

ORIGINAL ARTICLE

# Applying a Cognitive-Processing Model to Presidential Debate Effects: Postdebate News Analysis and Primed Reflection

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*This article integrates priming and framing into a cognitive-processing model that illustrates how the effects of watching a presidential debate might be influenced by a priming message as it interacts with an individual's schema. We examine how the frame of postdebate news analysis primes audience reflection on a previously viewed segment from the 2004 presidential debates (a process we identify as "primed reflection"). Results show that the influence of postdebate news analysis is a function of the interaction between the news-analysis frame (policy vs. performance) and the individual-level factors, namely, political knowledge and propensity to reflect on media content.*

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Every 4 years, millions of Americans "tune in" to watch the presidential candidates debate various campaign issues. Following the debates, news media provide analyses that tend to focus more on the performance of the candidates than on their stands on the issues (Lemert, Elliott, Bernstein, Rosenberg, & Nestvold, 1991). Research shows that presidential debates and subsequent news coverage can affect character perceptions, knowledge of candidates and issues, and voting behavior (Benoit & Hansen, 2004; Pfau, 2002). Lemert et al. (1991) showed that the postdebate analysis can have as much of an impact as the debate itself. In both cases, the nature of the effects seems to depend on individual differences among voters in terms of political knowledge, ideology, salience of issues, strength of initial attitude, and exposure to news coverage (e.g., Benoit & Hansen; Kendall, 1997; Lanoue, 1992; Pfau, 2002).

In order to further understand the effects of postdebate news analysis, we begin with a cognitive-processing model derived from past research which identifies common processes that integrate priming and framing to better explain media effects (in this case, the effects of the juxtaposition of the presidential debate and postdebate

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analysis). We build on this model by recognizing that factors related to an individual's information-processing style might moderate resultant effects. By adapting the cognitive-processing model to integrate priming and framing along with moderating factors, we identify three new concepts to help us understand media effects. Our first new concept, which we do not investigate directly in our data analysis, is one in which a message primes the encoding of experiences like debate viewing (*primed encoding*). However, our research does examine two related concepts in which postdebate analysis may trigger audience reflection on the debate (*reflective activation*) and focus attention on certain aspects of that event (*primed reflection*). As a result, exposure to postdebate analysis may influence understanding, perceptions, and judgments in response to political debates by reshaping an individual's encoded experience of the event through the process of reflection.

We propose that two important factors moderate the influence of postdebate analysis on the reflection process. First, individuals who are naturally reflective are more likely to be influenced by reflective priming messages such as postdebate analysis. Second, individuals' preexisting knowledge will condition their responses to postdebate analysis. Essentially, we contend that presidential-debate effects will be influenced by specific features emphasized in postdebate media coverage and that the magnitude of these effects will be moderated by both respondents' proclivity to reflect and their prior political knowledge.

To test these ideas, we conducted a web-based experiment, which presented participants with a clip from the first 2004 presidential debate, and then systematically manipulated subsequent exposure to postdebate news analysis of the debate, highlighting either the candidates' policy positions or their debate performances. We then examined how the news analysis interacted with the level of reflection and political knowledge to influence perceived debate effects on candidate preferences.

### The cognitive-processing model

Our point of departure for this study is a cognitive-processing model derived from prior research (Higgins, 1996; Higgins & Brendl, 1995; Price & Tewksbury, 1997). This model seeks to explain the effects of media messages through a process in which an audience member's preexisting knowledge is activated and used in the process of making subsequent judgments. Although the data analysis in this study is grounded in this model, we do not observe all its processes directly. Nonetheless, we lay out this model and apply it to priming and framing in order to build on an existing framework for future research.

A review of the literature in this area yields five factors that intervene between the exposure to a stimulus and the final judgments. First, each person has unique and preexisting constellations of knowledge, beliefs, and expectations (i.e., schemas) stored in memory. Theorists use the term *availability* to refer to whether or not a particular schema and its component constructs are actually stored in memory (see Higgins, 1996; Tversky & Kahneman, 1973). Second, *applicability* refers to the "goodness of fit" between the features of the message stimulus and the content

and structure of an individual's schemas (Bruner, 1957; Higgins, 1996). This means that effects will depend on the extent to which the information contained in the message resonates with that contained in an individual's schema. As the message is processed, *activation* occurs, a process in which relevant schemas are triggered by the message (Anderson, 1983; Price & Tewksbury, 1997). Once activated, relevant schemas and their constructs may become more accessible for subsequent judgments (*accessibility*). Finally, the *usability* of these activated schemas regulates the impact that the message can have on subsequent judgments.

#### **Application of the cognitive-processing model to priming**

This cognitive-processing model and its attendant components are at the heart of media priming effects. The priming process has been defined as a cognitive process in which the content characteristics of a priming message increase the accessibility of related schemas, enhancing their influence on relevant judgments (Higgins & King, 1981). This process can be divided into three interrelated subprocesses. First, an individual must have the relevant schemas (availability) with respect to the priming message (applicability) for effects to occur (Domke, Shah, & Wackman, 1998). Second, the priming message activates these schemas, rendering them more retrievable for future cognitive tasks (accessibility) (Krosnick & Kinder, 1990). Third, the particular schemas activated through applicability and accessibility must be relevant or appropriate to use for the subsequent judgment or cognitive task (usability) (Higgins, 1996; see also "suitability" in Pan & Kosicki, 2005). If these conditions are met, then priming effects on cognitive tasks may occur.

Although a message produces priming effects through the processes described above, accessibility effects have been treated as a key component in explaining priming effects. The emphasis on accessibility in priming effects derives from the assumption that audience members are cognitive misers or limited-capacity information processors (Fiske & Taylor, 1991). That is, individuals make political judgments and evaluations based on a small subset of all potentially relevant considerations, which are easily available and retrievable from stored memory without conscious and careful thought (Krosnick & Kinder, 1990; Scheufele, 2000). Moreover, the emphasis on accessibility in priming theory is compounded by the fact that most primed cognitions examined in past research have had a clear and direct applicability to the subsequent cognitive task. Thus, the filtering processes that regulate the applicability and usability of accessible schemas have not been emphasized by researchers, though research has shown them to be important (Miller & Krosnick, 1996; Price & Tewksbury, 1997).

In sum, the priming process tends to rely on an accessibility-driven model as largely responsible for the automatic activation of message-related information and its application to subsequent cognitive tasks, but it generally fails to acknowledge the more active roles of availability, applicability, and usability. However, by conceptualizing the priming process as a component in a larger cognitive processing model, it can be expanded beyond a simple accessibility model to include the interaction

between a media message and the individual. That is, in order for message-related concepts to be activated and thus accessible for judgments, the content of the message must resonate, at least to some degree, with an individual's preexisting schemas (availability and applicability). Further, for a message then to have an effect, the activated schemas must be deemed usable or relevant to the cognitive task.

Thus, priming effects may be moderated by both the interrelationship among the specific content characteristics of the priming message and the receiver's preexisting schema and their relevance to the subsequent cognitive task. Recognizing that the characteristics of a priming message matter implies that priming messages differ and therefore trigger different individual schemas. In this sense, priming may overlap with the concept of framing. Thus, priming messages may be framed in alternative ways, suggesting a relationship between priming and framing effects.

### Framing and its relationship to priming

Over the years, researchers have defined framing and its effects in various ways (Entman, 1993; Gamson & Modigliani, 1987; Gitlin, 1980; Nelson, Clawson, & Oxley, 1997; Pan & Kosicki, 1993, 2005; Scheufele, 1999) in an attempt to bring order to what Entman called a "fractured paradigm." He explains, to frame "is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described" (Entman, 1993, p. 52; see also Gitlin; Neuman, Just, & Crigler, 1992; Shah, Domke, & Wackman, 1996).

With respect to message effects, researchers have tended to focus on salience, or the features of a message that are most prominent. According to Higgins (1996), salience draws an individual's attention to the specific aspects of a message, which can then have an effect on subsequent judgments (see also Higgins, 1989; Taylor & Thompson, 1982). That is, salience increases the likelihood that selective attention will be paid to particular features of a message, which may result in the activation of message-related information, thereby having the potential to influence subsequent interpretations and judgments.

Support for the influence of message salience may be found in the framing literature. Though prior research provides evidence for two possible message effects, accessibility and salience, Nelson *et al.* (1997) contend, "the accessibility of different considerations is not nearly as important as the *weight* attached to these considerations" (p. 578). Although these researchers provide evidence that messages can have an effect merely by making relevant concepts accessible (as stated in the priming literature), they show that message effects do not end here. We must further examine the salient features of a message to determine when and how accessible information is applied to judgments. By highlighting, or making salient, certain aspects of a message over others, the frame of a message will render the related aspects of an experience more important and thus more influential to an individual's understanding and judgments. That is, frames shape the way in which an individual interprets or understands an experience, which may then influence subsequent judgments.

In addition, the effect of a frame depends on the degree to which it “matches” an individual’s preexisting schema (applicability). A “match” increases the likelihood that a stimulus will result in activation, accessibility, and ultimately usability. According to Higgins (1996), when the attended features of a stimulus match, or resonate with, an individual’s stored information, these features are likely to be activated and will in turn be more accessible for subsequent judgments. Along these lines, Entman (1989) identifies the relationship between message attributes and an individual’s schema, where “attitudes emerge from a dynamic interaction of new information with peoples’ existing beliefs” (p. 350). Domke et al. (1998) illustrate this notion and “posit that framing issues in a manner that focuses on their moral or ethical dimensions can prime voters to (1) make attributions about candidate character, particularly integrity, and/or (2) evaluate other political issues in ethical terms” (p. 52). However, the authors go on to note that outcomes are likely to be mediated by the nature of the situation and the mesh between message characteristics and audience schemas. Thus, framing theory recognizes the importance of the interaction between the message and an individual’s preexisting schema and thus acknowledges that an individual plays an active role in understanding, interpreting, and applying message-relevant information to render subsequent judgments, processes that priming theory overlooks.

By viewing both priming and framing as components of the cognitive-processing model, we can recognize commonalities between these processes. As such, we propose that the influence of a priming message will be moderated by the way in which that message is framed. Thus, the *frame* of a priming message, coupled with its degree of resonance (i.e., “goodness of fit”) with an individual’s preexisting schema, will determine the extent to which a message primes subsequent judgments.

#### **Primed encoding and primed reflection: Extending the cognitive-processing model**

Although we previously conceptualized priming as a situation in which exposure to a message influences subsequent judgments, we suggest that a message can also prime the way an individual interprets and encodes a subsequent experience, which in essence is a series of complex cognitive judgments. In other words, priming can be extended to a situation in which a news story primes an individual’s interpretation of a subsequent event or experience, such as a presidential debate, by making certain aspects of it more salient than others. We call this process primed encoding.

In primed encoding, the priming message is encountered before the experience; however, priming can also occur when the message follows the experience. In this case, the message may stimulate reflection (a reexperiencing of the event), which we call reflective activation. Similar to the primed encoding process described above, the reexperiencing of the event may be subject to priming effects, which we call primed reflection. Support for primed encoding and reflection can be found in the social and cognitive psychology literature. Scholars assert that a priming stimulus can bias the subsequent interpretation of an ambiguous target and thus influence impression formation (e.g., Higgins, 1996; Srull & Wyer, 1979). Similarly, the

schematic-processing literature provides evidence that once activated, a schema will bias the interpretation of information in a way that results in selective encoding or retrieval of the schema-relevant material (see Taylor & Crocker, 1981).

Our model expands on this literature to suggest that the frames provided by a priming stimulus presented prior or subsequent to an experience will not only lead to a selective encoding or retrieval of the information directly related to the stimulus but will in fact also shape the way in which an individual experiences or reexperiences an event. In the process, primed elements of the experience will become more prominent and therefore more likely to activate relevant schemas for future judgments. The net result of priming, be it primed encoding or primed reflection, is to “bias” certain elements and interpretations of the experience in the direction of the frame. Although there is ample research to support an “encoding bias” (e.g., Rothbart, Evans, & Fulero, 1979; Srull & Wyer, 1979; Zadny & Gerard, 1974), there is less research to demonstrate a “retrieval bias.” Notably, Snyder and Uranowitz (1978) provided evidence of a retrieval bias, consistent with our notion of primed reflection. In this article, we provide indirect evidence of a retrieval bias through the process of primed reflection.

#### **Information processing and moderators of priming and framing effects**

Acknowledging that the priming process involves a more complex effect than the automatic activation of message-related concepts, researchers have attempted to identify individual-level factors, such as interpersonal discussion, reflection, and political knowledge, which may mediate or moderate an individual’s perception of issue salience and importance to subsequent judgments (Druckman, 2004; Miller & Krosnick, 2000). From this research, we derive the final component of our model: the way in which individual predispositions (i.e., reflection and political knowledge) influence information processing to affect the impact of a priming message on an individual’s understanding of an experience and subsequent judgments.

#### *Reflection*

A substantial number of studies support the notion that audience reflection—connecting new information to existing cognitive frameworks—is a key cognitive component in the learning process because it increases comprehension and retention of the communication message (e.g., Eveland, 2001; McLeod *et al.*, 1999). The influence of a message is likely to be greater to the extent that it is learned or retained by its audience (Hovland, Janis, & Kelley, 1953; Watts & McGuire, 1964). Furthermore, research has shown that recall is substantially greater when individuals engage in extensive cognitive processing, such as thought rehearsal, than when they engage in simple message rehearsal (Haberlandt, 1994; Perloff & Brock, 1980). As propensity to reflect is a characteristic that varies among individuals (McLeod *et al.*), an individual’s level of reflection might be an important factor in leading to message retention and retrieval, enhancing the potential for media effects by increasing the accessibility of constructs for use in later judgments.

### *Knowledge*

The potential moderating role of knowledge is more complicated. On the one hand, knowledge may enhance the ability to process a message more deeply (Krosnick & Brannon, 1993; Petty & Cacioppo, 1986; Zaller, 1992). In addition, the moderating role of knowledge may increase when the issue or the event featured in a message is complex. That is, when a message requires a certain level of prior knowledge to be understood, novices are less likely to be affected by the central cues contained in the message because they may process the message at a more superficial level. On the other hand, scholars have argued that politically knowledgeable individuals have more stable opinions (McGraw & Ling, 2003) and are subsequently less affected by media messages (Iyengar, Peters, Kinder, & Krosnick, 1984; Krosnick & Kinder, 1990). Though the literature offers competing arguments on the moderating role of knowledge in media effects, there is reason to believe that the influence of knowledge is dependent on the extent to which the message frame is consistent with an individual's existing schema. Consistency between the frame of a priming message and an individual's chronically accessible schemas will enhance message effects, whereas competing schemas will suppress them (Higgins & Brendl, 1995; Shen, 2004).

### **Research hypotheses**

In this study, we examine the effects of debate viewing (i.e., exposure to a clip of the debate on the issue of negotiations with North Korea) and the indirect influence of postdebate news analysis on individuals' perception of the debate's effect on candidate preference as an illustration of how the priming and framing processes may be integrated into a larger and more comprehensive cognitive processing model. Moreover, the common juxtaposition of the debate with postdebate analysis provides a fruitful context in which to examine primed reflection. Specifically, we predict that postdebate news analysis, as the priming stimulus, will trigger audience reflection on the debate (reflective activation) and that the frame of that news analysis—policy or performance—will shape the nature of this reflection (primed reflection). With this in mind, we propose that when postdebate news coverage focuses on policy analysis (as a debate evaluation criterion), policy-related aspects of the debate will be most salient during reflection, whereas when news coverage focuses on performance analysis, performance-related aspects will be most salient.

In exploring primed reflection, we pose three hypotheses. First, we expect that highly reflective individuals will report greater effects of media messages than those who are not following exposure to the messages. Specifically, we contend that when people watch the presidential debate, individuals high in reflection will experience the debate more deeply and as a result will express a greater influence of the debate than those low in reflection. Thus, we propose

H1: High-reflection individuals will report a greater effect of the debate clip on candidate preference than will low-reflection individuals.

If, as we expect, news analysis on the presidential debate triggers reflection on the debate, then exposure to postdebate news analysis will enhance high-reflection individuals' perceptions of the effect of the debate clip on their candidate preference. Accordingly, we state our second hypothesis:

H2: The difference between high- and low-reflection individuals will be greater among those who receive postdebate news analysis than among those who do not.

Further, we assume that the particular features of the presidential debate emphasized in the postdebate news analysis will interact with individuals' level of reflection and prior political knowledge and thus will produce different priming effects. News analysis emphasizing candidates' policy positions will have the greatest priming effects among individuals high in reflection and political knowledge. By contrast, news analysis highlighting information such as the candidates' debate performance will have the greatest priming effects among individuals who are willing to process new information (i.e., high-reflection participants) but have less ability to understand and interpret issue-oriented information (i.e., low-knowledge participants). This leads to the following set of hypotheses:

H3a: Among participants who receive policy-oriented postdebate news analysis, those higher in both reflection and knowledge will report the greatest perceived effect of the debate clip on candidate preference.

H3b: Among participants who receive performance-oriented postdebate news analysis, those high in reflection and lower in knowledge will report the greatest perceived effect of the debate clip on candidate preference.

## Method

### Participants

The data for this study were collected using an experiment embedded within an online survey<sup>1</sup> of respondents enrolled in communication courses at a large university in the Midwestern United States. Their instructors offered extra credit for participation in this research experience. All potential participants were contacted by e-mail and given the Web site of the online survey. The study was conducted during the 2 weeks prior to the 2004 presidential election. A total of 698 respondents (73.8% female; 60.3% democrat and 26.8% republican; mean age = 20.48 years,  $SD = 7.89$ ) completed the survey.

### Experimental design

The survey consisted of both pre- and postmanipulation survey items. After answering the pretest questions, all participants watched a modified<sup>2</sup> 5-minute segment from the first 2004 presidential debate.<sup>3</sup> Following the debate clip, which presented the candidates' views on negotiations with North Korea,<sup>4</sup> some respondents were



then randomly assigned to one of two postdebate news analysis conditions. These 400-word fictional news analysis stories highlighted either the candidates' policy stands or their debate performances. Additionally, there was a third group of respondents who did not receive any news analysis.

The manipulated news analyses were written by former media professionals and presented as Associated Press (AP) stories. In keeping with AP conventions, the stories adhered to norms of balance and objectivity and included quotes from representatives of both campaigns (e.g., senior presidential advisor Karen Hughes for Bush and senior advisor Joe Lockhart for Kerry). In the policy-oriented story, the analysis concentrated on the candidates' different positions on how to respond to North Korea's nuclear weapons program. In the performance-oriented story, candidate performance evaluations were emphasized. Though the frames of these stories differed, they were written to be structurally identical.<sup>5</sup> Although not a part of our experimental manipulation, potential ordering effects were controlled for by alternating the arrangement of the stories, with half of them leading with Bush and the other half with Kerry. All other facts and features of the news story remained constant across the conditions.

### Independent variables

#### *Propensity to reflect*

This variable was constructed from two items that asked respondents to rate their agreement, on an 11-point scale ranging from *strongly disagree* to *strongly agree*, with the following statements: "I try to make sense of what I encounter in the media by comparing it to my own experiences" and "After getting information from the media, I use it to help me organize my thoughts." Reflection was constructed by mean split of an additive index of the two items (interitem correlation = .52,  $M = 5.97$ ,  $SD = 2.86$ ). Respondents below the mean were coded as low in reflection ( $n = 366$ ), whereas those above the mean coded as high in reflection ( $n = 330$ ).

#### *Political knowledge*

Respondents were divided into two groups based on the mean split of an additive political knowledge index constructed from eight questions concerning political parties and presidential candidates (Cronbach's  $\alpha = .57$ ,  $M = 7.08$ ,  $SD = 1.25$ ). Correct answers were coded as 1 and all other answers as 0. Respondents who were lower than the mean were classified as lower in knowledge ( $n = 357$ ), whereas the other respondents were grouped as higher in knowledge ( $n = 339$ ).<sup>6</sup>

### Dependent variable

#### *Perceived effect of debate clip on candidate preference*

Respondents were asked to evaluate how the presidential debate clip affected their candidate preference on a 9-point scale. At the extremes of this scale were "more likely to vote for Bush" and "more likely to vote for Kerry." The midpoint

represented no change. We then folded this scale so that the midpoint became 0, and each step outward in both directions from the midpoint was recoded to the next highest integer ( $M = 1.58$ ,  $SD = 1.65$ ).

### Covariates

The experimental factor of debate clip modality (audio/full screen/split screen) was included in the analyses as a covariate in order to exclude its potential effect on the dependent variable of this study. In addition to controlling for this experimental factor, we controlled for viewing of the first debate (77.8% respondents watched) and certainty of voting in order to rule out their potential effects on the dependent variable. Intention to vote was measured with a single item, on an 11-point scale ranging from *not at all certain* to *very certain*, asking how certain the respondents were that they would vote on election day ( $M = 9.02$ ,  $SD = 2.21$ ).

### Results

The effects of reflection, political knowledge, and postdebate news analysis on the perceived effect of the presidential debate clip on candidate preference were analyzed using a three-way analysis of covariance (ANCOVA). Results including analysis of the three main effects of reflection (high vs. low), political knowledge (higher vs. lower), and news analysis (policy vs. performance vs. no analysis) and the interactions among them are reported in Table 1. Modality of the debate clip, viewing of the first presidential debate, and intention to vote were included as covariates in this analysis. The estimated marginal means for each cell are shown in Table 2.

**Table 1** Analysis of Covariance for Perceived Debate-Clip Effect on Candidate Preference as a Function of News Analysis, Propensity to Reflect on Media Messages, and Political Knowledge

Variance Source	df	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Reflection	1	12.18	4.66	.03	.01
Political knowledge	1	7.78	2.98	.09	.00
News-analysis manipulation	2	.28	.11	.90	.00
Reflection $\times$ Knowledge	1	2.28	.87	.35	.00
Reflection $\times$ News analysis	2	13.03	4.98	.01	.01
Knowledge $\times$ News analysis	2	4.11	1.57	.21	.00
Reflection $\times$ Knowledge $\times$ News analysis	2	8.66	3.31	.04	.01
Error	681	2.62			

*Note:* We used modality of the debate clip (audio, full screen, and split screen), viewing of the first presidential debate, and intention to vote as covariates in this analysis. Based on recent controversy over the problems of partial  $\eta^2$ , we used  $\eta^2$  for effect size (see Levine & Hullet [2002] for the detailed review).

**Table 2** Estimated Marginal Means for Perceived Debate-Clip Effect on Candidate Preference ( $N = 696$ )

Propensity to Reflect	Political Knowledge	News Analysis		
		Policy Analysis	Performance Analysis	No News Analysis
Low	Low	1.38, $SE = .21$ ( $n = 63$ )	1.26, $SE = .19$ ( $n = 73$ )	1.89, $SE = .20$ ( $n = 65$ )
	High	1.43, $SE = .21$ ( $n = 61$ )	1.31, $SE = .24$ ( $n = 46$ )	1.48, $SE = .21$ ( $n = 59$ )
High	Low	1.75, $SE = .24$ ( $n = 44$ )	2.50, $SE = .24$ ( $n = 46$ )	1.42, $SE = .20$ ( $n = 67$ )
	High	1.79, $SE = .20$ ( $n = 67$ )	1.45, $SE = .22$ ( $n = 54$ )	1.44, $SE = .23$ ( $n = 52$ )

*Note:* We used modality of the debate clip (audio, full screen, and split screen), viewing of the first presidential debate, and intention to vote as covariates in this analysis.

### Reflection

H1 predicted that individuals high in reflection would perceive a greater effect of the debate clip on candidate preference than would those low in reflection. The three-way ANCOVA (Table 1) confirmed this prediction and showed that respondents high in reflection reported a greater perceived effect of the debate clip ( $M = 1.73$ ,  $SE = .09$ ) than did those low in reflection ( $M = 1.46$ ,  $SE = .09$ ).<sup>7</sup> This difference in perceived debate-clip effect was found to be statistically significant,  $F(1, 681) = 4.66$ ,  $p < .05$ ,  $\eta^2 = .01$ .

### Interaction between reflection and postdebate news analysis

H2 predicted that the mean difference in perceived debate clip effect between low- and high-reflection individuals would be greater for those who received either the policy or the performance postdebate news analysis than for those who did not receive any news analysis. Specifically, we expected that the news analysis would trigger high-reflection individuals to reflect on the debate and thus perceive a greater influence of the debate on their candidate preference than would low-reflection individuals. Alternatively, we did not expect this mean difference to occur between high- and low-reflection individuals who did not receive any postdebate spin.

Because we were interested in the overall effect of receiving postdebate news analysis rather than the unique effects of the policy and performance analysis, we collapsed across conditions to create a single news analysis condition. We then compared the effect of receiving news analysis on high- and low-reflection individuals' perceptions of the debate clip's effect on their candidate preference. Results of the ANCOVA revealed a significant interaction between reflection and manipulated news analysis,  $F(1, 681) = 9.22$ ,  $p < .01$ ,  $\eta^2 = .01$ , such that the mean difference between low- and high-reflection individuals was greater among those who received postdebate news analysis than among those who did not. Additionally, follow-up pair-wise comparisons showed that among individuals who received news analysis, those high in reflection reported a greater perceived effect of the debate clip ( $M = 1.89$ ,  $SE = .11$ ) than did those low in reflection ( $M = 1.35$ ,  $SE = .11$ ).<sup>8</sup> This result was

significant,  $F(1, 685) = 12.20, p < .01, \eta^2 = .01$ . However, as expected, this difference among high- and low-reflection individuals was not found among those who did not receive any news analysis.

### **Interaction between reflection and political knowledge among those who received policy or performance news analysis**

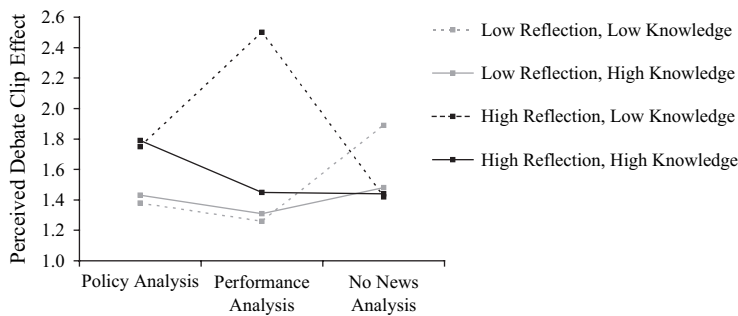
H3a predicted that the policy news analysis would have the greatest effect among individuals higher in both reflection and political knowledge, whereas H3b predicted that the performance news analysis would have the greatest effect among individuals high in reflection and lower in political knowledge. Because we were not interested in the overall three-way interaction but rather in the two-way interaction between reflection and knowledge nested within the policy and performance news analysis conditions, planned contrasts were performed to test the predictions laid out in H3a and H3b.

To examine the interaction between reflection and knowledge predicted in H3a, contrasts compared individuals both higher in reflection and knowledge to those in each of the other following three groups: low reflection, lower knowledge; low reflection, higher knowledge; and high reflection, lower knowledge (see Table 2 for estimated marginal means). Although individuals higher in both reflection and knowledge reported the greatest effect of the debate clip when they received the policy analysis, this result was not significant and therefore did not support H3a.

To examine the predicted interaction among those who received the performance analysis, planned contrasts compared individuals high in reflection and lower in knowledge to each of the other following three groups: low reflection, lower knowledge; low reflection, higher knowledge; and high reflection, higher knowledge (see Table 2 for estimated marginal means). Results indicated a significant mean difference between the groups,  $F(3, 212) = 7.11, p < .001, \eta^2 = .01$ . In support of H3b, all three contrasts were significant at the .05 level such that among individuals who received the performance analysis, those high in reflection and lower in knowledge reported the greatest perceived effect of the debate clip on their candidate preference as shown in Figure 1.

## **Discussion**

Our data analysis illustrates how priming and framing fit into the larger cognitive-processing model explicated in our theoretical framework. To apply this model, we used data from an experiment in which participants were exposed to a clip from the first 2004 presidential debate, which for some participants was followed by the presentation of postdebate news analysis, highlighting either the policies or the performances of the candidates. We conceptualized postdebate analysis as a priming stimulus that could activate (reflective activation) and shape (primed reflection through the application of alternative frames) reflection on the debate and thereby influence the perceived effect of the debate on candidate preference. Because our design only



**Figure 1** Perceived debate clip effect on candidate preference as a function of news analysis, propensity to reflect on media messages, and political knowledge.

*Note:* The estimated marginal means graphed above were derived after controlling for modality of the debate clip (audio, full screen, and split screen), viewing of the first presidential debate, and intention to vote as covariates in this analysis.

included priming messages (postdebate news analysis) that were presented after the debate experience, we did not examine primed encoding. Rather, we focused on the process by which the priming stimulus influenced reflection on the debate clip. We also investigated the effects of two moderating variables: propensity to reflect and preexisting level of political knowledge.

Results indicated a significant main effect for propensity to engage in reflection. That is, individuals with stronger predispositions to reflect on media content reported a greater perceived effect of the debate clip on their candidate preference relative to low-reflection individuals. Further, results were consistent with our prediction that exposure to postdebate news analysis would lead to reflective activation but only among high-reflection individuals. Specifically, results showed a greater mean difference between high- and low-reflection individuals who received postdebate news analysis compared to high- and low-reflection individuals who did not receive any news analysis. Further, as expected, we did not find significant differences between high- and low-reflection individuals who did not receive news analysis. We contend that the postdebate news analysis activated reflection by prompting participants to think back on the debate clip.

Although the previously discussed findings pertained to the overall effect of postdebate news analysis in enhancing both reflection on the debate and subsequent perceptions of the debate clip's effect on candidate preference, this study was also concerned with the specific effects of the policy and performance news analysis frames on reflection and subsequent judgments. In this study, there was no main effect for the news analysis frame, but the interaction between reflection and knowledge resulted in different effects of the news analysis on participants' perceptions of the debate clip's effect on their evaluations. Drawing on the Elaboration Likelihood Model (Petty & Cacioppo, 1986), we assumed that higher-knowledge individuals

would be more likely to have relevant information (i.e., schemas) available that resonated with the policy information presented in the debate; therefore, we expected that during the initial encoding of the debate, higher-knowledge individuals would be more likely to attend to policy-related aspects of the debate. Alternatively, we assumed that individuals lower in knowledge would have less developed political schemas and would therefore focus on the candidates' performances. Thus, when the frame of the news analysis matched a participant's schema (and aspects of the debate attended to during the initial encoding), we expected the news analysis to play a more active role in activating and enhancing reflection on the debate and subsequently enhancing their perceived effect of the debate on their candidate preference.

Although we expected that when high-reflection individuals received policy analysis, those higher in political knowledge would report the greatest effect of the debate clip, results did not support this prediction. One possible explanation is that the primary focus for all people, regardless of knowledge, is assessing candidate performance, whereas learning about policy positions may be a secondary concern. After all, performance is what most people talk about around the water cooler the day after the debate. Moreover, people may view presidential debates as a rare opportunity to witness the candidates' performances; there are more efficient sources for those who seek to learn policy information. As such, both higher- and lower-knowledge individuals may have been likely to encode primarily performance cues. Therefore, the policy-news analysis may not have been able to get greater traction and activate reflection among higher-knowledge individuals as previously expected.

Results did, however, confirm our prediction that when high-reflection individuals received performance analysis, those lower in political knowledge would report a greater effect of the debate clip. Though it may have been the case that the performance postdebate news analysis both triggered and primed reflection on the debate among all who received it, we contend that such reflection on candidate performance may have had a greater influence among lower-knowledge individuals who may rely more heavily on such cues in formulating evaluations.

In applying the results of this study to the cognitive-processing model, we contend that as individuals watched the debate clip, they encoded some policy information, but primarily performance information. When they encountered a postdebate news-analysis message, it prompted them to reflect (i.e., reflective activation) on particular aspects of the debate (i.e., policy or performance). This primed information and related schemas were rendered available for subsequent cognitive tasks. As such, the performance postdebate news analysis was likely to resonate with certain previously encoded features of the debate; so it was likely to be considered applicable to individuals' reflection on the debate. However, reflective activation was only likely to occur among those with a strong propensity to reflect on media content. Therefore, among high-reflection individuals, the performance postdebate analysis likely activated and made the encoded features of the debate accessible. As a result, reflection on the debate was likely to focus on the candidates'

performances. Further, among those lower in political knowledge, reflection on the candidates' performances during the debate was likely to result in perceived effects of the debate clip on their candidate preferences, as these individuals tend to value such performance cues as important (or usable) in rendering judgments about the candidates.

This study offers insights into the cognitive processes that moderate media effects, especially priming and framing; however, we recognize that it has some clear limitations. First, the dependent variable used in this study, respondents' perceived effect of the debate clip on candidate preference, is limited in several respects. The perceived debate clip effect measure in this study is a self-reported perception rather than a directly measured effect. Perceived effects on self are subject to the potential biases described in third-person perception research (Perloff, 1996). Future research should apply this model to a range of direct measures of cognitions, attitudes, and behaviors.

Second, reflective activation and primed reflection are not measured directly in this study, rather they are inferred from the pattern of our findings. Moreover, in assessing priming and framing effects, we do not directly measure the important processes identified in our cognitive-processing model (e.g., availability, applicability, activation, accessibility, and usability); we merely assume that they led to the effects we observed. Future research will be necessary to explicitly demonstrate the role that each component of the cognitive-processing model plays in the course of generating media effects, such as those we observed in this study.

Third, our knowledge measure was limited in terms of the number of items used to assess knowledge, as well as in terms of the limited variance in knowledge attributed to our reliance on college student participants. Despite these limitations, which reduced the sensitivity of the knowledge measure and restricted its variance, our results were able to show that knowledge plays a moderating role in the effects process. Future research should use more comprehensive measures of knowledge, along with more representative participant pools to develop a more precise understanding of the impact of knowledge. This would permit an investigation of the possibility that knowledge has a curvilinear relationship to effects.

Fourth, this study focused on the influence of postdebate news analysis on the perceived effects of debate viewing on candidate preference. This context is admittedly unique and not necessarily generalizable to the broad range of media-effects contexts to which the cognitive processing model might apply. Future research should explore other contexts in which the effects of priming and framing as well as primed encoding, reflective activation, and primed reflection might occur.

Despite these limitations, our research design offers some significant advantages. Studies of framing effects have had to face a difficult theoretical and methodological dilemma. Measuring the precise impact of frames requires holding all message content constant, except for the message frame (e.g., Tversky & Kahneman, 1981). However, experimentally manipulating the message frame without changing other content is both a challenge and somewhat artificial

as different message frames in the real world are usually associated with different content. For this reason, many framing-effects studies have opted to relinquish strict experimental control of the message frame in favor of employing more ecologically valid messages (e.g., Iyengar, 1991). Using more realistic differences in messages, this approach to framing effects research may yield a more accurate representation of the true power of messages, even though it fails to isolate the specific effect of the frame. In other words, framing effects research involves a trade-off between precise experimental control and ecological validity. Our research attempted to maintain a high degree of experimental control by creating alternatively framed postdebate news-analysis stories (i.e., policy vs. performance frames) that retained the same sentence structure and as much of the same wording as possible across conditions. Only content that was critical in executing a particular frame was changed.

The alternatively framed messages were presented as postdebate news analysis (after participants saw a clip from the presidential debate) in a way that served to prime reflection on the debate. Prior to the delivery of this priming message, we showed participants the same clip from the debate to give them a standard frame of reference on which to reflect. In doing so, we were able to examine how differences in news-story frames had differential effects on the perceived effect of exposure to the debate clip.

In summary, our findings have some important theoretical implications. They support Kosicki and McLeod's (1990) contention that an individual's information processing style (e.g., degree of reflection) is an important moderator of message effects. They also support a growing body of research, which asserts that cognitive effects of media such as priming and framing are largely conditional, expressing themselves through interactions with individual predispositions (e.g., Cho, Gil de Zuniga, Shah, & McLeod, 2006; Keum *et al.*, 2005; Shah, 2001; Shah *et al.*, 1996) and cognitive structures (e.g., Shah, Kwak, Schmierbach, & Zubric, 2004). In the case of this article, we provide evidence of the moderating roles of reflection as a predisposition and knowledge as a cognitive structure. In the process, this article shows that priming and framing are interrelated processes, locating them with respect to a larger cognitive-processing model. Based on this model, we identified three new relevant concepts: primed encoding, reflective activation, and primed reflection.

## Notes

- 1 A consensus of research comparing web-based surveys to traditional survey approaches indicates that differences in terms of response rates and responses to survey items are minimal (e.g., Fricker, Galesic, Tourangeau, & Yan, 2005; Kaplowitz, Hadlock, & Levine, 2004).
- 2 Although we did not include this manipulation in our analysis (in fact, we controlled for it), the presentation of the debate clip was altered so that it took one of the three modes: split-screen mode, full-screen mode, or audio-only mode. In the split-screen mode, respondents saw the debate segment as it aired on television. Both candidates were on screen at all times, such that the reactions and movements of one candidate were visible



- while the other one spoke. In the full-screen mode, footage alternated between candidates as they spoke, such that respondents were shown only footage of the candidate speaking. No reaction shots of the other candidate were presented. In the audio-only mode, respondents listened to the debate without a video of the candidates.
- 3 The debate segment was selected from the first presidential debate, which took place on September 30, 2004, in Coral Gables, Florida, with moderator Jim Lehrer. Pretest questions controlled for whether participants had seen any of the debates and how much attention they paid to them. In keeping with the first presidential debate's foreign-policy theme, the candidates were asked to address the issue of nuclear weapons and diplomacy with North Korea and Iran. The candidates spoke at length about how best to deal with the escalating nuclear threat presented by both countries, with Bush supporting multilateral talks and Kerry favoring bilateral talks.
  - 4 This clip was chosen for four reasons: (a) this segment covered a topic on which most undergraduate students would not have already formed strong opinions, (b) all discussion of this issue was contained in this particular segment of the debate, (c) this segment contained discussion of a single issue and (d) neither candidate dominated the discussion nor had the upper hand in terms of performance during this segment. Using only this 5-minute segment of the debate provided a focused referent for the policy and performance priming messages and offered a concrete basis for participants' responses to subsequent questions.
  - 5 For example, the policy analysis stated, "The two candidates clearly displayed contrasting policy positions as they disputed how their administrations would handle the potential threat." The performance analysis read, "The two candidates clearly displayed contrasting debating styles as they disputed how their administrations would handle the potential threat." Quotes emphasized the manipulation. For example, in the policy analysis, Hughes quoted: "Kerry's approach to North Korea simply will not work. Informed voters don't want a commander-in-chief who returns to the failed policies of the past." In the performance analysis, her quote was: "Throughout that exchange, Kerry came off as smug and aloof. Informed voters are not looking for these qualities in their commander-in-chief." Quotes from Lockhart were also altered. In the policy story, he quoted: "Bush doesn't have a viable strategy for North Korea. I have to wonder if Americans really want a president who turns his back on threats to our country." In the analysis story, the quote was: "Bush looked irritated and impatient during that exchange. I have to wonder if Americans really want a president who is so easily flustered."
  - 6 We used the terms "higher" and "lower" knowledge instead of "high" and "low" to refer to the relative knowledge differences between the two groups because our respondents were college students and we do not know how their mean and dispersion of political knowledge compare to the larger population. Indeed, the median score of 7 and standard deviation of 1.27 indicate a certain degree of homogeneity in our sample.
  - 7 Reported means are estimated marginal means.
  - 8 Reported means are estimated marginal means.

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