

Cues about Cues in Political Comments on Social Media: Effects of Commenters' Attractiveness and Claims of Cognitive Effort

Jayeon Lee & Raymond J. Pingree

Abstract

Humans strive for balance between their motivations for accurate judgments and their cognitive effort. Although heuristic cues provide cognitive shortcuts, heuristic-based processing does not guarantee quality judgments. Based on the heuristic-systematic model, this study investigates if social media users select cues to use for their judgments based on cue applicability and reliability, which can facilitate more effective heuristic processing. The present study examine if (1) commenters' physical attractiveness and

Dr. Jayeon "Janey" Lee is an Assistant Professor at Lehigh University. Dr. Raymond J. Pingree is an Assistant Professor at Louisiana State University. Correspondence can be directed to Dr. Lee at jayeon.lee@lehigh.edu.

their claims of cognitive effort influence the effects of their comments about a political candidate on the viewer's attitude toward and vote intention for the candidate, and (2) if the viewer's political interest moderates the influences. The results indicate that vote intention is significantly influenced by the cognitive effort cue whereas attitude is significantly influenced only when the viewer is interested in politics. The attractiveness cue does not have a significant influence.

Citizens use a variety of heuristic shortcuts to simplify the often complex task of evaluating their political representatives (Lau & Redlawsk, 2001), including taking cues from various others' judgments about the candidates. The increasing diversity of information sources in the modern media environment adds to the potential complexity of this task, increasing the need for simplifying heuristics while altering the nature of the available cues. Although cues from ordinary citizens have long been a staple of political advertising, citizens now encounter such cues in a less filtered form in the online comments on various websites. People use these other-generated cues for impression formation and judgments (Nishimura, 2010), and even when they are not influenced in terms of their own opinions, they often estimate general opinion climates from available online comments regardless of how representative the comments are (Lee & Jang, 2010). Social networking sites (SNS) provide particularly interesting examples of citizen comments about candidates because they allow access to more information about the commenters including pictures that po-

tentially serve as “cues about the cues” (Lee & Lim, 2014, p.555).

Computer-mediated communication (CMC) research has addressed effects of online comments (e.g., Walther et al., 2009; Walther & Parks, 2002), but has focused mostly on what we will call primary cues that serve to help evaluate a target. A positive or negative comment about a politician is a primary cue because it directly signals how to evaluate the target, whereas information about the commenter such as a photo signals how to evaluate the commenter, which makes it a secondary cue. A recent study found that viewers tend to make a quick judgment based on primary cues (i.e., comments) and pay less attention to more subtle, secondary cues (i.e., commenter age) unless they are highly interested in the decisions at hand (Lee & Lim, 2014). However, secondary cues may become more influential if the primary cues are mixed or inconsistent, such as when some user comments are positive and others are negative. In these situations, it is important to understand which secondary cues people use to guide their decisions because different types of secondary cues can have very different implications for the quality of the resulting decisions. Cueing seems relatively positive for the health of democracy if it allows citizens to effectively delegate cognitive effort to reliable others and reach the same (or better) conclusions, but cueing can be risky if it is based on less rational criteria such as the physical attractiveness of the cue source. Because of these opposite normative implications, we argue that cueing research should go beyond showing that cues are influential and also assess why and when they are influential by addressing the role of secondary cues.

Based on the heuristic-systematic model (Chaiken, Liberman, & Eagly, 1989), the present study investigates the effects of different secondary cues about others' comments on the viewer's attitude and behavioral intention. Using a web-based experiment in which two primary cues (unknown others' comments on Facebook) signal opposite signs, we will examine which have more influences between relatively more reliable secondary cues (i.e., perceived cognitive effort put by commenters) and less reliable cues (i.e., commenter attractiveness) for the quality of judgments, and if the viewer's political interest level moderates these effects.

Heuristic/Systematic Model and Human Judgments

As cognitive misers, humans wish to satisfy their goals in the most efficient ways possible (Fiske & Taylor, 1984). By utilizing heuristic cues, individuals can make judgments without cognitively effortful processing (Maheswaran & Chaiken, 1991; Taylor & Fiske, 1978; Tversky & Kahneman, 1974). Heuristics are cognitive shortcuts that are used as simple decision rules (Chaiken et al., 1989). Heuristics function as the basis of quick estimates on such qualities as utility, importance, objectiveness, trustworthiness, likability, and competence (Lee, 2015; Sundar, 2008). Anything we encounter in our environment that leads us to use a heuristic-based judgment or decision can be called heuristic cue. For instance, an opinion poll that shows a majority view can be a cue that activates a majority heuristic (i.e., a belief that a majority view is usually right).

Heuristics have been mainly discussed regarding assessments of the validity of persuasive messages, which

can lead to subsequent attitudes and behaviors. The heuristic/systematic model (HSM) and the elaboration likelihood model (ELM; Petty & Cacioppo, 1986) posit that individuals with low motivation or capacity prefer forming an impression or making a quick judgment using available heuristic cues without fully considering all relevant information (heuristic/processing) (Chaiken et al., 1989; Petty & Cacioppo, 1986). For instance, they tend to accept a persuasive message when the message has a high number of arguments in it (i.e., number of argument cue), when its source (communicator) has an attractive appearance (i.e., physical attractiveness cue) or seems to be an expert (i.e., expert cue), or when the message is well-received by others (i.e., others' reactions cue). On the other hand, motivated and able individuals aim for an accurate judgment and tend to make a judgment on a message based on the strength of its arguments and judgment-relevant information (systematic/central processing) rather than simple heuristics. In other words, individuals seek to balance their specific motivations for information processing and the cognitive effort that they must put forth (Chaiken et al., 1989).

HSM and ELM studies have demonstrated that judgments and attitudes that are formed through systematic processing are more reliable and stable than those formed through heuristic processing. It is well-documented in the literature that heuristic cues often lead to biased processing, inaccurate perceptions, or poor decisions (e.g., McGuire, 1969; Tversky & Kahneman, 1974). However, using heuristic cues is not necessarily undesirable. Humans have limited resources (Miller, 1956), and heuristics enable individuals to save their cognitive effort by reduc-

ing complex tasks to much simpler judgmental operations. From an economic perspective, it is not reasonable for one to retrieve and deliberate on the full range of possible choices and compare the relative benefits and costs of each choice each time he or she makes a judgment (Mondak, 1993). If the decision is inconsequential, in particular, it is more efficient and even rational to take a shortcut by utilizing available heuristics (Chaiken, 1980; Downs, 1957). Heuristics help individuals with low motivation meet an acceptance threshold in decision making with minimal informational input. Heuristics are also useful when message arguments are ambiguous (Baron & Kenny, 1986) or when time does not permit extensive information processing (Ratneshwar & Chaiken, 1991).

More importantly, use of heuristics does not always result in a poor judgment. For instance, selecting a medicine based on medical doctors' recommendations is, in most cases, the safest and most reliable way. As systematic processing requires ability, heuristics can be very helpful for individuals who lack knowledge about the message topic or who must process under severe time constraints or whose moods drain their resources (Chaiken et al., 1989).

Relevance and Reliability of Cues

The HSM posits that the type of cognitive processing individuals employ is not just determined by motivation and ability but by the availability, accessibility, applicability, and relevance of heuristic cues (Chaiken, 1980; Chen & Chaiken, 1999). For heuristic processing to initiate, heuristic cues must be available in the given setting and also must be activated into working memory at the

moment of processing. The potential for activation of a cue is based on both its accessibility in memory due to recent or frequent prior activation and its applicability to the current stimulus environment (Higgins, 1996). Because this activation is a fast, automatic process emphasizing simple associations, it can result in numerous irrelevant constructs being activated, necessitating a relevance judgment phase after activation (Higgins, 1996). Applicability is conceptually distinct from relevance. To clarify the difference between the two, it may help to think of applicability as stimulus-applicability and relevance as judgment-relevance. For example, when asked what cows drink, a person may be tempted to answer “milk” because it is automatically and unconsciously judged applicable to the stimulus based on two associative connections between the memory construct milk and the stimulus (milk-drink and milk-cow). If one pauses to consider its actual relevance to the judgment, the response water is clearly more relevant based on the actual content of the judgment, as opposed to the mere associative connections that determine stimulus-applicability.

Perceived relevance of a heuristic cue can be influenced by the frequency with which the heuristic has been used successfully in past judgments (Chen & Chaiken, 1999), the extent to which the heuristic fits or matches the task (Higgins, 1996), or by the consciously perceived reliability of the heuristic to the domain in question (e.g., Darke et al., 1998). For instance, a medical doctor’s recommendation is a relevant cue for choosing a medicine, but not necessarily for choosing a restaurant because it is beyond medical doctors’ area of expertise. Reliability is sometimes included as part of relevance, but it should be con-

ceptually differentiated because a cue can be relevant but less reliable. For instance, a medical school student's recommendation for a medicine may be relevant but relatively less reliable than an experienced doctor's recommendation. Problems occur when individuals apply cues to the situation where the cues are not relevant or when they heavily rely on less-reliable cues.

Attractiveness and Cognitive Effort Cues on Social Media Sites

The high visibility of others' comments and photos makes social media sites a good platform for heuristic processing based on the comments. Studies have found that others' comments significantly and strongly affect observers' perceptions of the profile owner or social reality (Lee & Lim, 2014; Walther et al., 2008; Walther, Van Der Heide, Hamel, & Shulman, 2009). It seems individuals regard others' reactions as a snapshot of the typical or predominant opinion, and infer what their appropriate response would be (Fein, Goethals, & Kugler, 2007).

When others' comments on a political candidate are mixed, however, viewers are likely to seek secondary cues for guidance. One of the heuristic cues that are available on social media sites is source attractiveness. When individuals form impressions of others, they tend to rely heavily on information gathered through the visual channel (Ekman, Friesen, O'Sullivan & Klaus, 1980). In particular, individuals are more likely to agree with an attractive communicator's message than with a less-attractive communicator's message (Chaiken, 1979) unless they are strongly motivated for systematic processing (Chaiken, 1980). This means their evaluations of a persuasive mes-

sage are partially attributed to their evaluations of the source's attractiveness. In particular, people tend to rate attractive others as superior on other trait dimensions such as communication skills (Chaiken, 1979) and intellectual competence (Jackson, Hunter, & Hodge, 1995), which is called halo effect (Feingold, 1992). The expression "what is beautiful is good" reflects the popular generalization fallacy (Eagly, Ashmore, Makhijani, & Longo, 1991). Impressions formed based faces are in general automatic and robust (Todorov & Duchaine, 2008). On social media sites, Facebook users are more willing to initiate friendships with profile owners with attractive photos (Wang, Moon, Kwon, Evans, & Stefanone, 2010). When Facebook users judge on an unknown profile owner, they are influenced by physical attractiveness of the person's friends (Walther et al., 2008).

If available information about a candidate (e.g., sex, age, party affiliation, ideology) does not provide clear enough cues to form an impression, viewers are likely to be influenced by others' opinions, and perhaps more by attractive others' opinions if the opinions are mixed. Given that most young Americans are not highly interested in or knowledgeable about politics (Converse, 1970; Delli Carpini, 2000; Goren, 2013; Pew Research Center, 2011), their attitudes toward and willingness to vote for the candidate may be influenced by attractive people's opinions.

However, physical attractiveness is not very relevant to this situation of political judgment because physical attractiveness and political expertise are two different things. Although less motivated people may base their judgments on any available cue regardless of its relevance, the cue effect should decrease for highly-motivated people

due to more cognitive effort used at the relevance judgment stage. In the context of evaluating a political candidate or deciding on their votes, political interest is a relevant motivational construct. Those who are interested in politics will not be easily swayed by a peripheral cue like commenters' attractiveness, which will decrease the effects of the attractiveness cues. Thus, the following two hypotheses are posited:

H1: Commenters' attractiveness will positively affect the viewer's (a) attitudes toward the candidate and (b) willingness to vote for the candidate.

H2: The effect of source attractiveness cue on (a) attitudes toward the candidate or (b) willingness to vote for the candidate will decrease for those who are interested in politics.

While commenter attractiveness is not a relevant cue, a more relevant and reliable form of secondary cue would be one that indicates which commenter has put more effort into learning about the candidates' substantive policy positions. Although a few visible comments at the top of a profile cannot be blindly trusted, if a commenter seems to have done some research and analysis to make the evaluation, it gives the commenter a temporary expert status in the judgment, which raises reliability of his or her comment. When individuals lack resources for systematic processing, the next best option may be to listen to those who have done systematic processing. If citizens can at least discern more relevant and reliable cues from less relevant or reliable cues and only refer to the better cues, such cue-taking behaviors can be a more reasonable, if not

optimal, choice process. Further, the assumption that a cue source has done the cognitive effort one is trying to avoid may be the mechanism underlying past findings that cues are more influential when the source is perceived as higher in intelligence, knowledge, or expertise (e.g. Maddux & Rogers, 1980). Although it appears that no past study has directly tested perceived cognitive effort as a mechanism of effects of cues from other individuals, recent work on media agenda cueing has done so in the context of news effects (Pingree, Quenette, Tchernev, & Dickinson, 2013; Pingree & Stoycheff, 2013). The use of relevant and reliable cues helps individuals make relatively good judgments with little effort, which is the main purpose of using heuristic cues.

However, only those who have such a heuristic activated in mind (i.e., those who can recognize that the effort-claiming comments are more reliable than other comments with no such claim) can base their judgments on the effort cues. Compared to the source attractiveness cue, the cognitive effort heuristic may be less noticeable and may not be activated by some who read the comments. Thus, it is possible that only highly-motivated individuals recognize and are influenced by the cognitive effort cues. That is, although it is in general low-motivation individuals who prefer heuristic-based judgments, the relevant and reliable cue might have more influence on individuals who are motivated for systematic processing such as those who are interested in politics. Thus, the following hypothesis and a research question are posited:

H3: Commenters' cognitive effort will positively affect the viewer's (a) attitudes toward the

candidate and (b) willingness to vote for the candidate.

RQ1: Will the effect of the cognitive effort cues on (1) attitudes toward the candidate or (2) willingness to vote for the candidate increase for those who are interested in politics?

Method

Study Design

An online experiment was conducted in a 2 (supportive commenter's attractiveness: high vs. low) x 2 (supportive commenter's cognitive effort: high vs. low) between-subject factorial design. Both attractiveness and cognitive effort were operationalized through a mock Facebook profile of a fictitious political candidate named David Miller.

Participants

The data were collected in November and December, 2013. A total of 365 undergraduate students (men 49%, women 51%) of a large Midwestern university participated in the study for extra course credit. The average participant was 21.46 years old ($SD = 3.70$). There were more whites (75.6%) than non-whites (Asian or Asian American 8.9%, African or African American, 6.6%, Hispanic 2.2%, Others 6.6%). There were more Republicans (37%) than Independents (34.2%) or Democrats (25.7%).

Procedure

Upon entering the experiment website, participants were randomly assigned into one of the four attractiveness

-by-effort conditions and exposed to the screenshot of the mock-up Facebook page. Then, they rated their feelings about the candidate and their intention to vote for him as well as answered questions about their demographics and individual characteristics.

Stimuli

Differing versions of a mock Facebook profile of David Miller were created (see Figure 1 & 2 for examples). In the screenshot, participants could see Miller's profile photo and a short description of him as a city council member and candidate for mayor, which was common to all conditions. On the profile page displayed were two young men's comments on him in the form of wall posts. In all conditions, one of the two comments was positive and the other one was negative.

To choose the high and low-attractiveness profile photos, 33 publicly-available (shared or donated to researchers) digital headshots were collected. Through a pre-test with 142 college students, the two photos that received significantly different scores on attractiveness ($M = 3.86$ vs. 1.98 on a 5-point scale) but similar on perceived intelligence ($M = 3.31$ vs. 3.23) were finally selected and used in the experiment. In the high-attractiveness condition, the positive comment was posted with a highly-attractive man's profile photo whereas the negative comment was with a less attractive man. In the low-attractiveness condition, the positive comment was matched with the less attractive man. Half of the participants in each attractiveness condition were assigned into the high-cognitive effort condition. In that condition, the positive comment indicated that its commenter expended



David Miller Like

Politician

An independent voice in the mayor's office is what we need to break the partisan gridlock and get our city government working again. As a non-partisan city council member, David Miller has proved he can find common ground and make progress on even the most divisive issues. He is a unique candidate who can provide a much-needed voice of reason in city politics. Like this page today if you want to see him in the office where he can do the most good for our city!

Post Photo

Write something...

Eric Myers

After reading your book and the policy proposals on your website, I have to say I'm impressed. I was thinking I'd probably vote against you before doing my homework, but compared to your opponent, your policies make a lot more sense to me for solving real problems.

Like · Comment · Promote · Share

Brian Anderson

I saw some of your speech on the news today and it was not inspiring at all. I don't know much about you, but you don't seem like a genuine person, and we need someone we can trust in the mayor's office. You didn't earn my vote.

Like · Comment · Promote · Share

To learn more about me, follow me on Twitter: @DavidMillerforMayor

Figure 1. Stimulus for the high-high condition where the positive commenter is more attractive and claims more cognitive effort. Commenters' photos were blurred for publication purposes.

significant time and cognitive effort before evaluating Miller by saying, "After reading your book and the policy proposals on your website, I have to say..." On the other hand, the negative comment implied that its commenter did not do much effortful research or systematic analysis by saying, "I don't know much about you, but you seem like..." In the low-cognitive effort condition, the same comments had opposite valences; the positive comment claimed no effort and the negative comment claimed a high effort.

To address the possible confound of primacy effects, half of participants in each of the four conditions saw the positive comment first at the top of the page followed by the negative comment below it, and the other half saw the



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After reading your book and the policy proposals on your website, I have to say I'm disappointed. I was thinking I'd probably vote for you before doing my homework, but compared to your opponent, your policies make a lot less sense to me for solving real problems.

Like · Comment · Promote · Share

Figure 2. The stimulus for the high-low condition where the positive commenter is more attractive and claims less cognitive effort. Commenters' photos were blurred for publication purposes.

negative comment first followed by the positive comment. While other parts of the Facebook page were kept the same, only the comments, commenters' photos, and the order of the comments were manipulated.

Measures

Source cue attractiveness and claim of effort by the cue source were operationalized as experimental conditions. Attitude toward the candidate ($M_{standardized} = -.01$, $SD_{standardized} = .89$, Cronbach's $\alpha = .92$) was an average of a normalized feeling thermometer score and scores for three normalized attitude items. The feeling thermometer question asked participants to rate their overall feelings of Miller from 0 to 100 ($M = 51.84$, $SD = 17.28$),

and the 3-item attitude index was made of 9-point bipolar scales ranging from bad, unacceptable, and unfavorable (1) to good, acceptable, and favorable (9) (Cronbach's $\alpha = .91$, $M = 5.48$, $SD = 1.36$). For vote intention, participants indicated how likely they would be to vote for the political candidate (1 = not at all, 9 = very likely, $M = 4.95$, $SD = 1.75$). Political interest was measured by asking, "How interested are you in politics in general?" (1 = not at all, 11 = very interested, $M = 5.33$, $SD = 2.63$).

Results

A set of hierarchical regression analyses was performed using a SPSS-based macro PROCESS (Hayes, 2012). Participants' age, sex, race (white vs. non-white), self-reported social class and order of comments (positive first vs. negative first) were entered as control variables in Block 1, followed by main predictors and the moderator in Block 2: commenter attractiveness, cognitive effort, and the viewer's political interest. H1 expected a positive relationship between commenter attractiveness and the viewer's (a) attitude toward and (b) willingness to vote for the candidate who was positively evaluated by the commenter. The results showed that neither attitude nor vote intention was significantly influenced by attractiveness of commenters; H1 was not supported.

H2 examined if participants' political interest would moderate the effects of source attractiveness on (a) attitude toward or (b) willingness to vote for the candidate. For the interaction tests, the interaction term (attractiveness x political interest) was added to the model, one at a time (see Table 1). Analyses of the moderation models revealed that source attractiveness effect was

Table 1

Interaction effects between the viewer's political interest and either commenters' attractiveness or commenters' cognitive effort on the viewer's attitude toward the candidate (N=355) and the viewer's intention to vote for the candidate (N=354)

		Attitude toward candidate		Vote intention	
		<i>b</i>	<i>SE</i>	<i>b</i>	<i>SE</i>
Block 1	Age	-.02	.02	-.04	.03
	Sex	-.02	.09	-.20	.18
	Race	.14	.11	.21	.22
	Class	.02	.06	.03	.12
	Order	.20*	.09	.21	.19
Block 2	Pol Interest	.06*	.03	.09	.04
	Attractiveness	.01	.14	-.10	.18
	Cog. effort	.16	.14	.32+	.18
Block 3 (Model 1)	Attractive x Pol Interest	.05	.04	.10	.07
	<i>R</i> ²	.05*		.05*	
	ΔR^2 due to interaction	.01		.01	
Block 3 (Model 2)	Cog. x Pol Interest	.08*	.04	.07	.07
	<i>R</i> ²	.06**		.05*	
	<i>F</i> (9, 345; 9, 344)	2.22		2.12	
	ΔR^2 due to interaction	.01*		.003	

*** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$

not significant regardless of political interest, showing that there is no interaction between the two variables. Thus, neither H2a nor H2b was supported. The models that tested the interaction effects of source attractiveness and political interest explained 5.5% of variance in attitudes toward the candidate ($F[9, 345] = 2.22, p < .05$) and 5.3% of variance in intention to vote for the candidate ($F[9, 344] = 2.12, p < .05$).

H3 hypothesized a positive relationship between claim of cognitive effort by the cue source and the viewer's (a) attitude toward and (b) willingness to vote for the candidate who was positively commented on by the source. The result of regression analysis indicated that commenters' cognitive effort significantly affected the viewer's vote intention ($b = .32$, one-tailed $p = .04$). However, no significant effect was found for attitude. The regression models that tested the effects of cognitive effort cues explained 4.9% of variance in attitudes toward the candidate ($F[8, 346] = 2.23, p < .05$) and 4.7% of variance in intention to vote for the candidate ($F[8, 345] = 2.11, p < .05$).

When it comes to RQ1, political interest significantly conditioned the effects of claims of cognitive effort on attitude toward the candidate (RQ1a) was found, $b = .07, p = .03$. When probed using the Johnson-Neyman technique, the interaction was significant only for political interest above 7.82. This interaction was not significant for vote intention (RQ1b), indicating that the significant main effect of cognitive effort on vote intention was not conditioned by political interest. These moderation models that tested the interaction between cognitive effort and political interest explained 6.1% of variance in attitudes ($F[9, 345] = 2.50, p < .01$) and 4.9% of vote intentions toward

the candidate ($F[9, 344] = 1.97, p < .05$).

Among controls, the order of cues (i.e., between the two comments which appears at the top) significantly predicted attitude toward the candidate in both final interaction models, $b = .20, p = .03$, and $b = .22, p = .02$, respectively; the valence of the first comment among the two comments exerted a stronger influence on the viewer's attitudes and vote intention. Although it was not the focus of this study, this order effect can be explained as primacy effect, which refers to the disproportionately large influence of information acquired early in the process on the final judgment (Nahari & Ben-Shakhar, 2013), or confirmation bias which refers to the human tendency to unconsciously seek and interpret behavioral data in a way that confirms the first impression or prior expectations about the target (Kassin, Goldstein, & Savitsky, 2003). This finding demonstrates that the order of information also functions as a cue that activates a heuristic (i.e., the first impression is usually right), whether the viewer is conscious or unconscious of it.

Discussion

The fast evolution of social media provides new contexts where cue-taking is happening. CMC users now have a wide variety of cues they can refer to including secondary cues about primary cues. It is also common that different cues send mixed signals. However, relatively less attention has been paid to the different roles various secondary cues play in choosing among mixed primary cues.

The present study investigated how two secondary cues affected the viewer's attitude toward and willingness to vote for the political candidate. We hypothesized that

both attractiveness and cognitive effort would positively influence attitude and vote intention, with the effect being larger for those with lower political interest. First, unlike our prediction, even those who had little political interest were not significantly influenced by the attractiveness cue, not to mention those with high political interest. This might be because the commenters' photos, presented at the same size as real photos in comments on Facebook, were too small to clearly show little details of the less-attractive man's face, particularly if participants were using a small screen. Or, it might be because we matched the perceived intelligence levels of the more or less attractive commenters when we chose their pictures. According to the halo effect, people tend to regard attractive others as intellectually competent, thereby rating them as higher in other performances than they actually are (Feingold, 1992). Because we chose two people who looked similarly intelligent based on a rigorous pretest, the halo effect might have disappeared. If none of these are the reasons, this non-significance might be a good sign that college students are not as irrational as we presumed. They may have judged the attractiveness cues irrelevant to candidate evaluation. Even if they may be influenced by source attractiveness in other persuasion situations (e.g., purchasing a cosmetic product), they may not be swayed by commenters' appearances when they evaluate political comments, particularly if the more-attractive and less-attractive commenters look similarly intelligent. Further investigation is needed to be able to explain this result, but it is promising that young people who were known to be more visual-oriented than older generations (Thomson, 2009) did not blindly follow attractive commenters' opin-

ions.

Second, it is notable that the viewer's vote intention was significantly influenced by whether the cue sources claimed cognitive effort to evaluate the candidate. This demonstrates that average college students discerned more reliable comments from less reliable ones based on the commenters' claims of effort, and decided on their votes based on more-reliable comments. This effect was observed whether they were politically interested or not. On the other hand, the cognitive effort cue did not significantly influence the viewer's attitudes toward the candidate unless he or she was highly interested in politics. The significant interaction effect between cognitive effort and political interest in predicting attitudes demonstrate that only highly-motivated people selectively referred to more reliable comments based on their claims of cognitive effort.

These contrasting findings may imply that people pay more attention to the relevance and reliability of cues when the judgment at hand is willingness to vote for the candidate than when it is merely a personal impression or feeling toward the candidate. Because the importance of cognitive effort is neither the only heuristic nor the most easily accessible heuristic in the environment, the viewer may need a more motivating context to activate the heuristic. As vote decisions are in general more important than rating personal feelings, the former seems to have motivated the average viewer to differentiate more reliable cues from less-reliable cues and to avoid taking the order cue (i.e., accepting the first comment) whereas the latter is not important enough to make less-interested people carefully evaluate the comments.

It may be counterintuitive that more-motivated

people are more likely to utilize heuristic cues because, in most HSM or ELM studies, heuristic cues were manipulated to be less significant or relevant than other information and, therefore, not influential for highly-motivated people. In the real world, however, there can be a variety of cues at varying levels of relevance and reliability. Heuristics can actually facilitate a rational decision-making process as long as relevant and reliable cues are considered. In that case, the more motivated people are, the more likely they are to be influenced by the cues, as our findings demonstrate.

Limitations and Conclusions

Some limitations and boundary conditions of this study should be acknowledged. First, the sample consisted entirely of young college students, so care should be taken when applying the results of this study beyond the age group. Also, as this experiment aimed to test causal effects of commenter attractiveness and claims of cognitive effort, inevitably we limited the amount of available information about the candidate to control the environment while real-world voters can consider other things such as issue positions and policy proposals. However, given that average American citizens have low levels of political sophistication (Converse, 1970; Delli Carpini, 2000; Goren, 2013; Pew Research Center, 2011), we believe others' strong opinions highly accessible in the immediate environment are still powerful cues even compared to other information, particularly in small election settings. Moreover, even on real politicians' social media sites, detailed information about their issue positions and policy proposals is hard to find out or understand whereas their updates on

trivial daily activities and user comments are highly visible.

As only two profile photos are used for commenters in this study, those cannot represent all Facebook commenters' attractiveness levels. As in most media effects experiments, a single message treatment is used to test the effects of a broader category of message (Jackson & Jacobs, 1983). For better generalizability, further replications of this study with different age groups and different stimuli are recommended. As an online experiment, the environment where each participant was participating in the study was not tightly controllable. Some might have been in a distracting environment where others were better focused on the study. Nevertheless, the level of distraction is something that is likely to be randomly distributed to the randomly assigned groups, and significance tests capture the degree to which we are confident that it is our experimental manipulation that explains the group differences instead of those possible other differences.

The present study has significant theoretical implications. Instead of comparing effects of a heuristic cue and a message argument, we focused on others' reaction cues, which is relevant to and realistic in our social media environments, and examined the layers of effects in relation to their relevance and reliability. By examining the different levels and qualities of cues, we attempted to propose a way that heuristic processing can function in a relatively more desirable way. While addressing applicability as a necessary condition of cue activation relative to HSM, Chaiken did not elaborate on situations where irrelevant cues are applied or how relevance and reliability can be criteria of desirable use of heuristics. With the present study, we at-

tempted to fill in the theoretical gaps. By manipulating both comments' valences and claims of cognitive effort in the comment cues, this study also tested the role of secondary cues (i.e., cues about cues) in verifying primary cues' reliability.

This study bears practical implications. As social media have become young people's dominant information sources, other-provided cues such as other users' comments increasingly influence their perception, attitudes, and behaviors. Instead of lamenting the phenomena, we believe we must ask how citizens can function more effectively in heuristic-based judgments. The answer, we believe, lies in citizens' closer attention to the relevance and reliability of the cues they take. Not every opinion comment is based on substantial research, and attractive appearances of commenters, in most cases, do not guarantee reliability of their comments. Because there are always more lurkers than posters in the social media world, it should be noted that some uninformed outsiders' opinions can easily dominate the environment just because they post or comment more often than others. However, we suggest that heuristic processing can be effective and helpful if the viewer takes advantage of appropriate secondary cues to choose more reliable primary cues. The findings of this study suggest that boosting motivation (i.e., interest) levels is likely to be an effective means to facilitate such effective heuristic processing. Future studies should further investigate the ways in which heuristic processing can have more positive implications for individuals and the society.

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