3-6: Inducing Competing Issue Considerations

Given that the results of Studies 1-2 (finding limited support for the emphasis framing hypothesis), it might have been the case that both experiments created unrealistic conditions for finding a framing effect because all participants were exposed to only one-sided persuasive information and thus might have had no issue-relevant considerations that could be weighted by the frame. Perhaps without having a mix of beliefs available in memory about the dimension being emphasized, we unintentionally neutered our framing manipulation.¹²

¹¹ In this and the following studies, we further looked for framing effects by analyzing if the frames influenced the relative weight of t_1 beliefs on t_2 opinion (cf. Nelson and Kinder 1996) or if framing effects occurred among certain educational groups or among those with the most ambivalent issue beliefs. None of these analyses, reported in Tables A21-A22 in the Supplemental Information, found clear and consistent support for alternative interpretation of the framing hypothesis.

¹² Indeed, the perception in the framing literature is that frames are particularly influential when they play at different, opposing considerations (Nelson and Kinder 1996: 1058; Sniderman and Theriault 2004: 138).

Studies 3 and 4 therefore eliminated the time lag between the information and emphasis stimuli and exposed all participants to persuasive information about both issue consideration dimensions. Study 3 continued our use of the electronic medical records issue, while Study 4 introduced a new issue (the canonical hate rally example).

Studies 5 and 6 continued the cross-pressured information treatments from Studies 3 and 4, respectively, but using new emphasis framing manipulations that came both *before* and *after* the information manipulations to mitigate ordering concerns. Otherwise, the protocol for these studies closely mirrored that of Studies 1 and 2.

Study 3 Design

The design of Study 3 consisted of five information conditions: (1) Low Impact & Low Cost, (2) Low Impact & High Cost, (3) High Impact & Low Cost, and (4) High Impact & High Cost, and (5) the usual control condition from Studies 1 and 2. Two of these conditions (1 and 4) should induce high degrees of belief ambivalence and thus create ripe conditions for framing effects because on one dimension the policy scores well while on the other it scores poorly. Weighting one dimension versus the other should therefore produce a change in opinion. Conversely, in condition (2) the policy should be disliked regardless of emphasis because it scores poorly on both dimensions and in condition (3) the policy should be liked regardless of framing because it scores well on both dimensions. We recruited a sample of 806 participants, unique from those in Studies 1 and 2, using identical procedures.

Study 3 Results

Given that Study 3 used substantially different information manipulations than Studies 1 and 2, it is worth reading these results carefully. Our concern in the previous experiments was that we only supplied participants with persuasive information about a single dimension of consideration during the information phase, thus preventing them from being framed by the subsequent mere

emphasis of a particular dimension of the issue. It is therefore important that the persuasive information treatments induced changes in beliefs about *both* cost and impact.

As is clear from Table 4, our information treatments indeed worked as expected. In the High Impact & High Cost condition, participants report that electronic medical records are both costly and impactful while those in the Low Impact & Low Cost condition see the proposal as inexpensive but also as having little impact on health. Therefore, depending on the dimension by which one considers the issue, participants in every condition should hold both favorable and unfavorable beliefs, creating a situation ripe for finding support for the framing hypothesis. For these two conditions, depending on which dimension is framed (i.e., which evaluative belief is weighted), policy opinions should differ.

Table 4. Beliefs about Cost and Impact by Information Condition (Study 3)

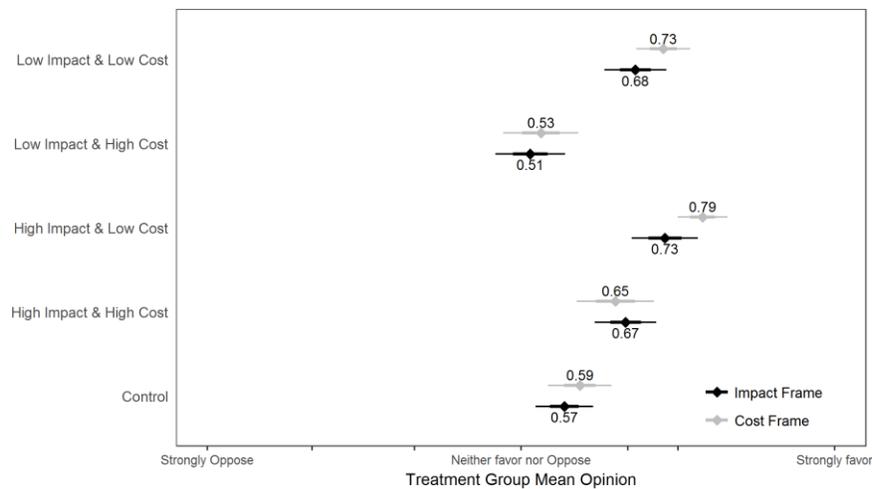
Information Condition	Cost Beliefs	Impact Beliefs
High Impact & High Cost	0.76 (0.03)	0.89 (0.02)
High Impact & Low Cost	-0.71 (0.02)	0.77 (0.02)
Low Impact & High Cost	0.65 (0.03)	0.13 (0.02)
Low Impact & Low Cost	-0.47 (0.03)	0.10 (0.02)

In contrast, in the two remaining information conditions, policy beliefs are consistently positive or negative. Thus, as expected, participants in the High Impact & Low Cost condition believe the proposal is both very inexpensive and highly impactful whereas those in the Low Impact & High Cost condition see the proposal as costly and ineffectual. In these information conditions, we should expect little impact of framing because their evaluative beliefs are positive or negative, respectively, regardless of which dimension is emphasized.

With the information hypothesis again supported, we can now turn to our results on policy support which we report visually in Figure 4. First we note that the control group reports opinions consistent with the control groups in our previous studies. Without information about

the policy, this group is neutral toward the policy regardless of frame. We are particularly interested in whether framing mattered in the conditions where the information treatments induced conflicting beliefs among participants to make them ripe for framing effects. Consider first the High Impact & High Cost information condition. If emphasis framing matters, we would expect those in the Impact Frame condition (black bar) to be more supportive than those in the Cost Frame condition (gray bar), yet these groups are indistinguishable from one another.

Figure 4. Mean Opinion by Information and Framing Conditions (Study 3)



Note: Points are mean levels of policy support, by information and framing conditions. Gray points represent Cost Frame conditions and black points represent Impact Frame conditions. Bars represent one and two standard errors of the treatment group mean.

Similarly, in the Low Impact & Low Cost information condition, we would again expect participants' opinions to vary depending on what dimension is framed. Framing participants in this information condition to think about costs should make them more favorable (given they see the policy as low cost) while inducing them to think about impact should make them less favorable (given they see little impact on patients' health). We find, however, that framing does not influence opinions as policy support is not significantly different across the two framing conditions.

Moving to the last two information conditions—Low Impact & High Cost and High Impact & Low Cost—we would expect minimal framing effects because each evaluative belief points in the same direction within the conditions. As expected, we find participants in the Low Impact & High Cost information conditions to be the least supportive of the policy, regardless of framing. Looking at the High Impact & Low Cost information conditions, we see that they as expected are among the most positive toward the policy but their opinions do not differ by framing condition.

As we found in Studies 1 and 2, this lack of evidence for the framing hypothesis is unlikely to be explained by a failure to grasp the changing emphasis in the debate. Thus, our manipulation check showed that our frames were successfully received by participants. In the Cost Frame condition, 61% (2.43) of respondents correctly perceived the debate as emphasizing costs and only 9% (1.44) perceived the debate as emphasizing impact. Similarly, in the Impact Frame condition, 35% (2.39) of respondents correctly perceived the debate as emphasizing impact whereas 28% (2.24) of respondents perceived the debate to be emphasizing costs. As in our previous studies, we recognize the Cost Frame appears to be more easily recognized than the Impact Frame, but we yet again found no support for the framing hypothesis.

Consistent with the previous studies, we find substantially tiny framing effects on belief importance. The alternative considerations were perceived as essentially equally important regardless of frame. Specifically, in the Cost Frame condition, respondents rated the importance of costs at 0.71 (0.01) and the importance of health impact at 0.77 (0.01). Similarly, in the Impact Frame condition, respondents rated the importance of health impact at 0.74 (0.01) and the importance of impact at 0.75 (0.01).

What does this mean? Our concern in Studies 1 and 2 was that we had unfairly disadvantaged the framing hypothesis by manipulating participants' beliefs about only one

dimension of the policy. Our response was to cross the two information dimensions (cost and impact) in an effort to more fairly test the framing hypothesis. When we disentangle the impact of persuasive information from the impact of emphasis framing in this way, the results suggest it is persuasive information, not emphasis framing, that explains the opinion changes consistently observed in previous studies of “framing.”

Study 4 Design

Study 4 was identical in design to Study 3 but on a new issue: a proposed rally by a white supremacist group at a historically black college. Building directly on treatments used in past research (Nelson et al. 1997; Chong and Druckman 2007a), we developed persuasive information and emphasis framing manipulations along two dimensions: free speech rights and public safety. Participants were again exposed to informational articles along both of these consideration dimensions (or a control condition receiving no information) and an emphasis manipulation highlighting which of the two dimensions of consideration had “won” in the debate. The results was a 5x2 experimental design. We manipulated emphasis framing by telling respondents:

There has recently been some debate about whether to allow the Ku Klux Klan, an extreme hate group, to hold a speech and rally on public property of the Virginia State University. Some public officials favor allowing the rally to take place while others oppose allowing it. Yet both sides agree that we should judge the issue based on what **[it means for public safety | the rights of the rally organizers are]**. Indeed, much of the debate over the rally now revolves around the question of whether **[the event will be violent or nonviolent | the group has a constitutionally protected right to speak]**.

Based on whether you think **[the rally will be violent or nonviolent | the rally organizers have the right to speak]**, to what extent do you favor or oppose allowing the KKK to hold the rally?

We then recorded respondents' opinions on the same seven-point opinion scale used in Studies 1-3. Additionally, we asked a manipulation check to measure whether respondents' perceived the emphasized dimension and a belief importance battery to assess the importance they attached to free speech rights, public safety, and several other issues dimensions. We recruited a sample of 1009 respondents for the study, using procedures described previously.

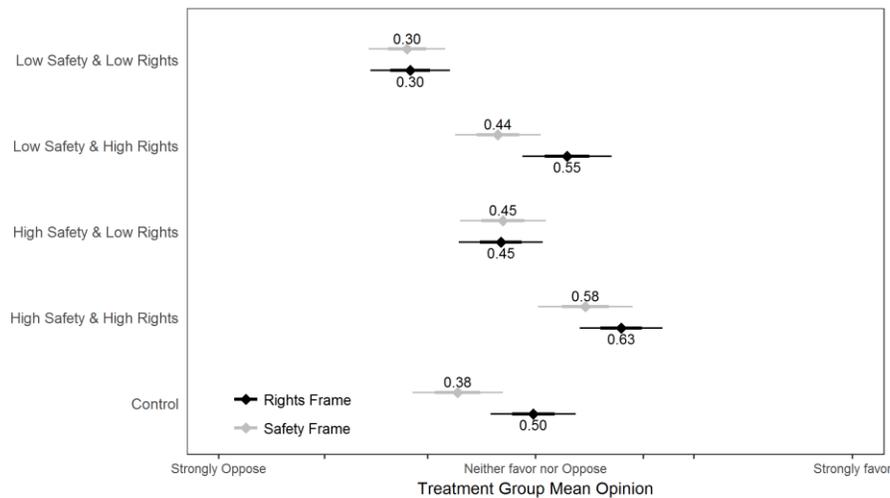
Study 4 Results

We focus our attention on the main experimental results and the extent to which we successfully manipulated participants' beliefs about the issue. Table 5 reports participants' beliefs about each dimension of the rally issue (namely, how likely the rally was to be violent and be constitutionally protected free speech). The results suggest our persuasive information treatments significantly modified participants' beliefs about the rally. In the control condition, participants told to consider a hypothetical rally (of the sort described in the articles that they did not read) expected the rally to be somewhat violent and were quite confident that such a rally was a constitutionally protected act of free speech. Those in the Low Safety & High Rights condition saw the rally as more likely to be violent and more likely to be protected speech. In the Low Safety & High Rights condition, respondents were much less likely to believe the rally was protected by free speech rights. In the High Safety & High Rights condition, almost no respondents were concerned about violence and almost all were convinced it would be protected speech. In the High Safety & Low Rights condition, participants rightly saw the rally as unlikely to be violent but also unlikely to be protected speech.

Table 5. Beliefs about Violence and Rights by Information Condition (Study 4)

	Likely Violent	Protected Speech
Control	0.35 (0.02)	0.54 (0.02)
High Safety & High Rights	0.08 (0.01)	0.88 (0.01)
High Safety & Low Rights	0.16 (0.01)	0.35 (0.02)
Low Safety & High Rights	0.59 (0.02)	0.84 (0.01)
Low Safety & Low Rights	0.60 (0.02)	0.24 (0.02)

Figure 5. Mean Opinion by Information and Framing Conditions (Study 4)



Note: Points are mean levels of policy support, by information and framing conditions. Gray points represent Safety Frame conditions and black points represent Rights Frame conditions. Bars represent one and two standard errors of the treatment group mean.

Given the strong influence of the information manipulations on beliefs, it is unsurprising that we find substantial support for the persuasive information hypothesis. Figure 5 conveys the powerful influence of persuasive information on respondents' opinions. Consider, for example, the condition where respondents are told (and believe) the rally organizers have high speech rights and that public safety will also be high. In this condition respondents support the rally, regardless of whether they receive the Safety Frame (0.58) or Rights Frame (0.63). By contrast, when respondents have two good reasons to oppose the rally (because it will be violent and the organizers do not have the right to speak), respondents overwhelmingly oppose the rally (Safety Frame: 0.30; Rights Frame: 0.30). Holding persuasive information constant, emphasis framing

matters hardly at all; but changing respondents' beliefs about the issue produces a change in opinion of as much as 0.33 points on a 0 to 1 scale.

But unlike in Studies 1-3, framing is not fully impotent. In the control condition (where respondents have no issue-specific beliefs), the Safety Frame decreases respondents' support by the rally to -0.12 relative to the Rights Frame condition (0.50). This variation makes sense given that respondents may have pre-existing beliefs about the likely safety implications and speech rights of the KKK, which our framing treatment also described as "the Ku Klux Klan, an extreme hate group." Those beliefs are likely to reflect that the group may be violent but also has a constitutional right to rally and speak. And indeed, the results from the control condition closely mirror those for the Safety Low & Rights High condition, where we manipulated respondents to hold precisely those beliefs. Framing was statistically insignificant in other cases.

On balance, then, Study 4 replicates our results from Study 3 in most respects but suggests that on the hate rally issue—which is one of the most commonly used issues in framing research—the framing hypothesis holds under the narrow conditions where respondents have strongly cross-pressured beliefs. Yet despite that opinion shift in response to emphasis framing, opinions differ substantially more in response to persuasive information.

Studies 5 and 6 Design

One concern with Studies 1-4 is that the results favoring the persuasive information hypothesis but finding little support for the emphasis framing hypothesis may be due to features of the experimental paradigm. Specifically, all four studies followed the design where persuasive information came *before* the emphasis framing manipulation. To assess whether this design feature was driving our results, we conducted two new experiments, implemented together on a single survey questionnaire. Study 5 focused on the electronic medical records issue. Study 6 focused on the hate group rally. These studies closely mirrored Studies 3 and 4, respectively, but

with a modified emphasis manipulation that came both *before* and *after* the news articles describing the issues. Specifically, for the medical records issue, we preceded the information vignettes with a short instructional manipulation:

We are asking different people to read articles on different topics. You are now being asked to read an article about a proposal to increase the use of electronic medical records in the United States. As you will see, much of the debate relates to **[the costs of electronic medical records | impact of electronic medical records on patients' health]**. Please keep this in mind as you read the article.

For the hate rally study, we used a similar manipulation:

We are asking different people to read articles on different topics. You are now being asked to read an article about a proposed rally in Virginia. As you will see, much of the debate over the rally revolves around the question of whether the rally **[will be violent or non-violent | is a constitutionally protected act of free speech or not]**. Please keep this in mind as you read the article.

We also made several additional, minor changes: (1) instead of presenting the informational treatments as a series of isolated paragraphs of text, we presented articles in whole to increase realism, and (2) we eliminated the control group conditions, given our main interest was in understanding the informational conditions under which the framing hypothesis holds. The persuasive information treatments and question wording manipulation of emphasis framing were unchanged. The results was a 2x4 design, crossing emphasis framing and persuasive information, with respondents participating in both experiments but in separately randomized conditions. A fresh sample of 974 respondents was recruited from MTurk.

Studies 5 and 6 Results

Given the similarity in design, we present the results of Studies 5 and 6 together. Tables 6 and 7 report our measure of issue-relevant beliefs, by persuasive information condition. As should be clear, beliefs strongly correspond to the information that respondents received about each issue, with substantively very large and statistically distinguishable differences in beliefs resulting from exposure to different persuasive information. Tables 6 and 7 show that beliefs closely mirror those of respondents in analogous conditions in Studies 3 and 4, suggesting that the changes to informational presentation between the pairs of designs (e.g., articles rather than paragraphs, emphasis framing before articles) were substantively inconsequential.

Table 6. Beliefs about Cost and Impact by Information Condition (Study 5)

	Costs	Impact
High Impact & High Cost	0.64 (0.02)	0.77 (0.02)
High Impact & Low Cost	-0.61 (0.03)	0.70 (0.02)
Low Impact & High Cost	0.66 (0.02)	0.10 (0.02)
Low Impact & Low Cost	-0.42 (0.03)	0.13 (0.02)

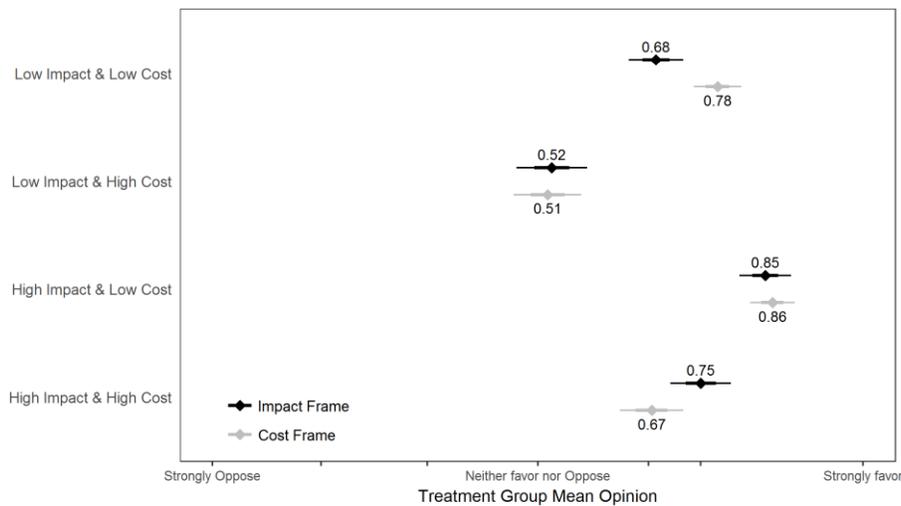
Table 7. Beliefs about Violence and Rights by Information Condition (Study 6)

	Likely Violent	Protected Speech
High Safety & High Rights	0.15 (0.01)	0.85 (0.01)
High Safety & Low Rights	0.22 (0.02)	0.43 (0.02)
Low Safety & High Rights	0.59 (0.02)	0.79 (0.02)
Low Safety & Low Rights	0.62 (0.02)	0.32 (0.02)

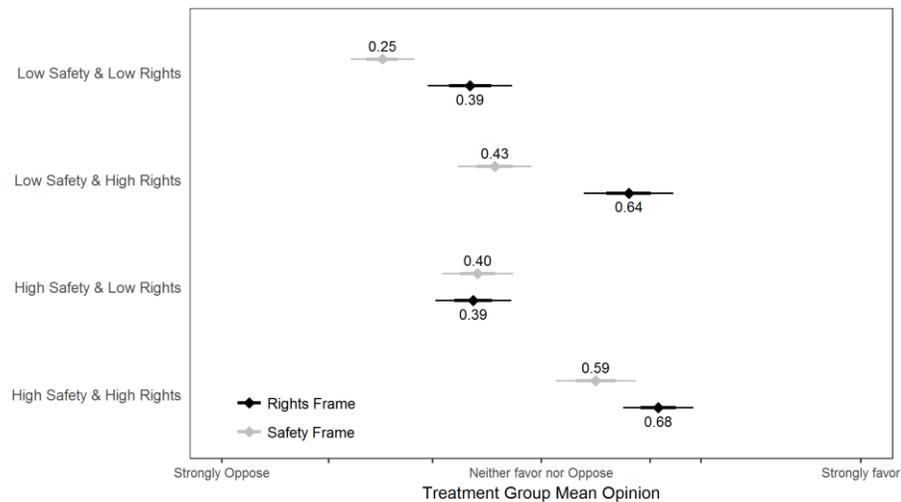
What effect did these persuasive information manipulations have on opinion, conditional on the much more intense emphasis framing manipulations? Figures 6 shows the treatment group means for both studies. On the medical records issue, we see a clear replication of the results from Study 3: Persuasive information is powerfully influential in shaping respondents' opinions about electronic medical records, while emphasis framing is relatively marginal. Compare, for example, the respondents with two reasons to oppose the policy (it is high cost and is not expected to be

impactful) who are unaffected by framing (barely supporting the policy with the Cost Frame: 0.51, and under the Impact Frame: 0.52). We see the same result for those with two reasons to support the policy (it is low cost and high impact) who support the policy regardless of emphasizing cost (0.86) or impact (0.85).

Figure 6. Mean Opinion by Information and Framing Conditions (Studies 5-6)



(a) Study 5



(b) Study 6

Note: Points are mean levels of policy support, by information and framing conditions. In the upper panel (Study 5), gray points represent Cost Frame conditions and black points represent Impact Frame conditions. In the lower panel (Study 6), gray points represent Safety Frame conditions and black points represent Rights Frame conditions. Bars represent one and two standard errors of the treatment group mean.

For those with cross-pressured beliefs due to receiving positive information about one dimension and negative information about the other, emphasis framing is marginally influential. In the Low Impact & Low Cost condition, focusing attention on (low) costs increases support to 0.78 relative to focusing attention on (low) impacts (0.68). Similarly, in the High Impact & High Cost condition, focusing attention on (high) costs decreases support to 0.75 from 0.67 in the impact frame condition. Both of these effects are statistically distinguishable from zero ($p < 0.05$) but just about one-third the size of the difference in opinions between the Low Impact & High Cost information condition and the High Impact & Low Cost information condition.

The results of Study 6 replicate this pattern to the extent that they show a large influence of persuasive information but diverge slightly because they suggest more potential for the framing hypothesis. A broad summary of the results is that persuasive information about safety had no effect on opinions, but persuasive information about rights was substantially influential. However, *emphasizing* safety (as opposed to rights) led respondents in nearly every condition to be less supportive of the rally. Indeed, the largest framing effect in Study 6 (and in any of our experiments) is in the “canonical” condition where respondents were manipulated to believe that rally organizers had a right to speak but that the rally itself was likely to turn violent. In this condition, respondents in the in the Rights Frame condition by and large supported the rally (0.64) but those in the Safety Frame condition opposed it (0.43), a difference of 0.21 ($d = 0.63$). The importance of this particular finding should not be understated: the largest effect we found of framing in any of our fourteen experiments (including those we have not yet discussed) came in the condition in the canonical hate rally experiment that has been most widely cited in the

framing literature.¹³ Combined with the relatively modest evidence for emphasis framing elsewhere in our results, this suggests that the most prominent result in the literature is likely near to the upper bound of possible effect sizes for emphasis framing.

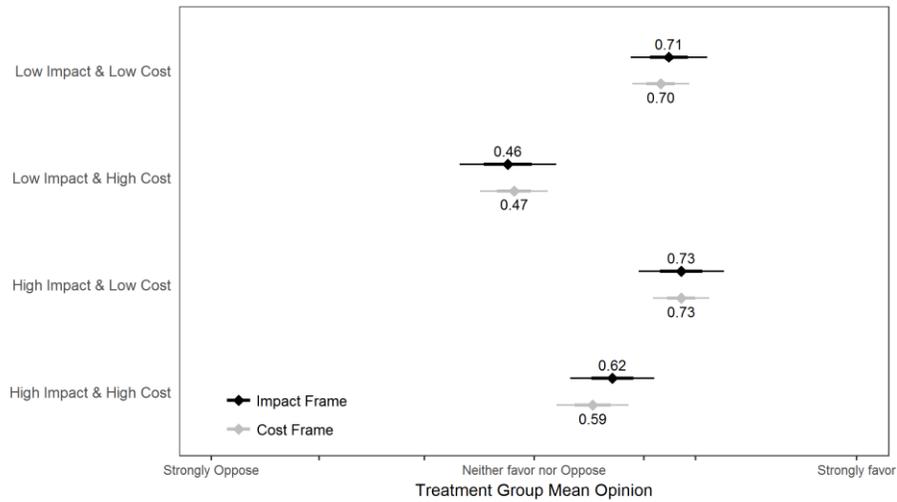
Thus while we find support in Study 5 for both the framing and information hypotheses, persuasive information seems to be much more influential than emphasis framing in the absolute size of relevant effects. And that result generally holds in Study 6. The framing hypothesis is only supported when the reweighting of considerations leads respondents to focus on belief considerations that actually differ in valence. This is fundamentally consistent with the expectancy-value model of opinion, but is something that has largely been overlooked in previous framing research where beliefs about different issue considerations were assumed to vary in valence a priori but were neither measured nor manipulated. Indeed, we suspect the differences between the results in Study 5 and Study 6 are due to respondents having more concrete a priori beliefs about a KKK rally than about electronic medical records, which made framing work not because of rally-specific considerations but rather because of considerations drawn from a broader set of attitudes toward public rallies, speech rights, and hate groups.

¹³ For comparison, in Chong and Druckman's (2007) "strong frame" operationalization of this experiment the effect of article-length manipulations was $d=0.97$ and Druckman's (2001) experiment found an effect of $d=1.09$, one of the largest effects in the whole of the framing literature. These effect sizes are comparable in size to the difference between the High Safety & High Rights information condition and the Low Safety & Low Rights information condition ($d=0.99$).

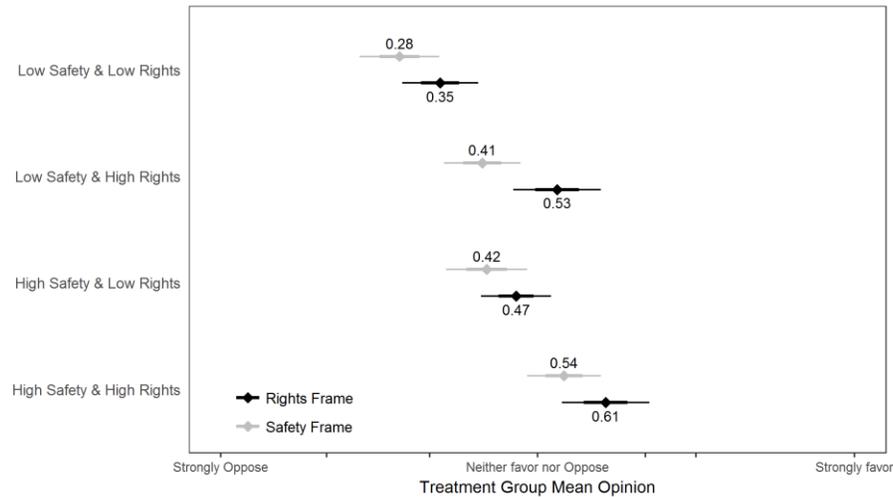
Studies 7 and 8

One concern with the evidence so far is the reliance on convenience samples. While our quota sampling methods provided ideologically diverse samples and results from convenience samples often closely mirror those of national samples (Mullinix et al. 2015), there may be unobserved sources of effect heterogeneity. Consequently, Studies 7 and 8 provide *exact* replications of Studies 5 and 6 using a nationally representative sample of the US online adult population (n=1,010) provided by YouGov. The results, in Figure 7, closely mirror those of the previous experiments. The size of the persuasive information effects and emphasis framing effects are extremely similar in that the effect of information is large and the effect of emphasis is consistently small for both the electronic medical records experiment (Study 7) and the hate rally experiment (Study 8). In the latter, we again find a positive emphasis framing effect in the Low Safety & High Rights condition but this effect is smaller (0.12) than in Study 6 (0.21). These results suggest that our reliance on convenience sample data does not appear to be problematic.

Figure 7. Mean Opinion by Information and Framing Conditions (Studies 7-8)



(a) Study 7



(b) Study 8

Note: Points are mean levels of policy support, by information and framing conditions. In the upper panel (Study 7), gray points represent Cost Frame conditions and black points represent Impact Frame conditions. In the lower panel (Study 8), gray points represent Safety Frame conditions and black points represent Rights Frame conditions. Bars represent one and two standard errors of the treatment group mean.

Studies 9 and 10: Generalizations across Issue and Treatment

As a further check on the sensitivity of our results to features of experimental design, we implemented Studies 9 and 10 to substantially extend our experimental paradigm. First, it was possible that Studies 1-8 detected support for the information hypothesis because of the length of the persuasive information manipulations relative to the length of the emphasis framing manipulations. Hence, we adopted shorter, vignette-style treatments that presented just a few sentences of persuasive information. Second, we again varied the order of the information and emphasis manipulations (in Study 9) and even—to maximize effects of emphasis framing—presented the emphasis framing manipulations *both* before and after the persuasive information manipulations (in Study 10). Third, given that we found stronger support for the framing hypothesis on the rally issue than for the medical records issue, we wanted to generalize our designs across numerous other issues. Consequently, in each study we examined three issues used in past framing research: the Patriot Act (Chong and Druckman 2010; Druckman and Leeper 2012), the DREAM Act, and offshore drilling in the Gulf of Mexico (Druckman et al. 2013). To maximize value, we conducted these studies with the same respondents as Studies 4 and 5-6, respectively.

Due to space constraints, we present these results in the Supplemental Information. In each of the six experiments (three in each study), we see very little variation in opinion across those exposed to different emphasis frames, despite the fact that respondents in every condition were manipulated to hold the kind of cross-pressured beliefs thought to invite framing effects, yielding further evidence against the framing hypothesis.

Discussion

An emphasis framing effect—the result of placing emphasis on a particular dimension of consideration—is widely thought to be among politicians’ most important tools for influencing public opinions. Yet using fourteen original experiments, we have tested the relative effects of exposure to persuasive information about political issues to exposure to media- and elite-driven emphasis on dimensions of those same issues. Taken together, the results of our main experiments (Studies 1-8) suggest a clear pattern:

- Persuasive information is a particularly potent influence on opinions, yielding large effects on opinion that average $d=0.52$ ($sd=0.30$).
- Emphasis framing effects are comparably much smaller with a mean of $d=0.15$ ($sd=0.11$) or roughly just 40% as large as the framing effects claimed in the literature ($d=0.35$) and only 30% as large as effects of persuasive information in our experiments.

We suspect this difference between existing findings and our own is due to previous experiments relying heavily on article-length framing manipulations that actually entail the provision of new, persuasive information to respondents, confounding manipulations of emphasis framing. By benchmarking our experimental tests against essentially the whole of the experimental framing effects literature, we can see clearly how that literature should be read: as likely overestimating the true effect of pure emphasis framing. Persuasive information shifts citizens’ opinions far more and far more consistently than does emphasis framing. This finding has important political, theoretical, and normative implications.

Politically, the limited empirical support for pure emphasis framing implies that politicians, political parties, and other actors must do far more than frame (or reframe) issues to change public opinion. They must provide arguments and evidence in support of their positions.

As noted by Sniderman and Carmines (1997, 129), “the politics of public policy is [not] merely a matter of marketing. It is a matter of argument.” This more demanding political strategy should lead scholars to rethink the scope and size of elite influence, and might hold promising normative implications for citizens forming opinions grounded in substantive arguments to a larger extent than previously thought.

Theoretically, our results challenge the conceptual strength of “framing” as an all-encompassing theory of opinion formation and similarly challenge the current interpretation of the sizeable literature on framing effects. We do not mean to question the validity or importance of this literature but rather would highlight that opinions in previous experiments were likely moved by the persuasive information contained in the treatments, not merely by the way the information was framed. Therefore, we call for a renewed theoretical examination of the expectancy-value model that prioritizes and distinguishes persuasive information and emphasis framing. Careful focus on the consideration and weight mechanisms will help to distinguish whether framing, priming and agenda setting are related, or perhaps equivalent, concepts and whether they are distinct from other processes (see Lenz 2009; Mutz 1998, 72-73).

Finally, democracy as a form of government is premised upon the representation of public preferences by government. The consistent finding of a reverse pattern of influence whereby elites shape public preferences problematizes this democratic foundation. Evidence of opinion instability and apparently pernicious effects of subtle elite communications challenges the idea that democratic accountability is possible. Our findings suggest that elites cannot easily sway public preferences without communicating policy-relevant information and developing persuasive arguments to support their preferred position. We find that emphasis framing alone is commonly an insufficient political strategy. Citizens are not so easily swayed.

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