

**Motivated Responses to Political Communications:  
Framing, Party Cues, and Science Information**

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## ABSTRACT

Among numerous foundational contributions, Milton Lodge's work is notable for its artful adaptation of theories of psychological processing to political contexts. Lodge recognized the uniqueness of politics as a context for information processing, exploring situations which are defined, in part, by a) low information and thus situations where information acquisition occurs, b) contested informational claims, and c) over-time dynamics. This is true of his work on schemas, on-line processing, and motivated reasoning. We focus on the last of these by studying applications of motivated thinking in three domains: competitive framing, partisan competition, and science opinion formation. We reveal how informative Lodge's work in these areas has been and elaborate his findings to highlight the conditionality of political motivated reasoning in each domain.

After an early foray into Soviet politics, Milton Lodge began a multi-decade effort to introduce political scientists to the theories, methods, and findings of social and cognitive psychologists. From early work on psycho-physiology, through pioneering research on schemata, to more recent investigations of motivated thinking, Lodge and his collaborators shaped how a generation of political scientists think about human reasoning. Lodge's work is among the most psychologically sophisticated in political science, but it also is always distinctly political – attending to the political realities of over-time competition in an environment where citizens have low levels of information. The culmination of this work has been a landmark theoretical advance – “motivated reasoning.”

In this chapter, we begin by outlining the evolution of Lodge's work on motivated reasoning. We then demonstrate how the theoretical framework he puts forth can be used to explain opinion or preference formation in response to political communications – that is, the typical context in which citizens, lacking information and being exposed to competing political messages, form political opinions. We focus on three distinct areas (which have not been a direct focus of Lodge's own work), including work on framing, partisan cues, and opinions about scientific issues. We conclude by accentuating how Lodge's approach is a model for integrating the realities of individual psychological with political competition.

### **From On-Line Processing to Motivated Reasoning<sup>1</sup>**

Citizens' political preferences form the foundation for most conceptions of representative democracy (e.g., Dahl 1971, Erikson et al. 2002, Druckman 2014). It is thus not surprising that the question of how people form political preferences has been central to political science for

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<sup>1</sup> Parts of this section are taken from Druckman and Lupia (2000), and Druckman (2012, 2015).

nearly a century (e.g., Lippmann 1922). For much of that time period, the dominant approaches focused on memory. The idea behind these memory-based models is that people base their evaluations on information that they retrieve from memory. For example, when called on to evaluate a candidate or issue, people canvas their memories for information on the candidate or issue and use what they find to form preferences (e.g., they recall that the candidate favors increased defense spending and that agrees with their belief so they support the candidate). Canvassing of memory can be a comprehensive incorporation of copious information (e.g., Enelow and Hinich 1984) or, more realistically, can be based on whatever smaller amounts of information that happens to come to mind (Zaller 1992). The key point is that memory of specific information is recalled and is the basis for opinions.

In the mid-1980s, Lodge and his colleagues launched a challenge to memory-based models by putting forward the on-line model of political processing. Building on research in psychology (Hastie and Park 1986, Bassili 1989), Lodge and colleagues acknowledged that cognitive limitations prevent exhaustive memory searches. But instead of just using whatever information happens to come to mind, the on-line model suggests that people form and maintain a running “evaluation counter” of certain objects (e.g., candidates). When an individual encounters new information about such objects, he or she immediately brings an affect laden “evaluation counter” (i.e., running tally) into working memory, updates it given the new information, and then restores the counter to long-term memory.

An important aspect of this model is that, after updating the evaluation, the individual may forget the information that affected the evaluation. When asked to express their evaluation, people simply retrieve the evaluation counter without searching for the information on which it was based. Lodge et al (1989: 401) explain that the result may be “that people can often tell you

how much they like or dislike a book, movie, candidate, or policy [because they maintain a running evaluation] but not be able to recount the specific whys and wherefores for their overall evaluation...” This is in sharp contrast to memory-based models where individuals do not maintain a running evaluation counter and instead base their evaluations on whatever information they happen to remember.

In a series of experiments, Lodge and his colleagues show that participants who engage in on-line processing base their evaluations on information that enters their evaluation counter (over time) more than the bits of information that happen to be available in memory at the time the evaluation is rendered (e.g., Lodge et al. 1989, 1995, Lodge and McGraw 1995). For example, a pro-choice, tough on crime voter may receive campaign information that a candidate supports abortion rights and strict federal crime laws. As a result, the voter accesses and updates his or her on-line evaluation of the candidate in a favorable direction, and then quickly forgets the candidate’s pro-choice and tough on crime stances (and restores the on-line evaluation in long-term memory). At a later point in time – when the voter needs to evaluate the candidate (e.g., cast a vote) – he or she simply retrieves the positive on-line evaluation and thus offers a favorable candidate evaluation, despite the fact that the voter may not recall the specific reasons for the positive evaluation (i.e., the voter may not remember the candidate’s pro-choice or tough on crime stances). Thus, there may be no relationship between what the voter remembers and who the voter prefers, or the relationship may reflect *post hoc* rationalizations.

If people form their evaluations on-line, then we, as researchers, should not expect people to remember and report the reasons for their preferences. The on-line model (1) calls into question the use of recall questions to gauge opinion formation since people may forget the reasons for their opinions (also see Rahn et al. 1994), (2) suggests that the impact of campaigns

cannot be assessed based on campaign information recalled, and (3) shows that citizens form more stable preferences that evolve over time rather than unstable preferences based on whatever comes to mind (see Druckman and Lupia 2000, Lodge and Taber 2000).

The on-line model has proven to be empirically successful across contexts, but it also left some questions unanswered such as how do people deal with different types of information and what information do they seek in the first place. These and other ambiguities presumably motivated Lodge and Charles Taber to develop a model of political motivated reasoning.<sup>2</sup> Again extending work from psychology (e.g., Kunda 1990), Lodge and Taber put forth a model and provide extensive empirical data for motivated reasoning.

A starting point for this model is to consider the idealized, rational environment, where individuals integrate new information and update their prior opinions in an even-handed and unbiased fashion. Absent substantial motivation to accurately process information, however, individuals often subconsciously interpret new information in light of their extant attitudes (Redlawsk 2002). Lodge and Taber (2008: 33) explain that upon encountering new information, existing attitudes “come inescapably to mind, whether consciously recognized or not, and for better or worse these feelings guide subsequent thought.” The result is *motivated reasoning*: the tendency to seek out information that confirms priors (i.e., a *confirmation bias*), view evidence consistent with prior opinions as stronger (i.e., a *prior attitude effect*), and spend more time counter-arguing and dismissing evidence inconsistent with prior opinions, regardless of objective

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<sup>2</sup> Lodge and Taber (2000: 186) initially introduced motivated reasoning as an extension to Lodge’s work on on-line processing. While on-line reasoning is not necessary for motivated reasoning, it does increase the likelihood of it occurring. For further discussion, see Druckman et al. (2009) (also see Goren 2002, Braman and Nelson 2007).

accuracy (i.e., a *disconfirmation bias*).<sup>3</sup> Each of these processes will lead to attitude polarization where individuals take more extreme positions in the direction of their pre-existing attitude.

In their initial seminal study, Taber and Lodge (2006) invited participants to a single study session that focused on two partisan, contentious issues: affirmative action and gun control. The participants first reported their prior attitude and the strength of that attitude on one of the issues (e.g., affirmative action). After being encouraged to “view information in an evenhanded way so [as to] explain the issue to other [participants],” participants selected eight of sixteen possible pro or con arguments about the issue (Taber and Lodge 759; also see Taber et al. 2009, 144). This tested for confirmation bias. Participants next reported their updated opinion on the issue and answered demographic questions.

In the next stage of the study, participants reported their opinions on the other issue (e.g., gun control), were again told to be “evenhanded,” were asked to rate the strength of four pro and four con arguments, and then reported their updated opinions. This tested for the prior attitude effect and disconfirmation bias. Taber and Lodge report stark evidence that participants evaluated arguments that were consistent with their prior opinions as more compelling; spent more time counter-arguing incongruent arguments; and chose to read arguments consistent, rather than inconsistent, with their prior opinions.

These dynamics led to attitude polarization: respondents developed more extreme opinions in the direction of their priors.<sup>4</sup> Lodge and Taber (2008: 35-36) further explain that motivated reasoning entails the automatic “systematic biasing of judgments in favor of one’s

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<sup>3</sup> In their 2006 article, Taber and Lodge employ the term “motivated skepticism;” we treat motivated reasoning as synonymous with “motivated skepticism” as well as “partisan perceptual screen” (Lavine et al. 2012). The idea of motivated reasoning has deep roots in psychological research of the 1950s and 1960s (see, for example, Festinger 1957), and more contemporary research by Lord et al. (1979) and Kunda (1990) (for early political science applications, see Sears and Whitney 1973).

<sup>4</sup> This appears to contradict the ideal Bayesian reasoning (see Redlawsk 2002, Kim et al. 2010; although also see Bullock 2009 for a general treatment of Bayes).

immediately accessible beliefs and feelings... [It is] built into the basic architecture of information processing mechanisms of the brain.”

Lodge and Taber spell out even more implications and dynamics of the model in their various papers and a seminal book (Lodge and Taber 2000, 2013, Taber and Lodge 2016). It is worth noting – a point to which we will return – that aside from prior opinion strength and sophistication, one’s processing goal also moderates motivated reasoning (see Leeper and Slothuus 2014). Importantly, though, Taber and Lodge (2006) recognize motivated reasoning is conditioned – specifically, sophisticated participants and those with stronger prior opinions registered the most significant effects (also see Kahan et al. 2009, Taber et al. 2009). In the case of the latter, people who feel passionate about their attitude are more apt to want to defend it via motivated reasoning. The former is the “sophistication effect:” “the politically knowledgeable, because they possess greater ammunition with which to counterargue incongruent facts, figures, and arguments, will be more susceptible to motivated bias than will unsophisticates” (Taber and Lodge 2006: 757).

Additionally, motivated reasoning requires that individuals have what is often called a directional or defensive processing goal such that they aim to uphold and maintain a desirable conclusion consistent with their standing attitude, even if it involves rejecting disconfirming information (Kunda 1990). In some cases, individuals may have an “accuracy goal” such that they aim to form accurate opinions (or “correct” preferences; Taber and Lodge 2006: 756), carefully attend to issue-relevant information, invest cognitive effort in reasoning, and process the information more deeply (Kunda 1990, 485). The result is to form preferences with an eye towards what will be best in the future, rather than to simply defend prior beliefs. Even so, Taber and Lodge suggest directional goals are the norm (c.f., Druckman 2012); they (2006: 767)



conclude: “despite our best efforts to promote the even-handed treatment of policy arguments in our studies, we find consistent evidence of directional partisan bias—the prior attitude effect [i.e., evaluations of arguments supporting prior opinions as more compelling than opposing arguments], disconfirmation bias [i.e., extra effort devoted to counterarguing incongruent messages], and confirmation bias [i.e., seeking out consistent information]. . . . Our participants may have tried to be evenhanded, but they found it impossible to be fair-minded.” When motivated reasoning occurs, individuals will miss out on relevant information and/or misinterpret information that may otherwise be helpful (Fazio and Olson 2003: 149).

The review in this section makes clear that Lodge built a connected multi-decade research agenda that fundamentally altered how scholars understand preference formation. To us, no scholar has shaped research in this area to a greater extent. Importantly, Lodge did not simply import extant models from psychology (see Druckman et al. 2009). He drew on basic psychological insights to explain preference formation in *political contexts* (Druckman and Lupia 2006). Three defining elements of politics are: ostensible low levels of citizen knowledge, competing coalitions or groups aimed at garnering support, and over-time campaigns to form such coalitions. Lodge’s work, for example, shows low levels of reported political information may belie the data on which citizens actually draw in forming opinions (i.e., the on-line model). Even so, knowledge or sophistication matter as moderators of motivated reasoning. When it comes to time, Lodge was one of the first scholars to build time explicitly into micro-level studies of opinion formation by looking at preference formation over a 30 day period in his on-line reasoning experiments. And the focus on choosing between competing information streams and evaluating such flows differently via motivated reasoning goes a long way towards capturing the dynamics of coalition formation and coalition (e.g., party) polarization. For these reasons, it

is not surprising Lodge's work has inspired a generation of related scholarship (e.g., Bartels 2002, Gaines et al. 2007, Gerber and Huber 2009, 2010, Goren et al. 2009, Groenendyk 2013, Lavine et al. 2012).

What we do in the remainder of this chapter is to present examples of how Lodge's work influenced our own work on communication and opinion formation across three distinct domains which Lodge himself did not explicitly investigate (or did so to a very limited extent). This includes scholarship on framing, party cues, and opinion formation about scientific issues, which all are important types of information citizens regularly encounter in an environment with competing messages over time. We show how motivated reasoning, in particular, explains processes in each of these domains, leading to a better understanding of *political* opinion formation.

### **Elite Influence through Framing**

Researchers studying elite-public interactions typically understand a citizen's attitude toward a policy or candidate as a weighted reflection of belief considerations relevant to that object. This "expectancy value" conceptualization of attitudes (Eagly and Chaiken 1993) characterizes an attitude  $A$  as sum of belief considerations,  $b$ , weighted by some measure of salience or importance,  $w$ , such that  $A = \sum b * w$ .<sup>5</sup> For citizens to be "responsive," they should update their attitudes in the face of any new considerations and weight those considerations according to their informativeness. The expectancy-value model highlights two mechanisms through which citizens might change their attitudes: belief change or belief reweighting. Beliefs might change, for example, in response to new information or a persuasive argument. Belief

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<sup>5</sup> This abstracted model of opinion formation is broadly consistent with a memory-based, online, or hybrid theory of information processing, as each belief element,  $b$ , might be cognitive or affective in nature and each weight,  $w$ , might reflect initial contributions to an online tally, weights imposed during memory retrieval, or both. The expectancy value calculation similarly imposes no restrictions on how weights should be determined or how beliefs should be acquired or evaluated.

reweighting occurs when citizens temporarily or persistently adjust the *frame of reference* through which they consider an issue or candidate. This latter mechanism has received considerable attention in recent years and raises particular questions about the degree to which citizens form attitudes about public policy given only limited information provided by competing elite actors. We next describe some of these framing results and then discuss how framing studies can be interpreted from the perspective of motivated reasoning.

As an initial example of framing effects consider Chong and Druckman's (2007a) study about attitudes toward a policy to restrict urban growth. The policy could be considered through at least two different frames (i.e., giving weight to distinct considerations when thinking about urban growth restrictions): one focused on the environmental benefits of the policy with respect to open space preservation, another about the economic costs. To study the effect of these alternative frames, Chong and Druckman randomly assigned some participants in a laboratory setting to read about the policy in a manner framed around environment concerns and another group of participants to read about the policy framed in terms of economic concerns. Unsurprisingly, they found that the environmental frame increased support for the policy (i.e., because they put greater weight on the environmental consequence of urban growth). Even with limited information, citizens could update their attitudes.

But beyond replicating this well-established finding of a "framing effect," Chong and Druckman went further in two respects. First, they included additional "weak" frames that highlighted non-compelling considerations (community building and the limited capacity of citizens to understand the issue). Second, they included additional experimental conditions where participants were presented with both frames together, that is by competing sides in the debate highlighting each of the different frames and thereby making multiple considerations salient. The

findings regarding weak frames are important, but perhaps unsurprising: strong frames dominate weak frames when placed in competition and weak frames are ineffective on their own in changing attitudes. However, when strong rival frames are placed in competition, participants update their preferences, gravitating toward a middle position that reflects the balanced consideration of both frames. Prior values still mattered – with environmentalists holding more favorable views of the policy than those with stronger economic concerns – but participants were responsive to new information. That is, environmentalists did not simply reject the economic frame.

These findings, on their face, appear counter to the motivated reasoning model, in competitive environments, since the prior attitude effect posited by the model suggests prior attitudes/values should more strongly condition responses to frames. However, closer inspection suggests that Chong and Druckman's (2007) results leave many questions open when it comes to motivated reasoning and framing effects. First, if citizens are responsive to frames in the short-term, do these effects persist in the long-term or does motivated reasoning pull citizens back to their long-standing views? Second, while citizens are responsive to new information in an experimental context where information is randomly assigned to them, to what extent does citizens' capacity for information self-selection allow motivated selection of arguments that might prevent exposure to contrary views?

How do citizens respond to frames over the long term? Lodge and Taber's theory of motivated reasoning posits that strong attitudes should invite greater motivated reasoning, as citizens have a greater desire to defend those priors than they do to defend attitudes to which they are less committed. Their laboratory studies (Taber and Lodge 2006) demonstrate this with individual-differences in apparent confirmation bias across those with strong and weak attitudes.

It is indeed possible that Chong and Druckman's (2007) result reflected the reality that most in their experiment probably had very weak prior attitudes about urban sprawl restrictions. Their study also was limited in ignoring over-time framing and information selection.

With these considerations in mind, Chong and Druckman (2010) undertook an over-time study about people's opinions on the Patriot Act. The authors (randomly) exposed individuals to a strong pro frame (i.e., battling terrorism is the primary consideration to weight) at what we will call Time 1. This was followed ten days later, at what we will call Time 2, by a strong con frame (i.e., civil liberty concerns is the primary consideration to weight). Others received the con argument at Time 1 and the pro argument at Time 2.<sup>6</sup> Importantly, Chong and Druckman (2010) also randomly assigned people to engage in a task that either led them to form strong opinions after receiving the Time 1 frame or weak opinions after receiving the Time 1 frame. Even so, one might expect respondents, on average, to register similar opinions about the Act, since they all received the same mix of pro and con frames (this would be consistent with the aforementioned dual *simultaneous* strong frame study by Chong and Druckman [2007]). This is not what Chong and Druckman find, however. They find instead that the opinions of those with weak priors dramatically reflected the last argument they heard; for example, they opposed the Patriot Act if they received a con frame (i.e., civil liberties) at Time 2 but supported the Act if they instead received the pro frame (i.e., terrorism) at Time 2. Participants formed opinions based on what came to mind, ostensibly in a memory-based fashion.

Importantly, those with strong priors did exactly the opposite: they formed opinions based on the Time 1 frame they received and then rejected the Time 2 frame. For example, they supported (opposed) the Act if they received the pro (con) argument at Time 1 and the con (pro)

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<sup>6</sup> Over the ten day interval, no relevant information regarding the Patriot Act appeared in the news and respondents reported scant independent attempts to obtain information.

argument at Time 2. These individuals sought to protect their initial opinions, evaluated the second argument as ineffective and clung to what they had been induced to believe. These findings suggest that citizens with weak attitudes are highly responsive to new information, with framing effects moving their opinions potentially wildly over a two-week period. Those with strong attitudes, by contrast, display characteristic signs of disconfirmation biases (i.e., dismissing contrary frames). In short, once over-time competition – a reality of politics – is introduced, the motivated reasoning model explains behavior at least for those who form strong attitudes.

Adopting a similar experimental paradigm, Druckman and Leeper (2012) extend this result over an even longer period of time in which participants were also repeatedly exposed to either pro or con frames about the Patriot Act.<sup>7</sup> Yet the result was the same: even after repeated exposure to pro (con) frames, those with weakly formed attitudes were highly responsive to a final con (pro) frames. By contrast, those with strong attitudes resisted a final counter-attitudinal message.

Motivated reasoning is a powerful theory in competitive over-time framing situations. That people did not engage in motivated reasoning when they held weak attitudes – which again, we suspect was the case in the initial simultaneous frame Chong and Druckman (2007) study – is in fact consistent with the theory insofar as it suggests attitude strength increases the likelihood of motivated reasoning, as noted above. And in the over-time study, motivated reasoning clearly took place among those with strong attitudes. Moreover, the prior attitude effect was easily induced: participants encouraged to form strong views at Time 1 became resistant to new information at later points in time, even though the Time 1 information was simply a randomly

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<sup>7</sup> The experimental also exposed participants to arguments about a state-run casino in Illinois. The results for both issues are similar.

chosen argument with no objective superiority over a counter-argument. The findings us present a perplexing normative dilemma since those most engaged in politics tend to have stronger attitudes, suggesting a trade-off between political engagement and deleterious effects of motivated reasoning.

The framing studies discussed so far all involve captive audiences who are fed information. What happens when people, in a low information, competitive over-time environment, select information on their own? Do they choose information in ways suggests by motivated reasoning's confirmation bias such that they select only information consistent with their prior beliefs, ignoring alternative viewpoints?

These questions were addressed in a study by Druckman, Fein, and Leeper (2014). In an experiment carried out over the period of a month (with four sessions or one each week), the authors randomly assigned participants to receive either a pro message about health care policy at Time 1 and a con message at Time 4, or vice versa. At the intervening time periods (Times 2 and 3), they further randomly assigned participants to one of three conditions: a control condition with no exposure to issue-relevant information, a condition involving simple repetition of the Time 1 argument, or a third condition in which participants were given the choice of what information to receive from among an "information board" of pro and con arguments, and unrelated news. The question was whether the opportunity to self-select information would lead participants to seek out contrary arguments at Times 2 and 3, or whether they would reinforce the Time 1 argument, or instead avoid issue-relevant content entirely. And, how this opportunity for information self-selection would impact their attitudes at Time 4? The result was striking: participants in the self-selection conditions closely resembled those in the repetition conditions. By inducing a particular opinion at Time 1, participants engaged in a confirmation bias a la

motivated reasoning – seeking out frame-congruent information and Time 2 and 3 – and displayed a prior attitude effect at Time 4, resisting the influence of a final opposing argument.

Rather than provide a route to open-minded consideration of diverse information, the opportunity for information choice actually invited further motivated reasoning via the confirmation bias. Leeper (2014) further shows that this motivated selection of information occurs even when the information environment is stacked against one's prior opinions. Varying the content of information in the "information board" to be heavily in favor of a health care proposal, heavily against the proposal, or evenly balanced, participants induced to hold strong views selected attitude-congruent information regardless of the balance of the environment. They further polarized in their views of the policy. Those induced to hold weaker opinions, by contrast, were responsive to the tilt of the information environment, updating their views accordingly. Recent work further shows that this kind of motivated reinforcement-seeking means that randomized experiments on information processing can generate misleading results when they fail to account for the role of information choice in the reasoning processes of those with strong and weak opinions (Leeper 2016).

On balance, these findings regarding responses to framing suggest that motivated reasoning is ubiquitous, at least among the segment of the citizenry with strong opinions. The differences in motivated behavior across levels of attitude strength, however, suggests that there are likely to be wide degrees of variation in all aspects of motivated reasoning across individuals, across political issues, and over time. These limitations, unfortunately, are not well understood and merit further research. These findings also raise important questions about how motivated reasoning works in contexts involving competition and, in particular, the opportunity for information choice within competitive environments. Forced exposure to competitive arguments



seems to moderate confirmation bias and the prior attitude effect, but under more realistic conditions of information self-selection, where motivated reasoning can affect both what information is received and how it is processed, competition enables rather than mitigates motivated reasoning.

These examples of how motivated reasoning theory explains framing effects accentuate the influence of theory in political contexts. Early accounts of framing effects treated them as pure memory-based processes such that a frame (e.g., civil liberties with regard to the Patriot Act) made certain considerations accessible in memory that, in turn, drove opinion formation (e.g., opposition to the Patriot Act) (e.g. Iyengar 1990). Yet, as soon as the realities of over-time competition were introduced to framing studies, motivated reasoning emerged as a powerful explanation for observed effects – accounting for whether early or later frames won out and how people selected frames in the first place. That said, these studies also reveal that directional motivated reasoning occurs most clearly among those who hold strong attitudes. With this in mind, we now turn to a discussion of one of the strongest political beliefs: partisanship.

### **Party Cues and Motivated Reasoning**

There is no doubt that when forming their opinions, citizens often rely on positions taken by political parties (e.g., they support a policy only if their party promotes it). Such party cues or endorsements are ubiquitous in news coverage of politics because the political parties are frequent promoters of policy proposals. Indeed, as we have noted, one of the distinctive features of politics is the competition between partisan elites to build coalitions and muster support for their policies. Consequently, citizens who pay attention to politics will routinely encounter party cues.

For a long time political scientists have been aware that party cues can shape citizens' policy preferences. An individual's party identification often raises "a perceptual screen through which the individual tends to see what is favorable to his partisan orientation" (Campbell, Converse, Miller, and Stokes 1960: 133). Consistent with this idea, decades of research has shown that citizens who affiliate with a political party are more likely to support a policy if it is sponsored by their party than if it is sponsored by an opposing party. However, as noted by Leeper and Slothuus (2014: 134), despite "this impact of parties is fairly established, there is no scholarly agreement on how (i.e., through what psychological mechanisms) parties matter to citizens' political reasoning, and [...] there is a surprising lack of empirical work trying to disentangling the various explanations."

Lodge's theory of motivated reasoning has helped to advance our understanding of how citizens respond to party cues and why party cues influence policy preferences. For political reasoning to be "motivated," a source of motivation is needed, and partisanship can provide just that. Partisanship is a fundamental and enduring political predisposition (Campbell et al. 1960; Green, Palmquist, and Schickler 2002; Lavine, Johnston, and Steenbergen 2012), probably more stable than core political values (Goren 2005). Moreover, as demonstrated in Lodge's work, not only do many ordinary citizens affiliate with a political party, but party leaders and symbols associated with the political parties are highly affectively charged (e.g., Taber and Lodge 2013: Chapter 5; 2016; also see Iyengar, Sood, and Lelkes 2012; Nicholson 2012). Thus, partisanship can work as a preexisting attitude that motivates the individual to seek out, interpret, and assess new information, such as a policy proposal, in a way that is favorable to their own party

and bolster their affiliation with the party. This is direct extension of Lodge's work and is called partisan motivated reasoning.<sup>8</sup>

The major theoretical alternative to partisan motivated reasoning is using party cues as an informational shortcut to form opinions. Relying on partisan cues as shortcuts allows citizens to form policy opinions without paying attention to the content of the policy or the facts or arguments surrounding it. This way, parties can help citizens to prefer the policy they would have if they had more complete information (e.g., Lupia 2006; Sniderman and Stiglitz 2012). In other words, in this shortcut account, individuals imply do what their party tells them to do and they ignore the substantive information. This contrasts partisan motivated reasoning where individuals do attend to the substantive information but in a partisan biased fashion.

Both partisan motivated reasoning and short-cuts are plausible, and non-exclusive, explanations of how party cues influence opinion. The shortcut mechanism resonates well with the political reality that most citizens possess limited policy information. The motivated reasoning explanation fits well with a competitive political environment where political groups strive to mobilize the loyalty of their supporters.

In an attempt to distinguish these two explanations, Slothuus and de Vreese (2010) created two experiments where they presented participants in Denmark with news articles about two different policy proposals and asked to what extent they opposed or supported the policies. The articles either emphasized the benefits of the policies (pro articles) or the disadvantages (con articles). Moreover, participants were either told that the policy was supported (in the pro

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<sup>8</sup> Taber and Lodge (2006) focus on prior issue attitudes, not partisanship, in their experiments on affirmative action and gun control, and while they did include the Democratic and Republican parties as sources of some of the arguments presented to study participants on the two issues, they did not explicitly analyze or isolate the partisan effects (e.g., if responses were moderated by party identification). Likewise, in other studies they focus on evaluations of candidates with an explicit party label, but not policy issues (e.g., Lodge and Taber 2000; 2005; 2015).

articles) or opposed (in the con articles) by either the major left-of-center party or the major right-of-center party in Denmark. As would be expected from both the shortcut and the motivated reasoning accounts, the partisan source of the policy position pro or con mattered: participants—who were all partisans affiliating with one of the two parties—were more inclined to follow the party cue when it came from their party than when it came from the opposing party.

To directly test the differing accounts, Slothuus and de Vreese (2010) focused on two policy issues that varied in how salient they were to party competition. One was the basis for partisan conflict issue (welfare policy) and the other was a partisan consensus issue (international trade policy). The theory of party cues as an informational shortcut suggests party should have a larger effect on the consensus/low conflict trade issue because this is a less salient issue where citizens know little about the policy and so are likely to simply entirely delegate to their party (and not invest in substantive information processing). Motivated reasoning, in contrast, predicts citizens to be particularly motivated to use their partisanship when responding to party cues on the conflictual welfare issue. This is because party conflict, in contrast to consensus, signals that partisan values are at stake and emphasizes differences between the parties.<sup>9</sup>

The results of the experiments clearly support motivated reasoning: party cues mattered more on the conflict issue than on the consensus issue. As a result, partisans expressed stronger polarization in opinions on the conflict issue than on the consensus issue. Thus, when the parties are in conflict, citizens are more inclined to favor the policy position advocated by their party (i.e., akin to a prior attitude effect because partisans see their party as more persuasive). This result implies that the political environment (i.e., partisan conflict) can enhance the importance of a prior attitude (i.e., partisanship) effect which consequently lead citizens to respond more

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<sup>9</sup> Leeper and Slothuus (2014: 143) note, “the operation of motivated reasoning will look differently for individuals depending on what issues are at stake and how intensely they need to defend their prior attitudes or identities.”

strongly to party cues. This study also speaks to how motivated reasoning helps explain partisan reasoning when parties compete, as they inherently do.

Another study of partisan competition looks at the prior attitude effect. Specifically, Druckman, Peterson, and Slothuus (2013) study support for the drilling for oil and gas off the U.S. Atlantic Coast and in the eastern Gulf of Mexico. Study participants randomly received two types of information. The first entailed a party endorsement with Democrats opposing drilling and Republicans supporting it. Respondents were also randomly exposed to information that suggested the parties were *highly polarized* (i.e., far apart) or *not particularly polarized* (i.e., not so far apart) on the issue. Second, respondents read an argument in favor of drilling and an argument opposed to drilling. The researchers randomly assigned whether each of the arguments was “objectively” strong/persuasive or weak; they confirmed by having individuals who were not in the main study rate the arguments as strong or weak. The respective pro and con strong arguments concerned economic benefits of drilling and dangers of drilling to workers and maritime life. The analogous weak arguments focused on technological developments from drilling and over-regulation due to drilling.<sup>10</sup>

The results reveal a strong prior attitude effect, anchored in partisanship. When told the parties are polarized, partisans *always* evaluated frames endorsed by their own party as more effective, regardless of the aforementioned “objective” strength. In other words, Democrats rated any con argument advocated by the Democratic party – including the weak regulation argument – as more effective than any pro argument, including the strong pro argument about the economy. Republicans did the opposite, always rating Republican pro arguments as stronger even when they were objectively weak (e.g., the technology argument). This is clear evidence of

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<sup>10</sup> Some respondents, not described here, also received the arguments without a party endorsement. In those cases, the average respondents rated the strong arguments and weak arguments as such.

a prior attitude effect where partisanship as a pre-existing attitude anchors evaluations. The results can also be read as indication of a disconfirmation bias as partisans always dismiss the argument advocated by the opposing party, although the results cannot tell how actively the experimental participants denigrate the out-party arguments.

Importantly, though, the authors show this bias disappears when respondents are told that the parties are not polarized: in that case, they always rate the objectively stronger arguments as more effective than the weak arguments, regardless of the party endorsements. For example, Democrats acknowledge that the Republican economic argument is stronger than the Democrat regulation argument. Thus, an antidote to the prior attitude effect lies in the information environment, and particularly, making clear that common rivals – such as the political parties – are not so far apart on the particular issue – that is, a possible political consensus might exist.

In another study exploring the nature of partisan competition on motivated reasoning, Bolsen, Druckman, and Cook (2014) illuminate attitudes toward the U.S. *Energy Independence and Security Act of 2007*. This Act requires automakers to boost gas mileage for passenger cars, funds research and development for biofuels and solar and geothermal energy, and provides small business loans for energy efficiency improvements. The Act was supported by both parties at different points in the law-making process (e.g., was initially sponsored by a Democrat but signed into law by Republican President Bush).

Two factors varied in the experiment were which parties supported the act and a prompt for respondents to justify their opinions. Specifically, respondents were randomly assigned to receive no endorsement, an endorsement stating the Act was being supported by Democrats, an endorsement stating the Act was being supported by Republicans, or an endorsement stating the

Act was being supported by some, but not all, representatives of both parties (i.e., a “cross-partisan” frame).<sup>11</sup> In addition, some respondents were told they should view the policy from various perspectives and would have to later justify their policy views.<sup>12</sup>

The authors find that when individuals received their own party’s endorsement (e.g., Republican respondents received the Republican endorsement) without the motivation prompt, they were strong motivated reasoners – they followed their party and increased support for the policy, relative to a control group that received no endorsement and the motivation prompt (i.e., the partisan groups polarized in their opinions, reflective of a prior attitude effect). They were also motivated reasoners in situations where they received an out-party endorsement frame (e.g., Republican respondents received the Democratic endorsement) – here they became less supportive (going against the out-party endorsement). Taken together, then, partisans supported or rejected *the identical policy* based only on the endorsement frame. However, when told that members of both parties supported the act (i.e., the cross-partisan frame), respondents displayed careful analysis of the content of policy, mimicking the behavior of respondents who did not receive an endorsement but were encouraged to justify their responses.

The results show then that when there is cross-partisan competition, partisan motivated reasoning wanes. Of course, this is often not an option given the realities of policy making. Even so, the same research shows that respondents who received the justification treatment displayed *no* evidence of partisan motivated reasoning, *regardless* of what they were told about party

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<sup>11</sup> Another condition stated the Act was supported by both parties; the results of that condition suggest that respondents view such a consensus frame as being akin to an in-party frame.

<sup>12</sup> Another justification condition described the environment as being highly partisan such that government is divided and fellow partisans rarely agree, and said that later the respondent would have to explain reasons for his/her partisan affiliation. This was similar to the polarized conditions in the previously discussed experiment, and the results in these conditions suggested strong partisan motivated reasoning.

support. For example, Democrats who were told only of Republican support or only of Democratic support analyzed the content of the policy and expressed views consistent with the content of the factual information (i.e., no attitude polarization occurred in response to the party cues). Partisan motivated reasoning disappeared. Thus, not only does party competition and corporation moderate partisan motivated reasoning but so does motivation to be accurate – a point, as explained above, recognized by Taber and Lodge in their own work.<sup>13</sup>

As discussed, another individual attribute conditions motivated reasoning – aside from accuracy motivation and strength of opinions – is individual level knowledge or sophistication. In the aforementioned study, Slothuus and de Vreese (2010) investigate how political knowledge moderates partisan motivated reasoning. Recall that the authors found great reliance on partisan cues on the conflictual welfare issue, in line with partisan motivated reasoning theory. On this issue, they also report strong partisan effects among more knowledgeable respondents which is exactly what the theory predicts: sophistication or knowledge, as explained, increases motivated reasoning. This also is the opposite of what would be predicted by the information shortcut account as that would suggests low knowledge individuals rely on party cues more to make up for their shortfall (see Slothuus 2016 for another study showing greater attitude polarization among the more politically aware in response to party cues, consistent with the “sophistication effect”).

A final limit to partisan motivated reasoning that we will consider is the possibility individuals hold other beliefs or attitudes that will trump the effect of partisanship (e.g., Mullinix 2016). Slothuus (2010) analyzed survey data collected over time in Denmark before and after the

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<sup>13</sup> Taber and Lodge (2012: 249) maintain that “*defense of one’s prior attitude is the general default* when reasoning about attitudinally contrary arguments, and it takes dramatic, focused intervention to deflect people off a well-grounded attitude” (italics in original). But Lodge does acknowledge such interventions do occur: “the model... does not claim that individuals never revise their initial attitudes or are unable to overcome their initial effects” (Kraft et al. 2015: 131; also see Leeper 2012, Mullinix 2016).



major left-of-center party, the Social Democrats, announced a reversal of their policy position on a major welfare policy issue. As in previous work, voters affiliating with the Social Democrats were more inclined to change their policy opinions according to the new party line. Moreover, those identifying strongly with the party were the most responsive to the changing party cue, consistent with Taber and Lodge's (2006: 757) "attitude strength effect". However, not all Social Democratic voters toed the party line, not even among the strong identifiers. Rather, they seemed to form policy opinions based in part on their own pre-existing beliefs about the financial stress on public welfare budgets and hence were less responsive to the party cue. Slothuus' (2010) results suggest that *partisan* motivated reasoning can be tempered when citizens hold other strong beliefs they turn to instead of relying on their party affiliation.

Citizens' partisanship has long been central to theories of opinion formation. What has been less clear is just how individuals use party cues when forming their opinions. Motivated reasoning theory has substantially advanced what we know about party effects.<sup>14</sup> It is fitting that the theory is particularly informative in competitive situations which often define political battles. As explained, Lodge did not simply introduce a psychological theory; instead, he used work in psychological to develop a *political* theory of reasoning. The theory applies most clearly when individuals are not hyper-motivated to form "accurate opinions," which may be the norm in political contexts. That said, that more knowledgeable people engage in partisan motivated reasoning reveal the boundaries of the theory insofar as many citizens lack such knowledge. Our

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<sup>14</sup> Given our focus on the effect of party cues, once received, on opinion formation, we did not offer an example of a partisan confirmation bias. Yet, there is a fair deal of evidence that such a bias frequently occurs. Indeed, Prior (2013: 111) explains, "Studies of selective exposure on television typically reach a... conclusion: Republicans and conservatives report more exposure to conservative outlets, whereas Democrats and liberals report greater exposure to liberal sources, so selective exposure in cable news viewing is common" (e.g., Iyengar and Hahn 2009, Stroud 2011: 34).

final set of examples come from a domain where knowledge is also in short supply: opinions about scientific issues.

### **Opinions About Scientific Issues<sup>15</sup>**

A starting place to understanding opinion formation on scientific issues or technologies is the model of scientific literacy. This model treats citizens and consumers as rational thinkers who carefully integrate new information in expected ways (i.e., individuals are treated as Bayesians). The expectation is that knowledge facilitates accurate assessment of risks and benefits, and generally, increased knowledge “generates support for science and technology” (Gaskell et al. 1999: 386, Miller 1998, Sturgis and Allum 2006, Rodriguez 2007). The reality, of course, is that citizens lack the motivation to obtain and process large amounts of information, and, as with politics, many scientific issues are contested over-time, making it difficult for citizens to navigate the information environment (e.g., Scheufele 2006, Nisbet and Mooney 2007). Scheufele and Lewenstein (2005: 660) explain that “developing an in-depth understanding [of scientific issues/technologies] would require *significant* efforts on the part of ordinary citizens [and] the pay-offs... may simply not be enough” (emphasis in original; also see Lee et al. 2005; Scheufele 2006). As a result, in many cases, the application of motivated reasoning to such situations is spot on. We next make this point by offering several examples.

Our first example focuses on the confirmation bias where people seek out information consistent with their prior opinions. Yeo et al. (2015) study information seeking on nanotechnology – a technology that serves as a “good exemplar... of scientific developments” (177). The main part of their study offered participants the opportunity to choose one of nine

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<sup>15</sup> This is a domain where Lodge recently has worked; indeed, recently, Kraft, Lodge, and Taber (2015: 130) state that the “theoretical mechanisms of the... model describes provide a strong framework to integrate the different findings related to political biases on public beliefs about science.”

news articles; the articles came from Fox News (a conservative outlet), MSNBC (a liberal outlet), or the Canadian Broadcasting Corporation. They find that, when provided with no prior information, individuals exhibit a strong confirmation bias: “conservatives were more likely to select Fox News, whereas liberals were more likely to select MSNBC” (183). This constitutes some of the only evidence of confirmation bias in the domain of science.

The authors do not stop there, however, as they also included an experimental condition such that respondents, prior to making a media choice, received an article that included cues, stating that a conservative think tank opposed the regulation of nanotechnology while a liberal think tank favored them. These ideological cues vitiated the confirmation bias – for these individuals, for example, “there is relatively little difference in the selection rate of MSNBC by liberals and conservatives” (182). The authors thus add an important caveat to confirmation bias processes; when it comes to new issues, individuals appear to be first and foremost motivated to figure out where “their side stands” and this leads them to select ideologically consistent sources. However, once they learn ideological positions, they seek information from a much broader range of sources so as to learn more about the technology (e.g., become more scientifically literate).<sup>16</sup> In short, there seems to be, on scientific issues, a rule akin to lexicographical decision making that prioritizes learning ideological positions first and foremost (Payne et al. 1993: 26). This then moves Lodge’s foundational motivated reasoning search along by showing search biases but also antidotes in the domain of science.

Science differs from politics, in part, because there is a potential for near consensus on certain issues/technologies. Consensus does not come easily, but when it does, motivated reasoning poses a particular challenge that individuals will not view evidence objectively but

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<sup>16</sup> These findings are consistent with some other work that shows how variations in issue content, alternative cues, type of media, and the amount of choice condition confirmation biases (e.g., Iyengar et al. 2008, Arceneaux and Martin 2013, Messing and Westwood 2013).

rather based on their prior attitudes (i.e., the prior attitude effect). An example comes from Druckman and Bolsen's (2011) two-wave study of new technologies. At one point in time, the authors measured respondents support for genetically modified (GM) foods.

Then, about ten days later, respondents received three types of information about GM foods: positive information about how GM foods combat diseases, negative information about the possible negative long-term health consequences of GM foods, and neutral information about the economic consequences of GM foods. On its face, all of this information is potentially relevant. Indeed, when asked to assess the information, a distinct group of respondents – who were encouraged to think of all possible perspectives regarding GM food and told they would have to justify their assessments (thereby prompting an accuracy motivation) – judged all three to be relevant and valid.

Yet, Druckman and Bolsen (2011) report that, among the main set of respondents, the prior wave 1 opinions strongly conditioned treatment of the new information. Those previously supportive of GM foods dismissed the con information as invalid, rated the pro information as highly valid, and viewed the neutral information as being pro. Those opposed to GM foods did the opposite, invalidating the pro information, praising the con, and seeing the neutral as con (also see Kahan et al. 2009). The authors found virtually identical dynamics with the same design but on the topic of carbon nanotubes. This prior attitude effect can, at the aggregate level, result in a polarizing of opinions. Dietz (2013: 14083), in reference to scientific information, states, "Once an initial impression is formed, people then tend to accumulate more and more evidence that is consistent with their prior beliefs. They may be skeptical or unaware of information incongruent with prior beliefs and values. Over time, this process of biased assimilation of information can lead to a set of beliefs that are strongly held, elaborate, and quite

divergent from scientific consensus.” Put another way, scientific literacy fails because of a prior attitude effect.

Disconfirmation biases also influence scientific opinion formation, leading to the dismissal of evidence inconsistent with prior opinions even if that evidence has ostensible objective accuracy. This is a particularly critical process when it comes to science: even if a scientific consensus exists (e.g., near objective accuracy), citizens may dismiss it if their prior opinions are not to trust that consensus. This speaks to one of the most concerning aspects in science discourse, which is the politicization that occurs when an actor exploits “the inevitable uncertainties about aspects of science to cast doubt on the science overall... thereby magnifying doubts in the public mind” (Steketee 2010: 2; see Jasanoff 1987: 195, Pielke 2007, Oreskes and Conway 2010). The consequence is that “even when virtually all relevant observers have ultimately concluded that the accumulated evidence *could* be taken as sufficient to issue a solid scientific conclusion... arguments [continue] that the findings [are] not definitive” (Freudenburg, Gramling, and Davidson 2008: 28; italics in original).<sup>17</sup>

The problem of politicization directly links to the credibility of information and motivated reasoning – when science is politicized, people become unclear on what to believe and thus scientific credibility declines and people tend to reject sound science (due to the prior belief that science is not credible). This phenomenon and the ostensible increase in politicization have led to tremendous concern among scientists – “politicization does not bode well for public decision making on issues with substantial scientific content. We have not been very successful in efforts to counter ideological frames applied to science” (Dietz 2013: 14085).

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<sup>17</sup> To cite an example – in response to the release of the *Climate Change Impacts in the United States* report that stated a scientific consensus exists that global climate change stems “primarily” from human activities (the report reflected the views of over 300 experts and was reviewed by numerous agencies including representatives from oil companies), Florida Senator Marco Rubio stated, “The climate is always changing. The question is, is manmade activity what’s contributing most to it? I’ve seen reasonable debate on that principle” (Davenport 2014: A15).

With such dynamics in mind, Bolsen, Druckman, and Cook (2014a: 5) explain that “frames that highlight politicization introduce uncertainty regarding whether one can trust science-based arguments.” In one experiment, they told some respondents that,

“...many have pointed to research that suggests alternative energy sources (e.g., nuclear energy) can dramatically improve the environment, relative to fossil fuels like coal and oil that release greenhouse gases and cause pollution. For example, unlike fossil fuels, wastes from nuclear energy are not released into the environment. A recent National Academy of Sciences (NAS) publication states, ‘A general scientific and technical consensus exists that deep geologic disposal can provide predictable and effective long-term isolation of nuclear wastes.’”

When respondents received just this information (which did in fact come from an NAS report), support for nuclear energy increased. Yet, support for nuclear energy fell (i.e., the aforementioned evidence had no influence on opinions) when the information was *preceded* by a *politicization frame* that stated “...it is increasingly difficult for non-experts to evaluate science – politicians and others often color scientific work and advocate selective science to favor their agendas.” The results suggest that a politicization frame affected individuals’ prior opinions about science, causing individuals not to know what to believe. This prior belief then generated a motivated reasoning disconfirmation bias such that they dismissed scientific evidence that was inconsistent with the politicization belief about a lack of consensus: they dismiss even ostensibly consensual scientific evidence due to their prior belief of politicization.

Bolsen and Druckman (2015) expand on this work, exploring techniques to mitigate politicization-driven disconfirmation bias. Focusing on the use of carbon nano-technology and fracking, the authors demonstrate that warnings that state a scientific consensus exists and

politicization should be dismissed – that come *prior* to politicization – or similar corrections that come *after* politicization dramatically stunt the impact of politicization (i.e., the questioning of science). Corrections are particularly effective when individuals are motivated to process information accurately. Thus, there is an antidote to a disconfirmation bias due to politicization. It is not clear in practice, however, how well these warnings and corrections work since the belief in consensus itself can be politically driven (Kahan, Smith, and Braman 2011).

Taken together, these examples of motivated reasoning in the domain of science accentuate Lodge’s contribution of extending work on the topic to areas where citizens lack information, there are contested claims (e.g., politicization), and over-time processes (e.g., formation of prior beliefs influence later attitudes and behaviors). We have offered only a few examples, but many others have imported the model to the domain of science (e.g., Hart, Nisbet, and Myers 2015, Stanovich, West, and Toplak 2013, Nisbet, Cooper, and Garrett 2015). All of this work also invalidates the aforementioned scientific literacy model; as with politics, the model shows that one cannot simply assume straightforward processing of information. In their study of climate mitigation politics, Hart and Nisbet (2012: 715) conclude that, counter to the scientific literacy model, “neither factual knowledge about global warming nor general scientific knowledge is associated with support for climate mitigation politics... [rather] motivated reasoning plays [a key role] in the interpretation and application of messages discussing scientific issues and calls into question the traditional deficit model of science communication [i.e., scientific literacy model].” We have discussed ways to vitiate motivated reasoning when it comes to science – including ideological cues and consensus warnings or corrections – we imagine future work will continue to isolate such moderators. This next generation of work reflects the legacy of Lodge in establishing the model and considering conditions.

## **Conclusion**

Lodge's work in political psychology is a model for how to integrate the workings of individual psychology with political context. As we have noted, opinion formation in the realm of politics takes place in an environment where citizens have low levels of information and where political parties and other elite actors compete over-time to push frames, cues and information intended to enlighten and persuade citizens. Citizens use their predispositions and prior attitudes to form political opinions, but a fundamental premise for understanding political opinion formation is that in most cases individuals' predispositions do not map onto political issues in any natural or straightforward way (see Leeper and Slothuus 2014). Citizens need to rely on information from the political environment to form opinions and participate in politics. Lodge's work is superb in making the connections between psychological processes, predispositions, and context, hence offering a model for research that is both politically and psychologically sophisticated (see Druckman et al. 2009).

In this chapter, we have shown how Lodge's research program on motivated reasoning has inspired a variety of studies on how citizens form opinions in response to political communication. Our review of work in the three domains of elite framing, party competition and science information made clear that motivated reasoning could often help explain opinion formation in response to communication. However, we also pointed out that motivated reasoning seems highly conditional and can be reduced by differences in individuals' motivations and political sophistication and by mixes of information.

We close by pointing out two paths for further progress in research on motivated reasoning. First, we need to pinpoint more directly the psychological mechanisms underlying motivated reasoning. In our review of existing work, we often described results that clearly



showed attitude polarization whereas the exact mechanisms accounting for this polarization were less clearly demonstrated. We did highlight some clear indications of a prior attitude effect, confirmation or disconfirmation biases but more work is needed to empirically show how citizens reason about political issues and to what extent reasoning is driven by the motivations we theorize.

Second, more systematic work is needed on how to generalize the conditions under which motivated reasoning occurs. For example, Druckman (2012) delineates a number of concerns about how the motivated thinking processes observed by Lodge and collaborators are limited to cases where partisan motivation is high. Highlighting the second component of motivated reasoning theory – accuracy motivation – should lead to distinct reasoning processes and potentially outcomes. Leeper and Slothuus (2014) go further to suggest some clear cases where the effect of partisan/directional motivation might be constrained. Among these are cases where there are competing directional motivations (e.g., to defend one’s party identification and to defend a particular policy prior), situations where social accountability drives high degree of accuracy motivation (see, e.g., Lerner and Tetlock 1999), and contexts where political realities run into such clear conflict with prior opinions that citizens are forced to respond (e.g., Bisgaard 2015; Leeper and Slothuus N.d.). We think these possibilities for contextual and situational constraint on directional motivation and its effects are important to study systematically to advance our understanding of political opinion formation.

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