

Forum

## **Motivated Reasoning and Public Opinion**

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**Abstract** Citizens, especially those who are knowledgeable and care the most about politics, are motivated to defend their beliefs and attitudes in the face of discrepant information. These motivated biases strongly influence the way people think about health care policies and the politicians and parties that propose or attack these contentious policies. Three cognitive mechanisms are identified: a prior belief effect, confirmation bias, and disconfirmation bias. Together, these information processes conspire to produce persistence and polarization of opinion on health care policies.

Citizens, especially those who know and care the most about public policies, are not open-minded. They are not inclined toward balance or evenhandedness when thinking about and discussing politics. Rather, they are motivated reasoners who seek out congenial sources of information and defend their attitudes and beliefs when challenged, and as a consequence they tend to polarize in the face of both confirming and disconfirming information. This article reviews motivated reasoning research and considers the implications of motivated reasoning for rational public opinion. As we illustrate our theory of motivated reasoning, we provide examples of how cognitive biases influence a wide range of health-related attitudes, from broad, national decisions about health reform to individual decisions about caffeine consumption and smoking.

Our primary theme is the importance of understanding how internal motivations and biases can influence deliberative cognitive processing. Although the bulk of our research has focused on biased processing within the political environment, this article seeks to emphasize, particularly to

students and researchers within the health care field, how the phenomenon of motivated reasoning can permeate one's processing of health-related stimuli as well. Health professionals and those who study public policy and opinion in the health care area should benefit from this article, as it provides insight into how motivated reasoning influences the perception of and deliberation on decisions about one's personal well-being, beliefs about the health care system, and opinions about health care practices or policies.

### **Motivated Reasoning**

Whether considering vote choice for a particular candidate or support for a new health care measure, how citizens process information is essential for understanding behavioral outcomes. Some of the earliest work that examined motivational influences on cognitive processes can be attributed to Festinger and his cognitive dissonance theory (1957). According to this theory, people strive for a sense of consistency among their attitudes, behaviors, and self-images. Festinger found, for example, that members of a millennial group became even more convinced and extreme in their views after the predicted date for the end of the world had passed, a result he explained as an effort to mitigate their extreme cognitive dissonance (Festinger, Riecken, and Schachter 1956).

Festinger's work suggested a phenomenon in which individuals tend to process information in a biased and partial manner, and subsequent research has by and large confirmed this notion. Most of this subsequent literature on motivation and selective information processing was born out of social psychology's concern with goals and goal-related behavior (Kunda 1990). Thus psychologists developed a framework for understanding the effects of motivated reasoning based on twin competing motivations: accuracy goals and directional goals (Kunda 1990). Accuracy goals arise in situations where individuals are motivated to provide accurate responses (e.g., a situation in which they will later have to justify their choices to others). This type of motivation tends to evoke more elaborate and careful reasoning (Kunda 1990; Tetlock and Kim 1987).

Directional goals are those motivational factors that guide one's evaluation toward a preferred end result. For instance, research by Sanitioso and colleagues (1990) found that people who were led to believe that extraverts were more academically and professionally successful recalled more autobiographical memories that portrayed themselves as extroverts. In contrast, individuals led to believe that introverted personality types

were more successful recalled more introverted memories of themselves. In other words, directional goals biased the accessibility and construction of subjects' memories (Kunda 1990), which then propelled them to behave as motivated reasoners.

Examples of motivated reasoning are abundant in the scholarly psychological literature. Our theory of motivated reasoning (Lodge and Taber 2000; Taber and Lodge 2006) seeks to address not only the underlying mechanisms that influence motivated reasoning but also how these biases in information processing can be applied to the political environment as well. All political reasoning, we argue, is motivated by either accuracy or partisan goals. Accuracy goals in this case serve to drive individuals to make the correct choice, such as voting for the candidate whose views on important issues match those of the citizen. Partisan goals, on the other hand, motivate citizens to selectively process information that upholds their prior beliefs and partisan attachments (Rudolph 2006; Taber and Lodge 2006).

Thus partisan goals not only influence how individuals process politically relevant information but also serve as more general motivational mechanisms that guide processing that is consistent with individuals' prior attitudes. For example, debates surrounding the 2010 health care overhaul hinged, for many Americans, not only on the details of the reforms themselves but also on one's preexisting attitudes toward national health care systems in general. In a CBS News poll conducted in July 2009, 66 percent of Americans claimed to be in favor of a public option when it was likened to the Medicare program that exists currently (Langer 2009). In contrast, a poll from *Time* magazine conducted the same day as the CBS poll revealed only 56 percent support for a public option when there was no mention of Medicare (Langer 2009). A poll conducted by Pew two days prior similarly found lower support (52 percent) for a public option when the poll made no reference to Medicare (Langer 2009). As evidenced by these results, individuals' attitudes toward current reform can be swayed by their preexisting attitudes toward certain health care programs.

Our concept of motivated reasoning differs from previous research in that we believe *affect* to be the catalyst for biased processing. More specifically, we posit that most sociopolitical concepts are affectively charged, or "hot," and when confronted with a political stimulus these "hot cognitions" are recalled automatically and before conscious appraisal. For example, when individuals evaluate gun control legislation sponsored by the Democratic Party, positive or negative affect associated with both the concept of gun control and the concept of the Democratic Party are instan-

taneously activated in the minds of most individuals, and these feelings drive the directional goals that underlie motivated reasoning. Importantly, our conceptualization of affectively arousing “hot cognition” differs from Festinger’s theory in that cognitive dissonance generally employs more analytic or “cold” cognitive arguments (Taber and Lodge 2006).

We have examined three specific mechanisms through which motivated reasoning operates: a prior attitude effect, a confirmation bias, and a disconfirmation bias (Taber and Lodge 2006). When experimental participants were asked to select arguments about gun control and affirmative action policies, we found that they were generally more likely to choose to read attitudinally congruent arguments (i.e., arguments that corresponded to their prior attitudes on the issues). These findings are reflective of the confirmation bias hypothesis, where individuals tend to seek out information that affirms their prior beliefs. We also observed a tendency for individuals to steer clear of counterattitudinal arguments, or arguments that might challenge their prior beliefs. Interestingly, when individuals did choose to evaluate counterattitudinal arguments, they spent more time reading these arguments than they did attitudinally congruent arguments. Evidently, this extra time participants spent reading incongruent arguments was due to counterarguing these claims. This inclination for individuals to denigrate those arguments that challenge their prior beliefs is precisely what we conceptualize as the disconfirmation bias.

Within the same experimental study, we also found support for a prior attitude hypothesis, in that people who felt strongly about the topic of gun control or affirmative action consistently evaluated attitudinally congruent arguments as stronger and attitudinally incongruent arguments as weaker. Additionally, we observed that political sophistication and attitude strength moderated the degree to which individuals engaged in motivated reasoning. That is, sophisticated participants who possessed greater amounts of knowledge about a topic and were more invested in it were more likely to engage in biased processing. Furthermore, after evaluating a balanced set of attitudinally congruent and attitudinally incongruent arguments, subjects (particularly sophisticates) in this study showed evidence of attitude polarization on the topics of gun control and affirmative action. That is, their attitudes were more extreme after reading the balanced set of pro and con arguments than before. Overall, this work has captured a motivated reasoning phenomenon in which citizens who feel challenged by attitudinally incongruent information tend to engage in biased information processing to uphold their prior beliefs.

### **Other Empirical Work**

Other researchers have provided further empirical evidence for motivated reasoning within the field of political science. Meffert and colleagues (2006), for example, investigated the influence of motivated reasoning on media-related campaign information. When exposed to fabricated newspaper articles about fictional Democratic and Republican candidates, participants in this study who had strong initial preferences counterargued negative information about their preferred candidates and eventually polarized. These participants were highly motivated to defend their initial candidate preferences, and this motivation led them to denigrate and discount discrepant information.

More recent research on motivated reasoning has tested the boundary conditions under which people will engage in biased information processing. While one might imagine that different informational formats either attenuate or intensify motivated reasoning, research by Taber, Cann, and Kucsova (2009) found that the type of argument had little impact on information processing. People who were exposed to short arguments, long arguments, and even two-sided arguments on various social issues all showed evidence of confirmation and disconfirmation bias during their evaluation of the arguments and attitude polarization afterward. These results suggest that individuals tend to act as motivated reasoners even in the face of complex or seemingly credible arguments.

In a similar vein, research by Nyhan examined the issue of myths or misperceptions about health care reform and their impact on public opinion. Misperceptions about Bill Clinton's health care reform typically included the belief that individuals would lose their choice of doctor, whereas misperceptions about Barack Obama's health care reform centered on the notion of "death panels" for the elderly (Nyhan 2010). In both cases, Nyhan's research reveals that opposing partisans were more likely to perpetuate these false notions, giving credence to our theory of motivated reasoning and partisan goals. In addition, these misperceptions tended to be held by those who are well informed, rather than ignorant about health care reform (*ibid.*), lending support to our prior findings about biased processing and sophisticates. Presumably, some level of disconfirmation will persuade even the most recalcitrant partisans (though Festinger's early work on millennial beliefs suggests otherwise!). Redlawsk, Civettini, and Emmerson (2010) have searched for an "affective tipping point" in the balance of pro and con information where one changes from a directional to an accuracy-based style of reasoning. According to their

work, as individuals encounter more and more incongruent information about their initial evaluation of a candidate, the amount of anxiety they experience tends to increase. While their initial evaluation of the candidate might have been more reliant on heuristic processing (Jain and Maheswaran 2000), this influx of incongruent information causes individuals to become more focused on the accuracy of their evaluations. The concepts of cognitive dissonance (Festinger 1957), hot cognition (Lodge and Taber 2005; Taber and Lodge 2006), and an affective tipping point (Redlawsk, Civettini, and Emmerson 2010) aim to tease out the relationship between affect and motivated reasoning, an empirical area that continues to be ripe for study.

Several researchers have addressed how motivated reasoning can creep into opinions about public policy, legal decisions, and evaluations of one's health. In 2007 Braman and Nelson published empirical evidence that people evaluated seemingly objective legal precedents in a biased fashion, based on the outcome of the legal decision. In this study, individuals were presented with various cases of discrimination, the outcome of the case, and the legal precedent on which the ruling was based. Braman and Nelson found that those participants who observed legal precedents favoring their predispositions were more likely to judge the legal precedent as analogous to the case at hand.

For example, when presented with a legal case that found a gay Boy Scouts leader had been discriminated against, Braman and Nelson found that participants who were opposed to gay Scout leaders perceived the legal precedent on which the ruling was based as less similar to the case. On the other hand, when those who indicated prior support for gay Scout leaders encountered a ruling that found discrimination, they viewed the legal precedent as more similar to this particular piece of litigation. In other words, the applicability of a legal precedent to the case at hand was processed based on whether the individual agreed or disagreed with the ruling. Interestingly enough, this effect was found among both undergraduate students and law students, indicating that even those who presumably are more educated about legal matters can fall victim to biased information processing.

Motivated reasoning research has also flourished in the health field, and particularly health psychology. A 1997 article by Blanton and Gerard, for example, observed motivated reasoning among people who faced the task of determining how likely they would be to contract a sexually transmitted disease (STD) after hypothetical sexual contact with a variety of fictional women. Participants in this study (all males) were given

information about a target woman's prior number of sexual partners and history of condom use. In a separate condition, participants were again given information about a target woman's number of sexual partners and history of condom use, but this time they were also shown a photograph of a woman with high sex appeal or a woman with low sex appeal and a short snippet of the woman's personality traits.

Blanton and Gerrard's study revealed that, absent any photographic or personality information, males did tend to perceive a linear trend between the likelihood of contracting an STD, higher number of prior sexual partners, and less frequent condom use among women. By contrast, participants who saw a photograph of a sexually attractive woman and were given some personality information about that woman were significantly more likely to rate her as less of a risk for contracting an STD, even as her alleged number of prior sexual partners increased. These findings suggest that objective information about a person's sexual past can be discounted or argued against when the person is highly attractive. Moreover, these findings were observed among unaroused males in a sterile laboratory setting and might actually *underestimate* the extent to which people may engage in motivated denial when in actual interactions with potential sexual partners.

Many health-related decisions also arise from evaluations of the self and one's own behavioral tendencies. For example, work by Reed and Aspinwall (1998) found that women who were frequent caffeine drinkers tended to discount information that claimed a link between caffeine consumption and the risk of fibrocystic breast disease. Furthermore, the investigators observed that this relationship was moderated by an affirmation manipulation in which participants were asked to evaluate their own level of kindness. Frequent caffeine drinkers who were exposed to the affirmation manipulation were found to process both risk-confirming and risk-disconfirming information in a less-biased manner than did frequent caffeine drinkers who were not exposed to the affirmation manipulation. Apparently those who evaluated their degree of kindness experienced an increase in positive self-affect, which subsequently caused them to reduce their defensive strategies when evaluating the link between caffeine consumption and fibrocystic breast disease. This finding suggests that, in addition to the information at hand, an individual's affective state can also influence how he or she engages in motivated reasoning and can influence the degree to which the individual perceives his or her behavior as risky.

Cigarette use is another prominent public health topic that has been the subject of motivated reasoning research. People who choose to smoke

despite being well informed of the risks and other negative consequences of doing so most likely engage in motivated reasoning to discount these risks. Harris and colleagues (2007) examined the influence of self-affirmation on perceptions of risk associated with cigarette consumption. In this study, smokers who were assigned to the affirmation manipulation condition were asked to list as many positive attributes about themselves as possible. All participants were shown graphic photographs (e.g., rotting teeth because of smoking, a man in a hospital bed hooked up to an oxygen machine) that were also accompanied with the phrase “smokers die younger.” As in the caffeine consumption experiment, this study shows that positive affect decreases the degree to which one engages in biased information processing. In contrast to smokers who had not recalled positive attributes about themselves, smokers who were self-affirmed rated the graphic photos as more threatening and indicated stronger intentions to curb their cigarette consumption. Once again, those who did not experience positive self-affect shortly before evaluation exhibited more defensive information processing, perhaps so that their decision to smoke was justified. The interplay between self-affect, motivated reasoning, and evaluations of one’s own health risks clearly has implications for how medical practitioners should approach these topics with their patients.

### **Implications for Rationality**

Given the variety of research described here, motivated reasoning appears to be an inescapable phenomenon capable of reaching across many different empirical domains. We may prefer that human decision making be a rational and deliberative process, but in reality, it appears that our prior beliefs and feelings guide what we perceive and how we process it. From a normative perspective, this begs the question of whether people are truly ever capable of processing information in an unbiased fashion and, if not, to what degree might this influence how politics, policy, and (more generally) society function.

Certainly, some of the research presented here suggests that people may be driven by desires to act contrary to self-interest, such as smoking in light of the negative health consequences or upholding stubborn beliefs about a political candidate despite evidence to the contrary. While these findings might portray human information processing in a less objectively rational fashion than one might hope, the broader implication from the body of motivated reasoning research is that researchers should remain cognizant of how internal processes may affect behavioral measures.

Given the influence of motivated biases and polarization in shaping opinions toward health-related policies (Langer 2009; Nyhan 2010), government officials, pollsters, and health care practitioners might gain a better understanding of support for health care reform by considering the motivated reasoning literature. Political elites, for instance, might consider not only details of the health reform policies they put forth but also the degree of partisan polarization among the electorate. As evidenced by our prior attitude hypothesis, those with strong prior attitudes tend to be most adamant in upholding their beliefs. As such, one would expect health care debates that arise within intensely polarized political environments to be more susceptible to biased processing.

Our own research on motivated reasoning serves as a testament to how internal motives influence purposeful and deliberative processing. By and large, citizens are not open-minded or easily persuaded when considering political information. Although fair-mindedness and objectivity are desirable qualities of thought, particularly for weighty issues such as gun control, health care reform, and affirmative action, evidence has shown that human information processing often does not operate in that manner. Whereas the phenomenon of motivated reasoning is not completely irrational in terms of cognitive efficiency, it certainly might help explain the endurance of Dole-Kemp bumper stickers or the unshakable notion of death panels.

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