

The Privileged Role of the Late-Night Joke: Exploring Humor’s Role in Disrupting Argument Scrutiny

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This article explores humor’s impact on cognitive processing of political messages. Although recent research has pointed to effects of late-night comedy viewing on political attitudes and cognitions (Moy, Xenos, & Hess, 2003; Young, 2004, 2006), scant attention has been paid to the development of a theoretical model to account for these outcomes. This manuscript posits that humor suspends argument scrutiny of the premise of a given text through various cognitive mechanisms involving processing ability and motivation. Four different pathways accounting for humor’s reduction of argument scrutiny are discussed. Humor’s reduction of argument scrutiny is tested with an experiment with a three condition between subjects design in which participants engaged in a thought-listing exercise after exposure to either humorous political messages (late-night political jokes) or non-humorous equivalents (unfunny translations of those jokes). Results indicate that humor reduces critical argument scrutiny—in part through the “discounting cue” mechanism. Implications for persuasion are discussed.

Over the past decade journalists and scholars have paid increasing attention to the landscape of late-night political jokes, the logic being that these jokes probably serve as a thermometer—and possibly even a *thermostat*—for public opinion. Political jokes such as those made during the monologues of Jay Leno on *The Tonight Show* and Dave Letterman on the *Late Show* highlight a core set of flawed character traits or issue performances of a

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handful of public officials (Niven, Lichter, & Amundson, 2003; Young, 2004). Although young people who watch late-night comedy are not tuning in to these programs *instead* of news, but as a complement to the more traditional forms of news they consume (Young & Tisinger, 2006), research by the Pew Center for the People and the Press (2000, 2002) indicates that self-reported learning from late-night comedy shows among young people has been on the rise over the past several years.

These findings, as well as growing acknowledgement in political communication that the divide between entertainment and information is becoming obsolete (Delli Carpini & Williams, 2001), have led scholars to explore the impact of late-night comedy viewing on learning, attitude change, and public opinion, specifically focusing on knowledge about politics (Chaffee, Zhao, & Leshner, 1994; Hollander, 1995, 2005) and opinions of presidential candidates (Moy et al., 2005; Pfau, Cho, & Chong, 2001; Young, 2004, 2006). As the evidence of late-night humor's influence on political judgments accumulates, it would be appropriate to establish a detailed mechanism to account for how this influence operates. By understanding the cognitive processes involved in comprehending and appreciating humorous messages, we can better formulate theory-driven hypotheses regarding humor's impact on cognitive elaboration and attitude change in this context as well as others involving humorous messages with persuasive potential.

HUMOR'S IMPACT ON PERSUASION AND RECALL: AMBIGUOUS FINDINGS

In 1975, Markiewicz concluded in her review of the humor literature that, "Humor apparently has no simple effect on persuasion, and possible moderator variables have yet to be reliably identified" (Markiewicz, 1975, p. 412). Since then, humor studies have concluded that humor has positive effects on attention, modest effects on comprehension, and no demonstrable effects on persuasion (Weinberger & Gulas, 1992). However, across the fields of advertising, education, and psychology, research findings on humor and persuasion, largely performed under the rubric of dual process theories of attitude change like the elaboration likelihood model (ELM) (Petty & Cacioppo, 1981, 1986), have not been consistent. Advertising and education researchers have found that humor reduces persuasion through distraction (Sternthal & Craig, 1973) and that its effects on persuasion are contingent on argument strength (Cline & Kellaris, 1999; Smith, 1993) and audience characteristics (Zhang, 1996). Meanwhile, research in psychology suggests that humor not only fails to reduce cognitive elaboration—but actually requires it—resulting in increased message recall (Schmidt, 1991, 1994, 2001, 2002; Wyer & Collins, 1992).

Given these contradictory findings, this project attempts to unpack the underlying cognitive processes at work in the processing of humorous messages. If, as research seems to indicate, humor fosters some kind of cognitive elaboration but hinders scrutiny of underlying message arguments, the obvious questions concern why and how humor affects cognitive processing in this way. The pages that follow suggest several different pathways that would account for a reduction in argument scrutiny in the face of humorous messages. One category of explanation posits that humor reduces the message recipient's *ability* to critically engage the message arguments. The second category of explanation is based on humor's reduction of the listener's *motivation* to critically engage message arguments.

HUMOR AND PROCESSING ABILITY

Philosophers from Aristotle to Kant have posited that humor stems from a twist or incongruity of some kind. In recent years, linguists have advanced the semantic-script theory of humor (SSTH) (Raskin, 1985) and its extension, the general theory of verbal humor (GTVH) (Attardo & Raskin, 1991) to integrate the somewhat vague concept of incongruity (see Koestler, 1964; Suls, 1972) into detailed and testable models of humor comprehension and appreciation (Attardo, 2003). Linguists seem to agree that humor arises from the intersection of two incompatible scripts or frameworks in a given text (Attardo, 1997; Attardo & Raskin, 1991; Giora, 1997; Vaid, Hull, Heredia, Gerken, & Martinez, 2003).

Writing in neuroscience, outside of the terms and citations favored by linguistic humor scholars, Coulson (2000) argues that when understanding humor, the listener engages in *frame-shifting*, hence interpreting new information in light of old information to create "coherence." The first frame activates various constructs in working memory, and with the introduction of the punchline, the listener activates information from long-term memory to shift to the second frame (Coulson, 2000; Coulson & Kutas, 2001, Coulson & Williams, 2005).

Theories based on incongruity or "frame-shifting" imply that effortful cognitive processing is required to understand humor. The cognitive processing of humor involves semantic incongruity, reprocessing of information—and, among "high joke comprehenders," high memory load (Coulson & Kutas, 2001; Kluender & Kutas, 1993). The task of suppressing information recently activated in working memory and replacing it with an alternate script that must be retrieved from long-term memory is undoubtedly complex, as illustrated by enhanced activity found in the brain's right hemisphere (Bihrlé, Brownell, & Gardner, 1986; Goel & Dolan, 2001; Joannette, Goulet, & Hannequin, 1990; Shammi & Stuss, 1999) and intense activity in working memory (Coulson & Kutas, 2001; Coulson & Lovett, 2004).

Yet, the term “cognitive miser” (Taylor, 1981) suggests people have a limited capacity to process information in working memory (Baddeley, 1998; Chandler & Sweller, 1991; Graesser & Mandler, 1978; Miller, 1956) and hence are more likely to use shortcuts, or heuristics, when making judgments (Tversky & Kahneman, 1973). People are more likely to rely on pre-existing knowledge structures, such as stereotypes, when faced with high processing demands such as dual-task completion or high cognitive load (see Sherman, Lee, Bessenoff, & Frost, 1998) or when cognitive resources are scarce due to environmental factors such as time constraints or alcohol consumption, (Cunningham, Milne, & Crawford, 2007; Kruglanski & Freund, 1983; Rothbart, Fulero, Jensen, Howard, & Birrel, 1978).

Extensive evidence from neuroscience illustrates that frame-shifting and the integration of information drawn from long-term memory (Coulson & Williams, 2005) result in high memory load when processing humor (Coulson & Kutas, 2001). Given the high cognitive load involved in humor comprehension, it is fair to say that humor requires high processing demands. Consistent with dual process theories of attitude formation and change, this condition of high cognitive load may subsequently reduce cognitive resources available to scrutinize message arguments. This logic is somewhat consistent with the notions of “humor as distraction” proposed in advertising and marketing studies (Cline & Kellaris, 1999; Lyttle, 2001; Sternthal & Craig, 1973), but it also seems to contradict the assumptions of Schmidt (1994, 2001) and Wyer and Collins (1992) that humor comprehension *requires* enhanced cognitive elaboration.

However, this apparent inconsistency might be readily resolved if we consider there are two different ways in which “cognitive elaboration” might be interpreted. When Schmidt refers to enhanced cognitive elaboration in humor, he is not referring to the listener’s scrutiny of underlying message arguments as dual processing models of persuasion suggest. Rather, he is describing the cognitive activity that neurolinguists have found in humor comprehension—complex integrative processes required to make sense of the competing scripts (Coulson & Kutas, 2001; Goel & Dolan, 2001). Cognitive elaboration of this kind, aimed at humor comprehension and appreciation, is quite different from the scrutiny of the premises of message arguments; and, given the different roles of each of these processes, it appears they likely work against each other.

In sum, two different forms of cognitive processing are at play in the context of humor. The first is *aimed at humor comprehension and appreciation*. This form of processing, aimed at the reconciliation of competing scripts to see the joke, is *enhanced* in the face of humor. The second form of processing, *argument scrutiny*, is more consistent with traditional dual-process theories’ conceptualizations of cognitive elaboration. Argument scrutiny involves critically challenging the underlying premise of the message arguments presented in a given text. Given the excessive demands on

working memory required to engage in the former of these two processes (elaboration aimed at humor comprehension), I argue that the cognitive resources available to allocate to other tasks will likely be reduced. This depletion in cognitive resources will thereby reduce the message recipient's ability to scrutinize the underlying message arguments in the text.

In addition to depletion in cognitive resources due to high cognitive load, humor's effects on persuasion are certain to be influenced by the role of affect. Consistent with Moran's (1996) work indicating increases in positive affect as a result of humor, fMRI studies illustrate two processes in humor comprehension, one involving semantic processing and one involving affect (Moran, Wig, Adams, Janata, & Kelley, 2004). In addition to the intuitive process in which humor results in increased positive affect, (addressed below), it seems that listeners also *anticipate* an affective payoff before the joke is even understood. Goel and Dolan (2001) found activation of the brain's prefrontal cortex *during* joke processing among participants who rated the jokes as funny. Given that the prefrontal cortex governs goal-directed behavioral motivation (Rolls, 1996; 2000) and anticipated reward (Schultz, Tremblay, & Hollerman, 2000), this finding illustrates how listeners are motivated to engage in cognitive elaboration aimed at "getting the joke." As discussed above, the greater the cognitive elaboration aimed at humor comprehension and elaboration, the fewer cognitive resources the message recipient will have left over to dedicate to other tasks. Hence, the anticipation of positive affect further reduces recipient's *ability* by fueling the depletion of cognitive resources available to scrutinize message arguments.

HUMOR AND PROCESSING MOTIVATION

In addition to processing ability, humor can affect processing *motivation* in two ways. The first motivation-reducing mechanism operates through humor's influence on positive affect. Although the relationship between affect and argument scrutiny remains the subject of ongoing debate (Isen, 2001; Lee & Sternthal, 1999), research in this area generally suggests that individuals in a positive mood experience a reduction in systematic processing of information and instead are more likely to base judgments on heuristics or existing knowledge structures (Bless, 2001; Bless, Bohner, Schwarz, & Strack, 1990; Gasper, 2004; Gasper & Clore, 2002; Mackie & Worth, 1991; Worth & Mackie, 1987). Even though part of this reliance on heuristics has been attributed to positive affect's reduction in cognitive ability (Isen, 1987; Mackie & Worth, 1989; Worth & Mackie, 1987; for a review see Eagly & Chaiken, 1993), the mood-maintenance literature attributes this less effortful processing to positive affect's negative impact on processing *motivation* (Bless et al., 1990; Schwarz, Bless, & Bohner, 1991). In this model, an

audience's *motivation* to scrutinize message arguments is reduced due to the desire to maintain a good mood (Worth & Mackie, 1987).

The contention that positive affect reduces processing motivation through a desire for mood-maintenance assumes that message processing would depress that positive mood. In the context of jokes, recipients ought to be motivated by the notion that cognitive processing aimed at *joke comprehension and appreciation* will help maintain or *increase* the positive mood, not depress it. According to Goel and Dolan's (2001) research, this kind of processing is increased as the listener anticipates the reward of joke comprehension. But, when listening to jokes, how should positive affect influence motivation to scrutinize the underlying message arguments? Because message scrutiny would likely undermine the reward-component of humor comprehension, a desire to maintain that positive mood would certainly reduce the listener's *motivation* to scrutinize the claims presented in the message. Put simply, judging whether a joke is fair or accurate does not go hand in hand with laughter. In sum, in the context of humor, affect plays two roles in the reduction of argument scrutiny: one (discussed in the previous section) reduces the recipient's *ability* to engage in argument scrutiny, and the other reduces *motivation*. First, the anticipation of positive affect motivates cognitive processing of humor per se, which in turn ought to deplete cognitive resources, thereby reducing the listener's *ability* to scrutinize message arguments. Meanwhile, the positive affect experienced as a result of humor further disrupts *motivation* to scrutinize the premise of the message.

In addition to the mood-maintenance hypothesis, a second mechanism involving processing motivation may account for a reduction in message scrutiny in the face of humor. It is possible that listeners engage humorous messages differently from the outset. As soon as they realize that the text constitutes a form of play, the audience may deem that text irrelevant to attitude formation and change. Indeed, Nabi, Moyer-Guse, and Byrne (2007) propose the notion of humor as a "discounting cue" that indicates to the recipient that critical thought is simply not necessary. Instead of recipients not *wanting* to critically examine the message, lest they dampened their happy mood, the discounting cue hypothesis posits that recipients would consider such critical thought unnecessary and inappropriate in the context of play.

Experimental studies by Nabi et al. (2007) suggest that this discounting cue phenomenon may indeed account for some of the reduction in argument scrutiny in the face of humor. In the second of two experiments, the authors not only found a significant reduction in message-relevant thoughts among those who believed the message was "just a joke" and was designed "more to entertain than persuade," but also found indications of a sleeper effect. That is, although the stimuli that were initially discounted as jokes resulted in less message scrutiny at initial viewing, the "discounted" content appeared

to have increased persuasion over time—perhaps as the discounting cue became separated from the message arguments in memory.

HYPOTHESES AND RESEARCH QUESTION

We have now covered four pathways that would account for a reduction in argument scrutiny in the face of humor. Two of these mechanisms involve a reduction in cognitive *ability* through (a) the taxing process of understanding humor and (b) the affective anticipation of humor's payoff. The third pathway involves the experience of positive affect which reduces a listener's *motivation* to scrutinize message arguments. And the fourth, the discounting cue hypothesis, posits a reduction in motivation as a byproduct of how the audience chooses to categorize the encountered text: as play or as serious discourse.

Although it would be ideal to look at which pathway (ability or motivation) is driving this process, it is still unclear to what extent (or if) message scrutiny is, indeed, reduced in the face of humorous texts. This project does not provide a crucial test to separate out the underlying process operating in the face of humorous messages, but rather, seeks to advance the current literature by examining in more detail the effects of humor not simply on message scrutiny, but on the content of the thoughts that humorous messages generate. Given the arguments above, the following hypotheses are offered:

- H1: Humorous messages will increase the extent of cognitive elaboration aimed at humor comprehension and appreciation compared to what would occur in the face of content-equivalent non-humorous messages.
- H2: Humorous messages will reduce the extent of argument scrutiny compared to that which would occur in the face of content equivalent non-humorous messages.

Although the various micro-level processes discussed above are necessary to explore, their practical importance rests in their implications for persuasion. One would assume that humor, through a reduction in argument scrutiny, would result in short-term increases in persuasion—particularly in the face of weak arguments. In fact, three of the four processes outlined above would logically lead to enhanced persuasion. Only the fourth process, the discounting cue hypothesis, would suggest limited persuasion in the short term. The discounting cue hypothesis assumes that the information in a humorous text will be deemed irrelevant to the attitude formation process. As indicated by Nabi et al.'s (2007) results, persuasion in the face of a discounting cue is more likely to occur over time through a sleeper effect—but not in the short term. Indeed, the literature on humor and persuasion from education, advertising, and psychology has produced inconsistent findings

regarding the effects of humor on persuasion. Given that humor could play several different roles in the context of persuasion, and given the ambiguous findings in the literature, rather than posing a hypothesis, the relationship between humor and persuasion is being framed as a research question.

RQ1: What is the relationship between exposure to humorous texts and persuasion in the direction of that text's underlying premise?

METHOD

Participants and Design

This study was completed using a three-condition experimental design with on-line surveys administered by SuperSurvey.com from October 15–22, 2004. Three questionnaires were created, one for each condition (humorous, non-humorous, and control). These questionnaires were identical except for the experimental manipulation (discussed in detail below). Due to a lack of financial resources for the project, a combination of convenience and snowball sampling was used to recruit participants for the study through friends, graduate students, and family members. Acquaintances were asked to forward information about the study to their acquaintances. No one directly acquainted with the author was allowed to participate. Participants were recruited with the incentive of a raffle to win Amazon.com gift certificates. Interested participants were informed that the purpose of this study was to explore how people interpret messages and think about issues and events. Of the 263 individuals who emailed expressing interest in participating, 216 or 82% completed the on-line survey. The sample was young (61% under the age of 34), highly educated (77% with at least a four-year college degree), female (72%) and Democratic (51%).

Individuals were randomized into conditions using a random number generator. Two hundred and sixteen individuals completed the survey: 69 in the humorous condition, 73 in the non-humorous condition, and 74 in the control group. *t*-tests were run to compare socio-demographic characteristics of each condition versus the other two (i.e., humor versus non-humor, non-humor versus control, humor versus control). No significant differences in age, gender, education, political party identification, interest in the campaign, national news viewing, or newspaper reading by condition were found (*ps* > .05).

Procedure and Stimuli

Participants received an e-mail with a link to one of three surveys. In the humorous condition, participants read 10 late-night jokes before answer-

ing survey questions. In the non-humorous condition, participants read 10 content-equivalent, non-humorous political messages (unfunny versions of the original late-night jokes) before responding to survey items. In the control condition, participants read no messages, and instead were brought directly to the survey items. The control condition was included to test additional hypotheses that were part of the larger study, and thus will not be discussed further. Stimuli were introduced in the humorous and non-humorous conditions with one the following statements: “The following statements were made by various [late-night comedians (humor)/political commentators (non-humor)] over the last few weeks.”

The 10 late-night jokes were selected from the content of *The Tonight Show* with Jay Leno, *The Late Show* with David Letterman, *Late Night* with Conan O’Brien, and *Real Time* with Bill Maher. Jokes were chosen to vary in joke target (Bush and Kerry) and proposition (e.g., the situation in Iraq, Kerry’s indecisiveness, Bush’s lack of intelligence). Then unfunny versions of the original jokes were created by staying as close as possible to the original text and sentiment, but excluding the humorous component (see Appendix A for stimuli).

The premises of the experimental stimuli were chosen to match the most frequent candidate caricatures in late-night comedy programs in the 2004 campaign based on a content analysis by the National Annenberg Election Survey (NAES, 2004). The study concluded that in summer 2004 the most frequent issues covered in late-night political jokes were the War in Iraq and National Security. The most common Bush caricatures were a lack of intelligence and failure to fulfill his duty in the National Guard. The most common Kerry caricatures focused on flip-flopping, Vietnam, and being rich and snobby. The premises of the statements included in the stimuli were: Kerry—a flip-flopper, weak, rich, and snobby, and uses Vietnam experience for political gains, and Bush—unintelligent, failed to fulfill National Guard duty, botching War in Iraq, neglecting national security, and is arrogant in matters of foreign affairs. Manipulation checks indicate that the humorous condition was judged to be more “humorous” (on a 1-5 scale) than the non-humorous condition (humor: $M = 3.32$, $SD = 1.05$ v. non-humor: $M = 2.53$, $SD = 1.17$, $p < .001$) and significantly less “serious” (on a 1-5 scale) than the non-humorous condition (humor: $M = 2.59$, $SD = 0.83$ v. non-humor: $M = 3.63$, $SD = 0.93$, $p < .001$).

These manipulation checks also found a significant correlation ($p < .01$) between clarity and condition, with the unfunny translations rated less clear than the original late-night jokes. On the 1-5 scale, where 5 was *extremely clear* and 1 was *extremely unclear*, the humorous condition was rated 4.33 ($SD = 0.91$) and the non-humorous 3.60 ($SD = 1.02$). Due to this confound, all statistical tests presented in the analysis were repeated controlling for “perceived clarity.” Doing so resulted in no changes in the significance of the findings.

Measures

Cognitive elaboration. The extent of cognitive elaboration on the premises of the stimuli was captured using a thought-listing exercise inspired by Cacioppo, Glass, and Merluzzi's (1979) original thought-listing technique. Participants were asked what they were thinking about when they were reading the statements—whether favorable, unfavorable, or irrelevant to the statements. They were instructed to write one thought per box and to ignore grammar and punctuation. Unlike Cacioppo, Glass, and Merluzzi's original thought-listing technique, the measure employed in the current study did not include a time constraint. Participants could write up to 10 thoughts, each in a separate open-ended text box. Of the 142 participants in the humorous and non-humorous conditions, the average number of responses provided was 7.22 ($SD = 2.96$). There were 1,026 total response entries.

Rather than having participants code the valence of their own thoughts (see Cacioppo et al., 1979), thoughts were coded by the author and an undergraduate coder to capture more subtle content distinctions than valence alone. The coding scheme consisted of four main categories that served as dependent variables in these analyses. Negative message-relevant thoughts included message-relevant thoughts that challenged the premises, truth value or fairness of the statements (e.g., "These are oversimplified and unfair."; $M = 2.36$, $SD = 1.79$). Positive message relevant thoughts included those thoughts in support of the statements, not including comments on the humorousness of the stimuli (e.g., "It's so true! The entire country of Iraq is one big terrorist training camp thanks to Bush."; $M = 2.17$, $SD = 2.07$). Neutral message-relevant thoughts included those that elaborated on the topics presented, but without a clear indication of valence (e.g., "The war in Iraq is likely going to take a long time to win."; $M = 0.92$, $SD = 1.19$). Finally, cognitive elaboration aimed at humor comprehension and appreciation included thoughts illustrating an acknowledgement or appreciation of the "joke" aspect of the texts (e.g., "Ha! Funny!" or "Good one!"; $M = 1.06$, $SD = 1.55$). Those few statements that indicated both humor appreciation and message-relevant elaboration were coded as positive message-relevant thoughts (e.g., "Ha! Funny! And so true! Both candidates are jokes."). This was done to minimize the artificial inflation of positive message-relevant thoughts in the humorous condition while maintaining the integrity of the message-relevant elaboration construct. It should be noted that by coding these "double-barreled" thoughts as positive message-relevant elaboration, the coding scheme may be underestimating thoughts aimed at humor appreciation and over-estimating message-relevant elaboration—particularly in the humorous condition. Hence, coding in this way renders the hypothesis tests as even more conservative assessments of humor's disruption of argument scrutiny. Message-irrelevant thoughts and those indicating confusion were

excluded from the analyses. Kappa for these four exhaustive and mutually exclusive coding categories was .78.^{1,2}

Analyses based on the two experimental conditions ($N = 142$) have the power of .32 to detect a small/medium effect size $d = .25$, and a power of .95 to detect a medium/large effect size of $d = .60$.

RESULTS

Effects of Humor on Cognitive Elaboration Aimed at Humor Appreciation and Comprehension

H1 posits that humorous messages will increase cognitive elaboration aimed at humor comprehension and appreciation. To first test this hypothesis, t-tests were run to assess the discrepancy by condition in the number of thoughts aimed at humor appreciation and comprehension. Consistent with H1, results indicated more thoughts aimed at humor comprehension and appreciation in the humorous condition ($M = 1.52$, $SD = 1.61$) than in the non-humorous condition ($M = 0.16$, $SD = 0.41$), $t(140) = 6.78$, $p < .001$. Next, to control for total thoughts generated by each participant, the *proportion* of thoughts aimed at humor comprehension and appreciation was calculated by dividing these “humor” thoughts by the total number of message-relevant thoughts (including negative, positive, neutral, and appreciation of humor). T-tests support the hypothesis that cognitive elaboration aimed at humor appreciation and comprehension was higher in the humorous condition. These humor-comprehension thoughts constituted a significantly greater proportion of message-relevant thoughts in the humorous ($M = .28$, $SD = .22$) than in the non-humorous condition ($M = .03$, $SD = .06$), $t(139) = 8.63$, $p < .001$.

Effects of Humor on Argument Scrutiny

According to H2, humorous messages should reduce the extent of argument scrutiny compared to what would occur in the face of non-humorous messages. If this hypothesis is correct, the total number of message-relevant thoughts would be greater in the non-humorous than the humorous condition. When total message relevant thoughts (negative, positive, neutral) was calculated *including* those comments aimed at humor comprehension and appreciation, no significant differences emerged between the humorous ($M = 6.77$, $SD = 2.97$) and non-humorous conditions ($M = 7.16$, $SD = 2.96$), $t(140) = -0.79$, $p = .43$. However, when calculated *without* those thoughts indicative of humor appreciation, the difference in total message-relevant thoughts was significantly greater in the non-humorous ($M = 6.92$, $SD = 2.84$) than the humorous condition ($M = 4.84$, $SD = 2.81$), $t(140) = -4.38$,

$p < .001$. Thus, when conceptualizing message scrutiny as the production of thoughts strictly addressing the premises of message arguments rather than humor appreciation, the data supported H2.

Moving to a second analysis of H2, it is important to recognize that political orientation will likely foster biased cognitive elaboration in support of participants' pre-existing opinions (Petty & Cacioppo, 1986). As a result, a reduction in argument scrutiny in the face of humor could reduce both *negative* thought generation (in response to messages targeting one's preferred candidate) and *positive* thought generation (in response to messages targeting one's opposing party candidate). Therefore, if H2 is correct, the proportion of both negative and positive thought generation in the non-humorous condition will be significantly greater than that in the humorous condition. The proportion of negative message-relevant thoughts and positive message-relevant thoughts (not including humor appreciation) was calculated by dividing each by the total number of message-relevant thoughts (including negative, positive, neutral, and appreciation of humor). Independent samples t-tests were run to assess the differences in these proportions by condition. Results indicated a significantly greater proportion of negative message-relevant thoughts in the non-humorous ($M = .42$, $SD = .25$) than in the humorous condition ($M = .28$, $SD = .22$), $t(139) = -3.48$, $p < .001$. However, the difference in the proportion of positive message-relevant thoughts by condition only approached statistical significance (Humor $M = .25$, $SD = .24$ vs. Non-humorous $M = .31$, $SD = .24$), $t(139) = -1.64$, $p = .10$. Both of these differences operate in the hypothesized direction, as message-relevant thoughts were less prevalent in the humorous than the non-humorous condition.

Exploring Alternative Explanations

One factor that complicates what we may draw from these findings concerns the fact that participants were only allowed to write a maximum of 10 responses. One could argue that the greater frequency of negative and positive thoughts in the non-humorous condition was an artifact of the coding scheme. Perhaps by capping the number of thoughts a participant could give, participants in the humorous condition, wishing to comment on *both* the humor and the message arguments, had their ability to produce message-relevant thoughts artificially restricted.

A follow-up analysis explored this potential artifact of the coding scheme by examining the chronological placement of participants' thoughts. If appreciation of humor is disrupting subsequent cognitive elaboration, then people whose first responses indicate humor appreciation will then be less likely to engage in *subsequent* argument scrutiny. To test this, a dummy variable was created to indicate that a participant's *first* thought was a statement of humor appreciation (e.g., "ha-ha!" and "That's funny!"). Next, a sum score was

created, indicating the total number of positive (not humor appreciation), negative, and neutral message relevant thoughts issued in response to the stimuli, while excluding thought #1 from each participant's sum score. If humor is disrupting argument scrutiny, then those people whose *first* reaction is a positive response to the humor should engage in less argument scrutiny *overall* than other participants. A Pearson's correlation was run between the dummy variable for "humor appreciation is first thought listed" and the total positive, negative, and neutral cognitive responses (without thought 1). By using the dummy variable for "humor appreciation is first thought listed," we should minimize the zero-sum game artifact presented by the fact that the total number of cognitive responses was capped at 10.

The resulting correlation is negative and significant ($r = -.18, p < .04$) indicating that those people whose first reaction was one of humor appreciation generated significantly fewer subsequent thoughts focusing on the premise of the message arguments than other participants. This finding suggests that the reduction in cognitive elaboration found in the humorous condition was not likely an artifact of the operationalization of thought listing.

Exploring the Counterargument Disruption Mechanism

The literature summarized at the outset of this manuscript suggests that the humorous component of jokes reduces an individual's *ability* (due to high cognitive load) while reducing his/her *motivation* (through positive affect) to scrutinize message arguments. However, it was also noted that humor may serve as a message attribute that signals to the audience that they do not need to scrutinize the underlying claims. If this were true, participants' reduction of message scrutiny would stem not from taxing cognitive processes or increased positive affect, but from their perception of the stimuli as a form of play—not serious enough to deserve such systematic processing.

To explore this discounting cue hypothesis, the two items used in the manipulation check (5-item scales ranging from *extremely funny* to *extremely serious* and *not humorous at all* to *extremely humorous*) were recoded and then combined ($r = .58$) to provide a measure of participants' perceptions of the "humorousness" of the stimuli ($M = 2.89, SD = 0.98$). Although originally intended to test success of the experimental manipulation, these constructs also capture the extent to which participants viewed the stimuli as representative of a *type* of discourse (just for fun vs. serious). Given that the ten statements were not rated one by one, but as a *whole*, it follows that the act of labeling the body of statements as funny or serious also provides us with an understanding of how people thought to categorize the stimuli as they processed it. Controlling for participants' labeling of the stimuli will help capture the "discounting cue" phenomenon documented by Nabi et al. (2007), as participants may have simply viewed the statements as a form of play not worthy of serious message scrutiny.

TABLE 1 Regression Equations Predicting Cognitive Elaboration as a Function of Experimental Condition, Controlling for Perceptions of Humorousness

Variable	Total message relevant thoughts		Proportion of negative thoughts		Proportion of positive thoughts	
	B (SE)	Beta	B (SE)	Beta	B (SE)	Beta
Constant	7.40 (.75)	***	.57 (.06)	***	.27 (.07)	***
Humor/Funniness Ratings	-.17 (.28)	-.06	-.06 (.02)	-.25**	.02 (.02)	.07
Humorous Condition	-1.99 (.54)	-.33***	-.08 (.05)	-.16 [#]	-.08 (.05)	-.17 [#]
R^2	.12		.11		.01	
N	141		141		141	

Note. [#] $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$.

To explore this alternative mechanism, the humorous rating was used as a control in a regression analysis predicting total message-relevant thoughts (not including humor appreciation), then proportions of positive (not including humor appreciation) and negative message-relevant thoughts as a function of experimental condition. If the reduction in cognitive elaboration found in the humorous condition was due to the jokes themselves being categorized as play, then we should find that the effects of condition on the extent of message-relevant thought generation decreases when controlling for participants' perceptions of the humorous nature of the stimuli.

As illustrated in Table 1, perceptions of humor exerted no significant effects on the generation of total message relevant thoughts, nor were perceptions of humor significantly related to the proportion of positive (not humor appreciation) thoughts. However, people who rated the stimuli as funny generated a significantly lower proportion of *negative* message relevant thoughts than those who rated the stimuli as serious ($B = -.06$, $SE = .02$, $p < .001$). Controlling for participants' ratings of the funniness of the stimuli, the impact of the humorous condition on the proportion of negative thought generation remained marginally significant ($B = -.08$, $SE = .05$, $p < .10$), but its predictive power was weaker than in the original model. This finding implies that the reduction in argument scrutiny was driven, at least in part, by how participants chose to categorize the stimuli (funny or serious).

Effects of Humor on Persuasion

RQ1 explores the relationship between humor and persuasion. To analyze this research question, attitude items reflecting the major premises of the experimental stimuli were examined as a function of experimental condition.

These included Kerry's decisiveness, Bush's knowledgeable, and both candidates' performances (or projected performances) on the war in Iraq and terrorism. Participants were asked how well "decisive" and "knowledgeable" applied to George W. Bush and John Kerry on a scale of 1 (*not well at all*) to 4 (*extremely well*). Rather than looking at each candidate separately, *difference* scores for each item were calculated by subtracting the Kerry rating from the Bush rating (Bush minus Kerry knowledgeable: $M = -1.43$, $SD = 1.37$; Bush minus Kerry decisive: $M = 0.56$, $SD = 1.28$). Participants were also asked if they trusted Kerry or Bush to do a better job handling the war on terrorism (Kerry = 70%, Bush = 30%) and the war in Iraq (Kerry = 75%, Bush = 25%). These constructs provided four dependent attitude measures that reflected the premises of the experimental stimuli.

T-tests examining how each of these constructs varied as a function of experimental condition revealed no statistically significant differences between the humorous and non-humorous conditions. Because party identification and candidate favorability were not correlated with experimental condition, these variables were not controlled for in the *t*-test. In none of the four analyses (knowledgeable, decisive, performance on Iraq, performance on terrorism) did the difference in attitudes vary as a function of condition with a *p*-value less than .1. Hence, the results of RQ1 regarding humor's impact on persuasion illustrate no quantifiable effects. As discussed in the literature review, of the four underlying processing mechanisms we have explored here, only one would predict *no* short term effects on persuasion: the discounting cue hypothesis. Although it is problematic to use null findings as confirmatory evidence, it is at least interesting to note that a lack of persuasion is consistent with a discounting effect.

DISCUSSION

Humor is an intimidating subject to tackle because it contradicts the norms of traditional communication. Its meaning is not in what is said, but in what is not said. However, this should not deter us from developing a sophisticated model of how humor is understood and hence how we should anticipate its influence to function. By exploring theory-driven mechanisms that would account for humor's unique effects on cognition, we are encouraged to consider humorous texts as more than just another input variable in a media effects equation.

The results of this study reveal several important observations regarding the role of humor in processes of cognitive elaboration. First, humorous stimuli did, consistent with H1, result in more thoughts aimed at humor comprehension and appreciation than the non-humorous stimuli. Second, consistent with H2, humor resulted in fewer total message-relevant thoughts (when calculated without thoughts aimed at the humorous message com-

ponent). In addition, humorous stimuli resulted in a smaller proportion of negative cognitive responses than did the non-humorous stimuli. The impact of humor on the proportion of positive cognitive responses was not significant, but operated in the expected direction. These data suggest that when arguments are delivered in a humorous way, recipients are less likely to scrutinize the claims presented—particularly in a challenging or critical way as indicated by the significant reduction in *negative* thought generation.

Further, the results of this study support Nabi et al.'s (2007) discounting cue hypothesis in several respects. First, the current experiment corroborates the notion that critical argument scrutiny is indeed reduced in the face of humor. Second, this study suggests that *how* people label discourse (as humorous or serious) might be at least partially responsible for the reduction in argument scrutiny in the presence of humor. Finally, this experiment found no demonstrable short-term persuasion effects as a result of humor. Of the four processes outlined at the outset, only one—the discounting cue hypothesis—would posit a lack of immediate persuasion effects in the context of humor. Together these findings suggest that humor may be subject to less scrutiny than serious discourse in part because people see it as a different form of discourse altogether.

In addition to suggesting support for the discounting cue hypothesis, the current project offers two additional advances in the study of humor and cognitive processing. First, by drawing stimuli from actual late-night joke content chosen to reflect the most frequently caricatured issues and candidate character traits in late-night comedy programming, this study contributes significantly to our knowledge of cognitive processing in the unique context of late-night political humor. Second, the current project assessed cognitive elaboration with a richer measurement of thought-listing than employed in past research. Rather than using more traditional assessments of cognitive responses, like closed ended measures (Nabi et al., 2007) or open-ended thought-listing techniques that are coded either positive or negative, the current project uses a thought-listing exercise and employs a nuanced coding scheme to untangle positive thoughts aimed at the humorous component of the texts from positive thoughts directed at message arguments themselves. This level of analysis is a unique contribution to our understanding of humor and argument scrutiny.

Finally, it is important to emphasize how exploring these underlying mechanisms of humor processing is crucial to our understanding of humor's potential role in persuasion. For example, the discounting cue hypothesis has important implications, particularly when compared to the potential counterargument reduction mechanisms articulated earlier. If humor comprehension increases cognitive load and decreases resources, then the reduction in argument scrutiny thought to occur as a result of this "limited ability" hypothesis is decidedly *unavoidable*. Similarly, if positive affect anticipated

and experienced through humor fosters peripheral message processing, then *unless the listener does not enjoy the joke*, argument scrutiny will be reduced. However, according to the discounting cue hypothesis, a reduction in argument scrutiny is contingent on how the listener chooses to label or compartmentalize the text (Nabi et al., 2007). In the first two mechanisms, the listener is at the mercy of the style of discourse. In the third, the discourse is at the mercy of the listener. Hence, initiating a conversation about these processes will illuminate what kinds of prescriptive measures we might take to avoid such humor effects or to capitalize on them.

The experimental nature of the study and the convenience sample of participants obviously introduce methodological concerns. Although stimuli were carefully selected from late-night comedy programming, the ecological validity of the study is still in question. First, textual translations of late-night jokes without the visuals of Leno or Letterman delivering them are not the same as late-night monologues. Second, some of the non-humorous translations were somewhat awkward, as indicated by the lower clarity rating in the non-humorous condition. Although this might have increased participants' frustration and subsequent negative elaboration in the non-humorous condition, when controlling for "clarity" in the models, people in the humorous condition still produced fewer positive and negative responses than people in the non-humorous condition. Future studies ought to use digital editing equipment to create tighter controls when comparing humor to non-humor, ultimately creating an experience as similar to late-night comedy viewing as possible. Third, it is fair to ask to what extent this highly educated Democratic sample represents the population in general.

Finally, when coding thought listings, participants who included positive substantive responses aimed at the premise of the stimuli in the same box where they indicated that they found the stimuli "funny," were coded as providing positive message-relevant thoughts. As a result, the coding scheme actually *underestimates* cognitive elaboration aimed at humor comprehension and *overestimates* cognitive thoughts aimed at the premises of the statements. Hence, the reduction in argument scrutiny found between the humorous and non-humorous conditions is a conservative estimate of what that discrepancy may be in the real world.

Though these findings do not support an enhanced *persuasive* effect of humor, it is possible that repeated exposure over time could foster attitude change. Frequent enough encounters with late-night political jokes which tend to be repetitive and homogeneous (Niven et al., 2003; Young, 2004) might suspend the extent to which viewers challenge these caricatures over time—leading to acceptance by default, an outcome that would require panel data to assess. One of the next steps in this area of research involves testing how repeated or long-term exposure to humorous arguments might foster persuasion through the suspension of cognitive elaboration over time. In addition, a second set of studies is needed to better identify the processes

through which reduced message scrutiny occurs. Such studies would incorporate reaction time measures or fMRI output to tease out the impact of humor's reduction of cognitive ability through high memory load from its reduction of motivation through positive affect and goal-directed processing. Finally, a strong crucial test of the discounting cue hypothesis would involve an experiment with a within-subjects design, such that the data would allow the researcher to control for perceived humor within individual participants.

After surveying the literature on humor and persuasion, Markiewicz (1975) urged those scholars who dared entered this "labyrinth" to integrate theory into their study of humor. By incorporating dual process theories and examining thoughts individuals generate in responses to humorous messages, we may be able to untangle the process through which humor does—or does not—affect attitudes. Aristophanes, Aristotle, and even Machiavelli seemed to understand the advantages of incorporating humor into potentially offensive commentary. As social scientists, we owe it to ourselves—and to them—to figure out why. This project is one attempt to navigate us into this "labyrinth."

NOTES

1. Reliability of the coding scheme was tested between the author and one undergraduate coder. The coding categories were created after reading through the open-ended responses to determine what kinds of subcategories would help us quantify various forms of counterarguments and positive and neutral responses. After discussing the coding scheme, we each (separately) coded one sample of 25 respondents' thoughts. Each respondent had the opportunity to write up to 10 thoughts in response to the stimuli. This yielded 176 thought units to code. Details of coding scheme are available upon request.
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APPENDIX: EXPERIMENTAL STIMULI

Target and Caricature	Text
Bush: Unintelligent	<p>Humorous: Pundits are saying that Kerry's message is garbled. You know you're doing badly when you're running against Bush and you're the one who is garbled. (Source: CBS: <i>Late Show with Letterman</i>, 9/8/04)</p> <p>Non-humorous: While pundits are saying that Kerry's message is garbled, Bush is the one whose public statements often don't make sense.</p>
Kerry: Wealthy member of elite	<p>Humorous: Kerry still can't shake this image of him as a rich-guy. For instance, today he challenged President Bush to three debates and a yacht race. (Source: NBC: <i>Tonight Show with Leno</i>, 9/13/04)</p> <p>Non-humorous: Kerry still can't shake the public's image of him as a rich-guy. His words and actions continue to remind people of his wealthy background.</p>
Bush: Did not fulfill National Guard duty	<p>Humorous: President Bush recently spoke to a meeting of the National Guard in Las Vegas. Boy, a lot of those guys were excited to see him. Well, sure, a lot of them have been waiting since the early 70's. (Source: NBC: <i>Tonight Show with Leno</i>, 9/14/04).</p> <p>Non-humorous: President Bush recently spoke to a meeting of the National Guard in Las Vegas. This appearance came while Bush was being accused of not showing up for National Guard Duty in the 1970s.</p>
Kerry: Flip-flopper	<p>Humorous: During the recent presidential debate Kerry scored points with pundits who claimed he finally put to rest criticism that he's a flip-flopper. Kerry said, "I have one position on Iraq: I'm 'forgainst' it." (Source: NBC: <i>Saturday Night Live</i>, 10/2/04).</p> <p>Non-humorous: During the recent presidential debate Kerry scored points with pundits who claimed he finally put to rest criticism that he's a flip-flopper. But Kerry's statements on the war continued to be vague and contradictory.</p>

(continued)

Target and Caricature	Text
Bush: Inadequate handling of War in Iraq	<p>Humorous: President Bush and Iraqi Prime Minister Allawi were in Washington recently to say things are going very well in Iraq, although Allawi did admit there are pockets of terrorists. Most of whom are in one area, called . . . Iraq. (Source: HBO: <i>Real Time with Bill Maher</i>, 9/24/04).</p> <p>Non-humorous: President Bush and Iraqi Prime Minister Allawi were in Washington recently to say things are going very well in Iraq, although Allawi did admit there are pockets of terrorists. In reality, the terrorist threat in Iraq is more widespread than Allawi will admit.</p>
Kerry: Flip-flopper	<p>Humorous: Debate experts said that President Bush could win the debates if he stayed on message and Kerry could win if he found one. (Source: NBC: <i>Tonight Show with Leno</i>, 9/29/04).</p> <p>Non-humorous: Debate experts said that President Bush could win the debates if he stayed on message and Kerry could win if he articulated one simple and clear message.</p>

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