

# Personal Issue Importance and Motivated-Reasoning Goals for Pro- and Counterattitudinal Exposure: A Moderated Mediation Model of Motivations and Information Selectivity on Elaborative Reasoning

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## Abstract

This study draws on an experiment combined with Web behavior-tracking data to understand the roles of intrinsic and extrinsic motivations, including personal issue importance and motivated-reasoning goals, in influencing people to seek pro- and counterattitudinal information and how this information selectivity in turn affects elaborative reasoning. Findings suggest that proattitudinal exposure mediates the relationship between personal issue importance and generating rationales for one's own viewpoint on the issue, while counterattitudinal exposure mediates the path from personal issue importance to generating rationales for not only oppositional but also one's own viewpoint. This result highlights the significant role of counterattitudinal exposure in enhancing deliberative democracy. However, the moderated mediation analyses further indicate that the indirect paths through counterattitudinal exposure only occur for those who are highly motivated by accuracy goals to search for information. Implications for the functioning of deliberative democracy are discussed.

In pursuit of a healthier democracy, scholars have long emphasized the pivotal role of exposure to counterattitudinal views in facilitating the development of a deliberative democracy (Arendt, 1968; Benhabib, 1996; Habermas, 1989). However, a body of research on selective exposure has documented that people exhibit a preference for consonant political information that reinforces their preexisting opinions, which further polarizes society and diminishes the prospects for deliberative democracy (Garrett, 2009; Johnson, Zhang, & Bichard, 2011; Stroud, 2011). Accordingly, what is needed in the

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scholarship is an understanding of what factors could promote a different type of mechanism that encourages exposure to not only proattitudinal but also counterattitudinal political views. In addition, discovering to what extent exposure to pro- and counterattitudinal political views contributes to elaborative reasoning, such as generating rationales for one's own and oppositional viewpoints, has potential to assist the development of a deliberative democracy.

This study builds on the literature in several ways. First, it examines how personal issue importance and motivated-reasoning goals (i.e., accuracy and directional goals) contribute to the deliberation process. This answers the calls raised by scholars asking for more attention to personal investment in an issue as an intrinsic factor in deliberation (Wojcieszak, 2011; Wojcieszak & Price, 2010) and extends the line of research on issue specificity by taking extrinsic motivations into account in information selectivity and information processing (Kim, 2009). Second, in contrast to a narrow focus on exposure to counterattitudinal views, this study offers a more comprehensive investigation by considering pro- and counterattitudinal exposure simultaneously. This approach is consistent with recent conceptions put forward by scholars in selective exposure research in that they take pro- and counterattitudinal exposure into account when conceptualizing and operationalizing selective exposure (Garrett & Stroud, 2014). Third, this study adopts the measure of argument repertoire to investigate the effects of pro- and counterattitudinal exposure on elaborative reasoning (Cappella, Price, & Nir, 2002). Given that argument repertoire captures the extent to which people generate rationales for their own and oppositional viewpoints, this study could provide a better understanding of the differential effects of pro- and counterattitudinal exposure on elaborative reasoning and the roles these types of exposure play in facilitating a deliberative democracy. This kind of investigation is extremely relevant, given the current polarized political environment.

An experiment combined with analysis of Web behavior-tracking data was conducted to provide insight into whether and how personal issue importance and motivated-reasoning goals influence seeking pro- and counterattitudinal information and how these factors may contribute to deliberative democracy through individuals' elaborative-reasoning behavior. As many studies on the effect of cross-cutting versus like-minded exposure have relied on self-reported measures of individuals' media use (Johnson, Bichard, & Zhang, 2009; Stroud, 2010), using an experiment to test the proposed relationships provides a more reliable observation and robust analysis that will help us to better understand the relationships. Considering intrinsic and extrinsic motivations, examining both pro- and counterattitudinal exposure and capturing not only elaborative reasoning as a general measure but also generating one's own and oppositional arguments as separate measures, this study pursues a clearer and more realistic picture of the relationships in information selectivity and information processing that can be used to build a potential model of the development of a deliberative democracy. Results from this study highlight the significant role

of counterattitudinal exposure in enhancing deliberative democracy, as counterattitudinal exposure mediates the effect of personal issue importance on generating rationales for both one's own and oppositional viewpoints; however, this mediating relationship only occurs when people are highly motivated by accuracy goals to search for information.

### Effect of Personal Issue Importance on Exposure to Pro- and Counterattitudinal Political Views

Selective exposure is the idea that individuals actively seek out like-minded information and shy away from information that challenges their beliefs or attitudes (Stroud, 2010). Applying this concept to partisan media use, researchers have documented that people exhibit a preference for consonant political information or messages that reinforce their preexisting opinions (Johnson et al., 2011; Stroud, 2010). Partisan-based information exposure has been widely studied in terms of biased information exposure. However, people do not always engage in selective behaviors to avoid dissonance or to look for messages that are supportive of their predispositions. Scholars have explored another type of information selection which is issue-based: a tendency to seek out *issue-relevant* information (Iyengar, Hahn, Krosnick, & Walker, 2008; Kim, 2009).

Personal issue importance is the extent to which a person is passionately concerned about and personally invested in an issue (Krosnick, 1990). It has been found to be a strong predictor of exposure to issue-relevant information and has a significant influence on cognitive involvement in the issue (Chen, 2012; Petty & Krosnick, 1995). As documented in the political science and social psychology literature, personal issue importance is considered an intrinsic motivation that prompts people to gather information about the particular issue they care about, to spend more time viewing issue-relevant information, and to elaborate more extensively on the information (Boninger, Krosnick, Berent, & Fabrigar, 1995; Holbrook, Berent, Krosnick, Visser, & Boninger, 2005; Petty & Krosnick, 1995). Different from extraneous or contextual factors, such as extrinsic motivations, personal issue importance is an internal state of concern and passion that an individual attaches to an attitude and a natural inclination that intrinsically motivates information selection and subsequent mental elaboration. It helps to determine if a more effortful, systematic approach is warranted when considering issue-relevant information (Boninger et al., 1995).

Although personal issue importance promotes exposure to issue-relevant information, the extent to which people seek out issue-relevant information that is pro- or counterattitudinal has not yet received enough attention. Chaffee et al. (2001) found that those who are politically involved paid similar attention to pro- and counterattitudinal messages. They argued that this may be because counterattitudinal information is useful for understanding the whole issue and learning about how the other side articulates the issue, enabling the

individual to make more informed decisions. People may also attend to counterattitudinal information in addition to proattitudinal information because of cognitive and utilitarian needs, such as to reduce uncertainty when they believe their political position is vulnerable (Carnahan, Garrett, & Lynch, 2016).

Another underlying mechanism that may help to explain why personal issue importance would lead to exposure to pro- and counterattitudinal exposure is that having an interest at stake in an issue increases the importance of related information. Self-interest-based importance develops when people expect an issue to have a significant impact on their lives. The personal costs and benefits associated with the issue would then affect information selection (Darke & Chaiken, 2005). For example, if a person expects his or her own life to be significantly influenced by a policy related to an issue, he or she would try to acquire more knowledge about the policy by seeking both congruent and incongruent issue-relevant information. Accordingly, personal issue importance as an intrinsic motivation should play a significant role in individuals' information exposure and encourage individuals to perform comprehensive information searches by selecting pro- and counterattitudinal information to gain a more well-rounded understanding of the issue that concerns them.

Following this line of reasoning, Knobloch-Westerwick and Meng (2009) found that individuals who reported higher issue importance were more likely to select counterattitudinal information. In a study on issue publics, Kim (2009) also documented that individuals with greater personal issue importance were likely to exhibit less biased information consumption by selecting two-sided information. However, the extent to which personal issue importance would prompt people to select proattitudinal versus counterattitudinal information has not yet been well examined. This study aims to fill this gap by assessing exposure to pro- and counterattitudinal political views concomitantly as the consequences of personal issue importance. The following hypothesis is posited:

*H1: Personal issue importance is positively related to exposure to proattitudinal (H1a) and counterattitudinal (H1b) views.*

### **Exposure to Pro- and Counterattitudinal Political Views and Elaborative Reasoning**

There has been extensive study of the effects of exposure to pro- and counterattitudinal political views on variables such as political knowledge, polarization, tolerance, and participation (Kim & Chen, 2015, 2016; Mutz, 2002a; Stroud, 2010; Wojcieszak, 2011; Chen & Sun, 2017). One variable that has played a significant role in the development of deliberative democracy but that has received less attention is elaborative reasoning. In this study, individuals' elaborative-reasoning behavior is captured by examining their argument repertoire, defined as "the range of arguments people hold both in support of and against their favored position on a particular political issue or toward some political

object” (Cappella et al., 2002, p. 76). Examining argument repertoire provides a good opportunity to capture individuals’ elaborative reasoning that not only considers their rationales for their own viewpoints but also takes into account the extent to which they understand others’ counterattitudinal positions. It is a reliable and valid measure that gauges the depth of elaborative reasoning on an issue (Cappella et al., 2002; Manosevitch, 2009), which helps to illuminate individuals’ cognitive processing and shed more light on the development of deliberative democracy.

Studies on political deliberation have stressed the importance of disagreement in forming quality opinions through facilitating elaborative reasoning. According to theory on deliberative democracy, face-to-face conversation is the ideal setting for deliberation because it introduces conflicting viewpoints, promotes critical thinking, and requires one to articulate opinions after a thorough organization of thought (Benhabib, 1996; Gastil & Dillard, 1999). Thus, the act of engaging in discussion facilitates meaningful cognitive processing, such as adopting complex concepts and reasoning about one’s own and others’ opinions (Cho et al., 2009; Mutz, 2002b; Wojcieszak, 2011). A similar deliberative process happens when people use media that either align or conflict with their views. News media have been shown to contribute to deliberative opinions because they enhance understanding of political information and improve opinion quality (Kim, Wyatt, & Katz, 1999). Informational diversity and disagreement embedded in news content are particularly influential in fostering individuals’ abilities to reflect on information and to generate thoughts and arguments (Green, Visser, & Tetlock, 2000). Therefore, exposure to alternative perspectives or counterattitudinal political views can enhance individuals’ elaborative-reasoning ability through augmenting their argument repertoire.

While a body of research has demonstrated that people are likely to process and spend cognitive resources on information supporting their belief (Eagly & Chaiken, 1993; Taber & Lodge, 2006), this study emphasizes exposure to counterattitudinal views in information processing because of the essential role of such exposure in deliberative democracy and argues that it has a stronger effect and exerts different mental processes on elaborative reasoning compared with exposure to proattitudinal views. According to the heuristic–systematic model, exposure to counterattitudinal perspectives is likely to prompt systematic processing by generating a defensive response because it threatens the perceiver’s existing attitudes (Quinn & Wood, 2004). Defensively motivated individuals would evaluate available information carefully, including their existing attitudes, the context, and the message, to make a judgment that best meets their defense goals of protecting their attitudes and resisting change (Eagly & Chaiken, 1993). In systematic information processing, the conflict and disagreement presented in political information should stimulate careful thinking about the information and facilitate the understanding of oppositional viewpoints (Huckfeldt et al., 2004; Mutz, 2002b). Some studies have also

found that while protecting their own viewpoints by producing counterarguments to defend their own stance, individuals' recall of the other side's viewpoints is enhanced, which leads to a more comprehensive understanding of the subject (Cappella et al., 2002; Hwang, Kim, & Kim, 2016). Relative to systematic processing, heuristic processing requires less cognitive demand on the perceiver, as it relies on easily processed judgment-relevant cues. Attitude-consistent information is likely to trigger heuristic processing because it is associated with high availability and accessibility of one's attitude (Todorov, Chaiken, & Henderson, 2002).

These arguments would suggest that exposure to both pro- and counterattitudinal views can facilitate elaborative reasoning but through different mechanisms. There should be a differential effect of the two types of exposure on elaborative reasoning, as exposure to counterattitudinal views requires a more systematic and less peripheral route of cognitive processing. Accordingly, a hypothesis is posited first to examine whether there is an effect of exposure to pro- and counterattitudinal political views on elaborative reasoning. Then, a research question (RQ) is proposed to understand how the two types of information exposure would affect the deliberation process differently. To see the difference, elaborative reasoning is separated into two aspects: generating rationales for one's own and for oppositional viewpoints.

*H2: Exposure to proattitudinal (H2a) and counterattitudinal (H2b) political views is positively related to elaborative reasoning, although the relationship is stronger for counterattitudinal exposure.*

RQ1: How does exposure to pro- and counterattitudinal political views influence elaborative reasoning differently?

Combining *H1* and *H2*, we hypothesize mediating relationships in addition to the direct effects. We assert that people with greater personal issue importance will expose themselves to not only proattitudinal but also counterattitudinal views, which will in turn enhance their elaborative reasoning. Similarly, in addition to the hypothesis about the mediating relationships, a research question is proposed to understand what different roles pro- and counterattitudinal exposure play in mediating the relationship between personal issue importance and elaborative reasoning. Elaborative reasoning is separated into generating rationales for one's own and for oppositional viewpoints to capture the difference.

*H3: Exposure to proattitudinal (H3a) and counterattitudinal (H3b) political views mediates the relationship between personal issue importance and elaborative reasoning, although the indirect effect of personal issue importance on elaborative reasoning is stronger through counterattitudinal than through proattitudinal exposure.*

RQ2: How does exposure to proattitudinal and counterattitudinal political views mediate the relationship between personal issue importance and elaborative reasoning differently?

## Motivated-Reasoning Goals in Information Selectivity and Elaborative Reasoning

Motivations that exert an influence on information selectivity and subsequent cognitive processing come from both intrinsic and extrinsic sources (Sorrentino & Higgins, 2000). Intrinsic motivation, such as personal issue importance, stimulates activities based on a natural inclination to focus on one's inherent interests and satisfaction. Extrinsic motivation, in contrast, is a construct that pertains to activities done to achieve some outcome and can be activated by contextual factors, such as situational goals (Ryan & Deci, 2000). The influence of intrinsic motivations can be enhanced or hampered depending on extrinsic motivations (Isbell & Wyer, 1999; Kim, 2007). Accordingly, the influence of personal issue importance on elaborative reasoning through exposure to pro- and counterattitudinal views may be amplified or diminished depending on what type of goals a person has at the moment when seeking political information. Following this line of reasoning, this study examines motivated-reasoning goals as extrinsic motivations to understand what role they play in moderating the indirect effect of personal issue importance on elaborative reasoning through exposure to pro- and counterattitudinal views.

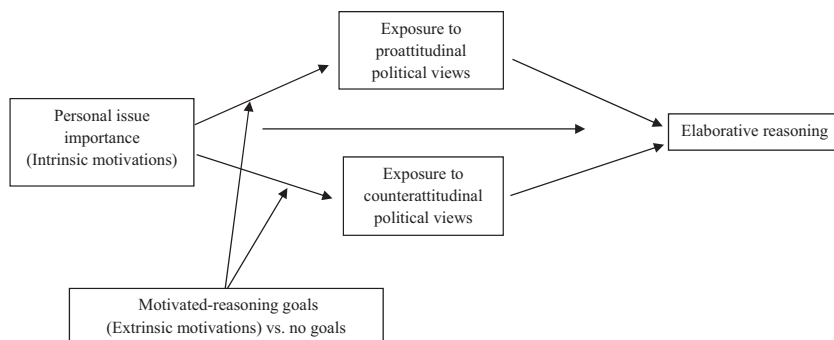
Kunda's (1990) motivated-reasoning goals have been widely examined in experimental settings relative to information seeking (Kim, 2007; Lundgren & Prislín, 1998; Taber & Lodge, 2006). Motivated-reasoning goals are "strategies for accessing, constructing, and evaluating beliefs" (Kunda, 1990, p. 481). These goal-directed strategies fall into two major categories: accuracy and directional goals. Accuracy goals refer to desires to reach an accurate conclusion and maintain a correct belief (Kunda, 1990). When people are motivated to be accurate, they worry that invalid information could lead them to provide incorrect answers. Thus, they would attend to issue-relevant information more carefully by accessing not only *confirming* but also *disconfirming* information, invest more cognitive effort in issue-related reasoning, and process the information more deeply by using more complex rules. Directional goals differ from accuracy goals in their tendency to uphold one's preexisting belief structure, maintain a preferred conclusion, and avoid disconfirming information. When motivated by directional goals, people access relevant information that supports a favorable conclusion. People with directional goals weigh supportive evidence more heavily when they process information, while devaluing unsupportive information and processing it in a more biased manner (Kunda, 1990).

In light of this, accuracy and directional goals are examined as moderators to understand how they interact with personal issue importance in influencing information selectivity and elaborative reasoning. Taking both intrinsic and extrinsic motivational factors into account provides a more holistic explanation for results found in previous studies regarding whether personal issue importance



Figure 1

*The hypothesized moderated mediation model: indirect effect of personal issue importance on elaborative reasoning through pro- and counterattitudinal exposure with the effect of personal issue importance on pro- and counterattitudinal exposure moderated by motivated-reasoning goals*



can increase counterattitudinal exposure (Kim, 2007; Knobloch-Westerwick & Meng, 2009; Petty & Cacioppo, 1979). A moderated mediation model is proposed in which the indirect effect of personal issue importance on elaborative reasoning through information selectivity (i.e., pro- and counterattitudinal exposure) is accounted for, and motivated-reasoning goals (i.e., accuracy and directional goals) would moderate the mediating relationship between personal issue importance, information selectivity, and elaborative reasoning (Figure 1). The following hypotheses are proposed to examine the moderated mediation model:

*H4: When the positive relationship between personal issue importance and elaborative reasoning is mediated by pro- and counterattitudinal exposure, accuracy goals will strengthen the relationships between personal issue importance and proattitudinal exposure (H4a) and between personal issue importance and counterattitudinal exposure (H4b).*

*H5: When the positive relationship between personal issue importance and elaborative reasoning is mediated by pro- and counterattitudinal exposure, directional goals will strengthen the relationship between personal issue importance and proattitudinal exposure (H5a) and weaken the relationship between personal issue importance and counterattitudinal exposure (H5b).*

## Method

### Experimental Design and Participants

An experiment was carried out to examine the effects of personal issue importance on information selection and cognitive processing and to test the moderating effect of accuracy goals in the relationship. Participants took part in the study in



a natural online setting through Qualtrics and were randomly assigned to one of four conditions: information search without goals, information search with accuracy goals, information search with directional goals, and no-information search. In total, 827 participants above the age of 18 years were recruited from February 14 to March 4, 2013, from Amazon.com's Mechanical Turk. As this study examined the hypothesized relationships in an information-seeking context and how motivated-reasoning goals may affect information-seeking behaviors, the no-information-search group was excluded from the analysis. In addition, 19 cases were removed from the analysis because 14 of them spent <1 min in the news browsing session and thus hardly engaged in news reading, and 5 of them spent >15 min in the news browsing session and were assumed to have been distracted by other tasks. A total of 591 participants were included for the analyses (age:  $M = 34.9$ ,  $SD = 11.9$ ; 54.3% female; 78.9% White; household income:  $Mdn = \text{US}\$40,000\text{--}\text{US}\$50,000$ ; education:  $Mdn = \text{some college or associate degree}$ ). In total, 215 participants were randomly assigned to the information-search-without-goals condition, 185 to the information-search-with-accuracy-goals condition, and 191 to the information-search-with-directional-goals condition.

In the information-search-without-goals group, participants first completed the presurvey, which included the measures for personal issue importance and attitude toward the issue (the environment), browsed a Web site, and then took a postsurvey that included measures of elaborative reasoning (i.e., argument repertoire), political predisposition, and demographic information. In the two information-search groups, participants went through the same process but with accuracy goals or directional goals manipulated before they started their information search. In the information-search-with-accuracy-goals condition, participants were instructed to read the news articles and find information that they thought would be helpful and useful for them to build an accurate view of specific political issues and make a valid political decision. In the information-search-with-directional-goals condition, participants were asked to find information that they thought would be useful to build a strong and convincing justification for their position on political issues (Kim, 2007; Taber & Lodge, 2006).<sup>1</sup>

<sup>1</sup>For the manipulation check, the study found that those who were instructed to use accuracy goals ( $M = 3.34$ ,  $SD = 2.69$ ) selected more articles than those who were asked to use directional goals ( $M = 2.79$ ,  $SD = 1.95$ ,  $t = 2.30$ ,  $p < .05$ ). Participants' motivation level in the information search was also measured after the information search session. They were asked to rank on a seven-point scale to what extent they were motivated to read news articles and find information that is helpful and useful for them (a) to build an accurate view of an issue and (b) to build a strong justification for their position on an issue. Results indicated that individuals who were instructed with accuracy goals ( $M = 5.29$ ,  $SD = 1.57$ ) were more motivated to read news articles and find information to build an accurate view than those who were not instructed with accuracy goals ( $M = 4.61$ ,  $SD = 1.39$ ,  $t = 1.97$ ,  $p < .05$ ). In addition, those who were instructed with directional goals ( $M = 5.05$ ,  $SD = 1.49$ ) were more motivated to read news articles and find information to support their own viewpoint than those who were not instructed with directional goals ( $M = 4.74$ ,  $SD = 1.47$ ,  $t = 2.11$ ,  $p < .05$ ).

In the three conditions, participants viewed a news Web site with 12 news articles listed on the home page and were able to select the articles that they wanted to read. Among these articles, four were focused on the environment, which was the specific issue examined in the study. The main reason for choosing the environment as the issue in the experiment was that compared with other social issues, such as abortion, gun control, or same-sex marriage, it is less controversial and less obtrusive (McCombs, 2004). Therefore, it is less likely to be strongly affected by political predispositions (Taber & Lodge, 2006). Specifically, the environment as it relates to energy was chosen because discussions of the environment “can range from international to very local concerns and from rather abstract to very concrete concerns” (McCombs, 2004, p. 80).

Participants also were instructed that a 4-min minimum was required for the news browsing session. A real-time, click-by-click tracking method was used to record participants’ information search behaviors. After 4 min, participants were able to click a “Proceed” button to take the postsurvey in which they were asked questions about their issue-specific arguments on the environment issue (i.e., argument repertoire), general political knowledge, political predispositions, and demographic information. Once individuals completed the study, they were thanked and provided with debriefing and compensation information.

## Stimuli

Several Web pages were built to mimic a news Web site (Knobloch-Westerwick & Meng, 2009). The first Web page was an overview page containing 12 articles, 4 of which focused on the environment issue. Of the four articles, two were right-leaning and two were left-leaning. Only headlines and news leads were provided, and they were randomly displayed on the overview page. Participants had to click on the headline or the news lead to enter the article page and read the full content. The articles were drawn from online news Web sites and online publications of real issue-relevant interest groups and were edited to have similar complexity, such as reading level, writing style, and sentence length. The four news headlines, leads, and articles were also subjected to a pretest to ensure that the news headlines and leads had an unambiguous stance while being equally interesting for the pro and con versions of the issue.

## Measures

**Personal issue importance.** Participants were asked to indicate how important the environment issue was to them personally (Krosnick, 1990; Krosnick & Telhami, 1995) using response options ranging from 1 = *not at all important* to 7 = *extremely important* ( $M = 5.27$ ,  $SD = 1.22$ ).

**Attitude toward the environment issue.** Participants were asked the extent to which they agreed with three statements about their attitudes to

locate their position on the issue: “I support tax incentives for alternative/green technology,” “It is important to protect the environment even if it costs loss of jobs or reduces our standard of living,” and “I do NOT support the exporting of liquid natural gas because it will cause environmental contamination.” Answers were ranked with a seven-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. The three items were averaged ( $\alpha = 0.73$ ,  $M = 5.53$ ,  $SD = 1.31$ ). Similar to Taber and Lodge’s (2006) measure of attitude position,<sup>2</sup> the median (neutral position) was used as a cutoff point to categorize right-leaning or left-leaning for the issue. Responses  $>4$  suggest that respondents are left-leaning on the environment issue and those  $<4$  indicate that respondents are right-leaning on the issue.<sup>3</sup>

**Exposure to pro- and counterattitudinal political views (Web selectivity).** Participants’ selection of news articles was tracked in seconds by logging every link on which they clicked. The news article selections were therefore operationalized in two ways: article selection and article reading time in seconds (Knobloch-Westerwick & Meng, 2009).<sup>4</sup> On average, participants clicked on 3.01 articles ( $SD = 2.00$ ), and the average total article reading time was 296 s ( $SD = 140.42$ ).

For hypothesis testing, the two key variables were exposure to proattitudinal political views and exposure to counterattitudinal political views about the environment issue. They were coded based on participants’ issue positions. For example, if respondents’ attitude toward the environment issue was left-leaning, their selection of a left-leaning article was coded as a selection of a proattitudinal article, and their selection of a right-leaning article was coded as a selection of a counterattitudinal article. The following measures were generated for each article: (1) selection of proattitudinal article, (2) selection of counterattitudinal article, (3) reading time in seconds of proattitudinal article, and (4) reading time in seconds of counterattitudinal article. The measures for the two pro-perspective articles were combined to form the measure of total number of proattitudinal articles selected and total time spent reading proattitudinal articles. The same procedure was used for the two articles with counterattitudinal perspectives. Measures of the total number of counterattitudinal articles selected and the total time spent reading counterattitudinal articles were created for the environment issue.

<sup>2</sup>Taber and Lodge’s (2006) used six items to measure attitude position for gun control and affirmative action. The six items were combined and rescaled to [0, 1] with responses  $<0.5$  indicating “con” and  $>0.5$  indicating “pro” for the issues.

<sup>3</sup>To make sure the measure correctly identified participants’ issue positions, the measure was confirmed with participants’ argument repertoires (e.g., rationales for one’s own viewpoint and rationales for oppositional viewpoints). Through generating rationales for their own viewpoint and oppositional viewpoint, participants stated which position they supported and opposed.

<sup>4</sup>In this study, the findings are consistent when analyzing the hypothesized relationships with the number of articles selected and time spent reading the articles. Owing to limited space, only results from the number of articles selected are reported.

**Elaborative reasoning.** For elaborative reasoning, this study measured how people generate rationales for their own and oppositional positions on the environment issue (i.e., argument repertoire; see Cappella et al., 2002 for details about the measure). This measure was developed to assess individuals' opinion quality and capture their elaborative reasoning (Cappella, et al., 2002; Nir, 2011; Wojcieszak, 2012). In this thought-listing task, participants were asked to answer two open-ended questions. First, participants were asked to list arguments for why they were favorable toward their own position on the issue and unfavorable toward the opposite position on the issue (range = 0–15, *Mdn* = 3, *M* = 3.23, *SD* = 1.74). Second, participants were asked to generate arguments that they thought an opponent would provide to support the oppositional position (range = 0–11, *Mdn* = 3, *M* = 2.64, *SD* = 1.58). Responses were coded such that 0 was assigned to an answer that was irrelevant, did not make sense, or only restated an opinion, and 1 was given for every substantive argument. The rationales for one's own viewpoints and the rationales for oppositional viewpoints were combined to form the index of elaborative reasoning. Intercoder reliability, calculated using Krippendorff's alpha, was verified by having the two coders that analyze a sample of 50 open-ended responses (Krippendorff's  $\alpha = 0.82$ ). The intercoder reliability reached a satisfactory level before other responses were coded (Krippendorff, 2011).

### Statistical Analysis

To test the proposed hypotheses, a series of ordinary least squares hierarchical regression models was used. Control variables, including demographics, political predispositions, and news media use, were included as Block 1 items in each regression equation. The first two regression equations, Model 1 and Model 2, focused on predicting proattitudinal exposure and counterattitudinal exposure (*H1*) with personal issue importance and motivated-reasoning goals entered in Block 2 as the key independent variables. Another three regression equations, Model 3, Model 4, and Model 5, focused on the role of proattitudinal exposure and counterattitudinal exposure (*H2* and *RQ1*) in predicting elaborative reasoning. Model 3 examines elaborative reasoning as a combined measure of generating rationales for one's own and oppositional viewpoints as the dependent variable, while Model 4 and Model 5 investigate generating rationales for one's own and oppositional viewpoints as two separate dependent variables. These three equations had variables identical to Blocks 1 and 2 in the previous equations, and the two new items, exposure to pro- and counterattitudinal perspectives, were introduced in Block 3.

To assess the mediating role of exposure to pro- and counterattitudinal political views between personal issue importance and elaborative reasoning (*H3* and *RQ2*), Hayes' (2013) PROCESS macro with Model 4 was used. To

examine accuracy and directional goals as the moderators in the relationship between personal issue importance and exposure to pro- and counterattitudinal information ( $H_4$  and  $H_5$ ) when considering the indirect effect of personal issue importance on elaborative reasoning through exposure to pro- and counterattitudinal political views, the PROCESS macro with Model 7 was conducted. In the model, the no goals condition was set as the reference group. This test used the moderated mediation model to determine whether the mediated relationship between personal issue importance, pro- and counterattitudinal exposure, and elaborative reasoning is conditionally affected by levels of motivated-reasoning goals.

The computerized random assignment appeared to be successful, given that there were no statistically significant differences among the conditions in terms of age, gender, race, political predisposition, education, and income. However, the hypothesized relationships include personal issue importance, which is the key independent variable that taps into individuals' intrinsic involvement in an issue and can be affected by demographic features, political predispositions, and news media use (Petty & Krosnick, 1995). To avoid potential confounding effects and provide a more robust analysis, these variables were included as controls in all the analyses.

## Results

As shown in Table 1, findings from the hierarchical regressions showed that personal issue importance was positively associated with exposure to proattitudinal political views (Model 1) and to counterattitudinal political views (Model 2), supporting  $H_{1a}$  and  $H_{1b}$ . Individuals with greater personal issue importance about the environment issue were more likely than others to seek pro- and counterattitudinal political information about the issue. For  $H_2$ , in Model 3, exposure to pro- and counterattitudinal political views was related to elaborative reasoning. Although the respective standardized betas suggest that the relationship was stronger for counterattitudinal exposure ( $\beta = 0.16$ ,  $p < 0.001$ ) than proattitudinal exposure ( $\beta = 0.12$ ,  $p < 0.01$ ), a  $z$ -score test indicates that the difference was not significant.

RQ1 further examines how exposure to pro- and counterattitudinal views influences elaborative reasoning differently. Results indicated that proattitudinal exposure was significantly related to generating rationales for one's own viewpoint (Model 4), but not to generating rationales for oppositional viewpoints (Model 5). Counterattitudinal exposure had a significant relationship to generating rationales not only for oppositional viewpoints (Model 4) but also for one's own viewpoint (Model 5).

The third hypothesis was also supported. The bootstrapped 95% bias-corrected confidence intervals (CIs) with 10,000 bootstrap samples for exposure to

**Table 1**  
*Hierarchical Regression Analyses Investigating the Influences of Personal Issue Importance on Exposure to Pro- and Counterattitudinal Political Views and the Influence of Exposure on Elaborative Reasoning*

Predictors	Model 1: Proattitudinal exposure	Model 2: Counterattitudinal exposure	Model 3: Elaborative reasoning	Model 4: Rationales for one's own viewpoint	Model 5: Rationales for oppositional viewpoint
<i>Block 1: Control variables</i>					
Age	0.00 (.00)	-0.00 (.00)	-0.00 (.01)	0.00 (.00)	-0.01 (.01)
Gender	0.10 (.06)	0.13 (.06)*	-0.35 (.24)	-0.27 (.15)	-0.09 (.13)
Income	0.01 (.01)	0.02 (.01)	0.07 (.06)	0.02 (.03)	0.05 (.03)
Race	0.05 (.07)	-0.09 (.07)	0.11 (.20)	0.11 (.07)	-0.00 (.16)
Education	0.00 (.03)	0.03 (.03)	0.39 (.11)***	0.17 (.06)**	0.22 (.06)***
Political ideology	-0.05 (.02)**	-0.01 (.02)	-0.15 (.07)*	-0.12 (.04)**	-0.03 (.04)
Political interest	-0.03 (.02)	-0.04 (.02)	0.12 (.09)	0.06 (.05)	0.06 (.04)
Political knowledge	0.02 (.02)	0.05 (.03)	0.22 (.10)*	0.09 (.06)	0.13 (.06)*
Political discussion	0.03 (.02)*	0.03 (.02)	0.31 (.06)***	0.17 (.04)***	0.14 (.04)***
News media use	0.03 (.03)	0.02 (.03)	-0.04 (.12)	0.03 (.07)	-0.07 (.07)
$\Delta R^2$ (%)	3.9*	4.4**	14.3***	11.6***	11.8***
<i>Block 2</i>					
Personal issue importance	0.13 (.06)*	0.14 (.06)*	1.24 (.25)***	0.71 (.15)***	0.52 (.14)***
Motivated-reasoning goals	0.03 (.06)	0.10 (.06)	-0.12 (.24)	0.03 (.14)	-0.14 (.13)
$\Delta R^2$ (%)	0.9*	1.3*	3.7***	3.5***	2.4**
<i>Block 3</i>					
Proattitudinal exposure			0.53 (.19)**	0.57 (.07)***	0.04 (.06)
Counterattitudinal exposure			0.69 (.18)***	0.19 (.07)**	0.40 (.06)***
$\Delta R^2$ (%)			8.0***	11.4***	6.0***
Total $R^2$ (%)	4.8**	5.7**	26.0***	26.5***	20.2***

Note: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ ; Cell entries are unstandardized coefficients in each block with standard errors in parentheses.

proattitudinal ( $B = 0.08$ ,  $SE = 0.04$ , 95% CI = 0.01–0.19) and counterattitudinal ( $B = 0.12$ ,  $SE = 0.06$ , 95% CI = 0.03–0.26) political views from the mediation test excluded zero, indicating the significant mediating roles of exposure to proattitudinal ( $H_{3a}$ ) and counterattitudinal ( $H_{3b}$ ) political views in the relationship between personal issue importance and elaborative reasoning. The mediating result also demonstrated a stronger indirect path from personal issue importance to elaborative reasoning through counterattitudinal exposure than through proattitudinal exposure. RQ<sub>2</sub> aims to understand these differential mediating effects on elaborative reasoning. Thus, the processes of generating rationales for one's own and oppositional viewpoints were examined separately as two outcome variables in another two mediating analyses with PROCESS. Results showed that proattitudinal ( $B = 0.13$ ,  $SE = 0.05$ , 95% CI = 0.02–0.24) and counterattitudinal ( $B = 0.05$ ,  $SE = 0.03$ , 95% CI = 0.01–0.13) exposure significantly mediated the relationship between personal issue importance and generating rationales for one's own viewpoints. In addition, counterattitudinal ( $B = 0.10$ ,  $SE = 0.04$ , 95% CI = 0.03–0.20) exposure significantly mediated the relationship between personal issue importance and generating rationales for oppositional viewpoints, but proattitudinal exposure ( $B = 0.02$ ,  $SE = 0.02$ , 95% CI = –0.01 to 0.06) did not mediate the relationship. The results highlighted a significant mediating role of exposure to counterattitudinal views in contributing to generating rationales for both oppositional and one's own viewpoints; however, exposure to proattitudinal views only mediated the path to generating rationales for one's own viewpoint.

$H_4$  proposed that the indirect effect of personal issue importance on elaborative reasoning through pro- and counterattitudinal exposure is conditionally affected by accuracy goals. In the moderated mediation model, accuracy goals were proposed to moderate the relationship between personal issue importance and proattitudinal exposure ( $H_{4a}$ ) and between personal issue importance and counterattitudinal exposure ( $H_{4b}$ ). Given that there was a differential effect of exposure to pro- and counterattitudinal political views on elaborative reasoning found in previous analyses for RQ<sub>1</sub> and RQ<sub>2</sub>, again, the processes of generating rationales for one's own and oppositional views were separately tested in the moderated mediation analyses. Results from the first moderated mediation test showed that the indirect effect of personal issue importance on generating rationales for one's own viewpoint through proattitudinal exposure was not moderated by accuracy goals ( $B = -0.20$ ,  $SE = 0.20$ ,  $p = 0.33$ ). However, the indirect path through counterattitudinal exposure was moderated by accuracy goals ( $B = 0.46$ ,  $SE = 0.21$ ,  $p < 0.05$ ). As shown in Table 2 Model 1, the bootstrapped 95% bias-corrected CIs with 10,000 bootstrap samples from the analysis further showed that the indirect effect of personal issue importance on generating one's own rationales through exposure to counterattitudinal political views was significant in the accuracy goals condition. However, the indirect effect was not significant in the no goals condition. Similarly, the



Table 2

*Conditional Indirect Effects of Personal Issue Importance on Generating Rationales for One's Own and Oppositional Viewpoint Through Pro- and Counterattitudinal Exposure Influenced by Accuracy Goals*

Models		Effect size	SE	95% bootstrap CI	
				Lower limit	Upper limit
Model 1					
Generating rationales for one's <i>own</i> viewpoint					
Proattitudinal exposure	No goals	0.10	0.08	-0.04	0.27
	Accuracy goals	-0.00	0.07	-0.12	0.13
Counterattitudinal exposure	No goals	0.01	0.03	-0.03	0.09
	Accuracy goals	0.07	0.05	0.01	0.19
Model 2					
Generating rationales for <i>oppositional</i> viewpoint					
Proattitudinal exposure	No goals	0.01	0.02	-0.01	0.09
	Accuracy goals	0.00	0.02	-0.03	0.03
Counterattitudinal exposure	No goals	0.02	0.06	-0.10	0.15
	Accuracy goals	0.19	0.07	0.07	0.34

*Note.* Estimates were calculated using the PROCESS macro developed by Hayes (2013). CI = confidence interval. CIs are based on the bootstrapping of 10,000 samples.

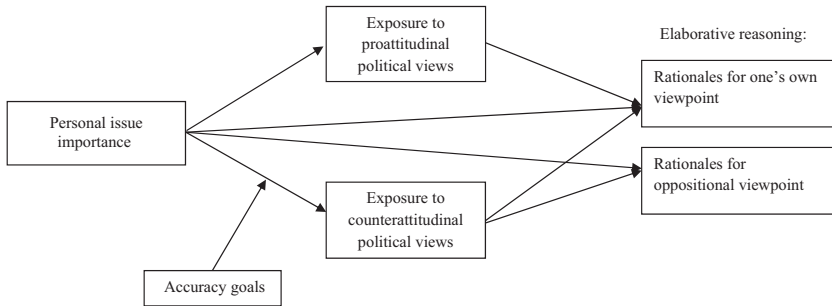
bootstrapped 95% bias-corrected CIs with 10,000 bootstrap samples from the analysis (see Table 2 Model 2) indicated that the indirect effect of personal issue importance on generating oppositional rationales through exposure to counterattitudinal political views was significant in the accuracy goals condition, but not in the no goals condition. Figure 2 shows the relationships found in the moderated mediation analyses. It demonstrates a differential indirect effect of personal issue importance on elaborative reasoning through pro- and counterattitudinal exposure with the effect of personal issue importance on counterattitudinal exposure moderated by accuracy goals.

Similar to  $H_4$ ,  $H_5$  proposed that the indirect effect of personal issue importance on elaborative reasoning through proattitudinal ( $H_{5a}$ ) and counterattitudinal ( $H_{5b}$ ) exposure is conditionally affected by directional goals. The results, however, showed that the directional goals did not moderate the indirect effect of personal issue importance on generating one's own and oppositional rationales through either proattitudinal ( $B = 0.26$ ,  $SE = 0.23$ ,  $p = 0.25$ ) or counterattitudinal ( $B = 0.15$ ,  $SE = 0.21$ ,  $p = 0.47$ ) exposure.

Taken together, there was a conditional indirect effect of personal issue importance on generating one's own and oppositional viewpoints that operated through counterattitudinal exposure depending on whether participants searched for information with accuracy goals. More specifically, while personal issue importance indirectly enhanced elaborative reasoning through the

Figure 2

*The final moderated mediation model: a differential indirect effect of personal issue importance on elaborative reasoning through pro- and counterattitudinal exposure with the effect of personal issue importance on counterattitudinal exposure moderated by accuracy goals*



selection of pro- and counterattitudinal information, the indirect path to generating rationales for one's own viewpoint operating through proattitudinal exposure was not affected by accuracy goals, but the indirect path through counterattitudinal exposure was influenced by whether individuals sought the information with accuracy motivations, and this led to generating not only oppositional but also one's own rationales on the issue.

## Discussion

Exposing oneself to counterattitudinal information is not common because of individuals' tendency to seek out similar views and avoid dissimilar views. However, results from this study suggest that not all selective behaviors lead individuals to avoid dissonant information and look for consonant information. Under some circumstances, people can be encouraged to look for information that presents challenging perspectives, behaviors that can enhance individuals' understanding of oppositional rationales and ultimately facilitate deliberative democracy.

Results from the experiment combined with Web behavior-tracking data suggest that personal issue importance, as an intrinsic motivation, helps people engage in not only proattitudinal but also counterattitudinal exposure. In turn, these two types of exposure enhance elaborative reasoning (i.e., the mediating relationships). The results further suggest that while both types of exposure can lead to elaborative reasoning, they have some different effects. Exposure to proattitudinal political views contributes to generating rationales for one's own viewpoint, while exposure to counterattitudinal political views enhances generating rationales for oppositional viewpoints. In addition, counterattitudinal exposure helps people to generate rationales for their own viewpoint. This highlights a limited role of proattitudinal exposure and a beneficial role of counterattitudinal exposure in a deliberative democracy, as proattitudinal

exposure only prompts awareness of rationales supporting one's own position, which could cause bias toward the issue. On the other hand, counterattitudinal exposure helps people to see things they had previously overlooked and enables them to use oppositional rationales to ponder arguments for their own position. This resonates with the theoretical argument that exposure to conflicting political views plays an integral role in encouraging "enlarged mentality," which is the capacity for representative thinking and more valid decision-making that comes from considering different viewpoints (Arendt, 1968, p. 241).

This study further examines whether and how extrinsic motivations elicited by accuracy and directional goals could influence the mediating relationships (i.e., the moderated mediation model). The findings showed that accuracy goals significantly moderate the indirect effect of personal issue importance on generating rationales for one's own and oppositional viewpoints via counterattitudinal exposure. However, accuracy goals do not moderate the indirect path through proattitudinal exposure.

Why did accuracy goals not influence the indirect effect of personal issue importance on elaborative reasoning that is mediated by proattitudinal exposure? First, this could be explained by the heuristic information processing promoted by proattitudinal exposure. As people process proattitudinal exposure with heuristic cues that require less cognitive demand, they may not need accuracy goals to motivate them to select and process proattitudinal information. On the contrary, exposure to counterattitudinal information is likely to prompt systematic information processing that requires more cognitive demand. An accuracy goal, therefore, is necessary to motivate people to expose themselves to counterattitudinal information and engage in effortful cognitive processing. In other words, to expose oneself to counterattitudinal views, one needs to be not only passionately concerned about and personally invested in an issue but also motivated to seek information by an accuracy goal, such as to make an accurate judgment or a valid political decision.

Second, people exhibit the tendency and preference to expose themselves to like-minded information; thus, they may not need extraneous factors to motivate them to expose themselves to proattitudinal views and process the information. This could also explain why directional goals do not enhance the indirect effect of personal issue importance on elaborative reasoning that is mediated by proattitudinal exposure; by nature, people have a directional motivation to find supporting information and reach a preferred conclusion. This is why many of the experiments reported in the literature did not manipulate directional goals, but only manipulated accuracy goals to understand the effects of motivated-reasoning goals on information selectivity and cognitive processing (Lundgren & Prislin, 1998; Taber & Lodge, 2006).

Given that directional goals motivate people to uphold their preexisting beliefs and avoid disconfirming information, it is expected that directional goals would attenuate the positive relationship between personal issue

importance and counterattitudinal exposure. However, this study did not find a significant moderating role of directional goals in influencing the indirect effect of personal issue importance on elaborative reasoning that is mediated by counterattitudinal exposure. It is possible that the environment issue examined in the experiment is less controversial compared with other political issues such as immigration, abortion, and gun control. Thus, exposure to counterattitudinal information related to the issue does not evoke strong cognitive dissonance that could cause people who are motivated by directional goals to avoid the information.

Taken together, while the mediating findings indicate that elaborative reasoning can be enhanced through two indirect paths (one through proattitudinal exposure and the other through counterattitudinal exposure), there are some differences in the information processing, as counterattitudinal exposure contributes to generating not only oppositional but also one's own viewpoints, while proattitudinal exposure only leads to generating one's own viewpoint. The moderated mediation model further suggests that the indirect path through counterattitudinal exposure only functions when accuracy goals are triggered. Without being motivated by accuracy goals, even people who have high personal issue importance will be unlikely to seek out counterattitudinal political views. Accordingly, the path to elaborative reasoning through counterattitudinal exposure will be diminished. People may still enhance their elaborative reasoning through proattitudinal exposure; however, the indirect effect will only lead to generating rationales for one's own viewpoint. Without the balance of contrasting viewpoints, individuals will lack awareness of legitimate rationales for oppositional viewpoints and be politically fragmented. This can potentially lead to what scholars have been greatly worried about: attitude extremity and political polarization when people seek to expand their familiarity with information supporting their beliefs and avoid opinion-challenging information (Garrett, 2009; Stroud, 2010; Sunstein, 2007; Wojcieszak & Rojas, 2011). Lacking the component of counterattitudinal exposure, the functioning of deliberative democracy cannot be assured. Thus, the moderated mediation model found in this study provides a potential path to the development of deliberative democracy by highlighting personal issue importance and accuracy goal as the intrinsic and extrinsic motivations that can prompt exposure to both pro- and counterattitudinal political views and further enhance one's own and oppositional argument repertoire.

There are several caveats inviting us to interpret the findings cautiously. This study was carried out in a natural setting using a survey experiment. A natural setting can increase the generalizability of the results; however, there are limitations to the external validity based on the demographic attributes of the participants. After comparing the participants' demographic data with other national sample data (i.e., 2010 Post-Election Survey from Pew Internet and American Life, and 2011 Current Population Survey from

U.S. Census), the composition of the participants in this study is similar to the other data in terms of gender, race, and income, but the participants are younger and more educated. Although the random assignment appeared to be successful and several control variables were included in the analyses to avoid confounding effects, it is important to acknowledge that using a disproportionately liberal and well-educated sample may potentially influence the outcomes. Future researchers may consider conducting a similar study with a representative national sample for a more stringent experimental design.

In addition, although the number of articles selected and time spent on reading articles were measured, this study cannot precisely capture the extent to which participants attended to the articles. Future researchers may wish to incorporate eye-tracking facilities to document visual attention to news. Another limitation relates to the issue-specific measurement. More specifically, focusing on the environment issue in the study raises the question of the generalizability of the findings to other issues. As aforementioned, the environment issue is less controversial and less obtrusive compared with other social issues. Therefore, testing the proposed relationships with other social issues could yield different results. This is a dilemma scholars have raised when examining issue-specific attitudes and political outcomes (Iyengar, 1990; Kim, 2009; Krosnick, 1990). A wider range of issues can be tested in future research to understand the extent to which different issue domains share similarities.

Despite these limitations, the findings have important implications for the understanding of citizens' democratic life and the development of a deliberative democracy. While most of the prior research shows that citizens consume information and discuss politics in a way that matches their own viewpoints (Garrett, 2009; Stroud, 2010), this study offers substantial insight into issue-relevant exposure, an exposure to not only proattitudinal but also counterattitudinal political views, and emphasizes the role of personal issue importance and accuracy goals in facilitating this type of exposure. The findings highlight the significant contribution of exposure to deliberation, as pro- and counterattitudinal exposure contributes differently to individuals' cognitive processing. This study provides evidence of the specific mechanisms that enhance citizens' elaborative reasoning and have the potential to foster deliberative democracy.

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