

All Joking Aside: A Serious Investigation into the Persuasive Effect of Funny Social Issue Messages

Robin L. Nabi, Emily Moyer-Gusé & Sahara Byrne

This research was designed to assess the effects of contemporary political humor on information processing and persuasion, focusing specifically on two competing processes: processing motivation/counterargument distraction and message discounting. In Study 1, 212 undergraduates read one of four monologues by political comedian Bill Maher. Correlations and path modeling suggested that, in general, humor associated with greater source liking, closer information processing, and reduced counterargument, but also with greater message discounting. In Study 2, 204 undergraduates read one of four versions of a message based on the comedy of Chris Rock, manipulated to be more or less funny and attributed to the comedian or not. Results largely replicated those from Study 1. In addition, the humorous messages promoted more discounting than the serious messages, though they were processed with comparable depth. Although no more likely to be persuasive in the short run, the comedic transcript evidenced a sleeper effect after one week. In sum, the data were consistent with the notion that humorous messages might be processed carefully (but not critically) yet simultaneously discounted as irrelevant to attitudinal judgments. Implications for humor research and the sleeper effect are discussed.

Keywords: Humor; Persuasion; Discounting; Counterargument; Message Processing

The notion that humor distracts from counterarguing, leaving message receivers susceptible to persuasive influence holds appeal, despite little evidence for humor's

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persuasive effect and no direct evidence supporting the counterargument distraction hypothesis. Indeed, evidence for the persuasive influence of humor is slight, suggesting effects mostly in low-involvement advertising contexts for “feeling-oriented” products (Weinberger & Gulas, 1992). As such, we might be tempted to conclude that humor is an ineffectual persuasive strategy in counterattitudinal contexts, especially those related to more serious social issue debates. Yet, in late-night television talk show monologues and stand-up comedy routines, for example, performers frequently engage in humorous social commentary to audiences of millions, and the effects of such routines are of increasing scholarly interest (e.g., Hollander, 2005; Moy, Xenos, & Hess, 2006; Niven, Lichter, & Amundson, 2003; Young, 2004)

If, as some have suggested, humor attracts attention but distracts from relevant message content, then studying the persuasive effects of humor in more serious contexts may indeed be futile. However, if humor simply distracts from message counterargument, it is possible that audiences are left more susceptible to influence in these contexts, though this, too, is likely an incomplete explanation given the minimal persuasive effects of humor documented in the research. We assert there is an additional process beyond counterargument disruption that takes place during the consumption of humorous persuasive messages. That is, given their entertaining form, receivers likely process such messages with attention (and less counterargument) but then *discount* the message information they receive as not relevant to their attitudinal judgments. Thus, though the message content may not be challenged, the relevance of the message itself is, thus losing its potential persuasive power. The purpose of this research is to consider humor’s impact on information processing and attitudes in response to comedians’ social commentary, focusing specifically on the role of processing motivation, distraction from counterargument, and message discounting.

Humor and Persuasion

Although there are numerous ways to consider the communicative function of humor, the literature most pertinent to this project is that related to its persuasive effect, particularly in media contexts. Several early reviews of the humor literature concluded that no consistent evidence exists to support humor’s persuasive effect (e.g., Brown & Bryant, 1983; Markiewicz, 1974; Sternthal & Craig, 1973), though they did acknowledge that certain types of humor likely enhance source judgments. In the most recent review of both the advertising and nonadvertising persuasion literature, Weinberger and Gulas (1992) arrived at the following four conclusions. First, humorous ads attract more attention than nonhumorous ones, particularly when the humor is related to the product or issue. Second, humor likely does not harm comprehension though it may not help. Third, there is strong evidence that humor enhances source liking, though is unlikely to affect credibility judgments. Finally, humor may be persuasive for feeling-oriented products (e.g., clothes, perfume) or

low-involvement products (nondurable consumer goods), but generally speaking humorous messages are no more persuasive than nonhumorous messages.

Recent research has focused on identifying possible moderators of humor's effect, drawing largely from cognitive response theories of persuasion (e.g., Chaiken, 1980, 1987; Petty & Cacioppo, 1986), which assume that thoughts during message processing predict persuasive outcomes. More specifically, Petty and Cacioppo's elaboration likelihood model (ELM) and Chaiken's heuristic systematic model (HSM) both suggest that as motivation and ability to process information increase, central or systematic processing is expected to predominate. Under this form of processing, the receiver's thoughtful consideration of strong arguments is expected to lead to relatively enduring attitude change. As either motivation or ability to process is impaired, the effects of peripheral or heuristic processing are expected to predominate, during which cues in the message environment or heuristics should predict more ephemeral attitude shifts.

The cognitive response-based humor research has focused on the individual and message variables that might moderate humor's influence, including prior attitude (Chattopadhyay & Basu, 1990), need for cognition (Zhang, 1996), self-monitoring (Lammers, 1991), argument strength (Cline & Kellaris, 1999), and source reactions (Lyttle, 2001). In sum, these studies point out important moderators to humor's effects; however, they paint a somewhat uninteresting and even bleak picture of humor's persuasive possibilities. Humor is effective if one already likes the product, suggesting a reinforcement effect, or if one is not interested in the message or in processing carefully, in which case humor's likely short-lived impact is perhaps driven by the mood it evokes.

Gone, it seems, is any interest in considering humor's potentially unique ability to encourage consideration of positions that might otherwise be dismissed or ignored were humor not present to capture attention. Perhaps this is because past attempts at such research were disappointing. For example, Cooper and Jahoda (1947) and Vidmar and Rokeach (1974) examined how humor might encourage prejudiced individuals to recognize the absurdity of their positions and change their views, but neither study found this approach effective as selective perception processes appeared to lead respondents to interpret the messages as consistent with their already-held views. Gruner's (e.g., 1978, 1987) more recent work also indicates that satire often fails to alter attitudes because the message conclusions are generally implicit and often missed. However, Gruner concluded that if the serious thesis is perceived, persuasion may occur.

Yet, satire, though popular among comedians like Jon Stewart and Stephen Colbert, is not the only form of humor used to make serious points about important social issues. For example, late-night talk show hosts, like David Letterman, and comedians, like Chris Rock, often mix comedic wit with serious social commentary, capturing an audience's attention as they advance clearly-stated positions related to important social issues. What effect might these types of humor have on audience information processing and attitudes? It is this unanswered question that has led us to examine the process of humor's effect in this context.

Perceived Humor

First, we address the issue of perceived humor. Who is likely to find a comedic presentation of a social issue funny? Given selective perception, we might expect humor arousal to be influenced by congruence of opinion between the comedian and the audience (see Goldstein, 1976). However, some theories of humor appreciation suggest humor can be evoked based on message qualities, like incongruity and surprise, despite disagreement with a message's thesis (e.g., Alden, Mukherjee, & Hoyer, 2000; Wyer & Collins, 1992), and some empirical evidence supports this view (e.g., Grote & Cvetkovich, 1972). Thus, depending on whether certain message qualities are perceived, initial attitude may or may not associate with humor perception. Thus, we first ask whether initial attitude might relate to humor perception (RQ1).

Humor and Source Perceptions

Wyer and Collins (1992) suggest that surprising content has greater elaboration potential, which, depending on initial attitude, might lead to greater or diminished source liking. However, past persuasion research has documented positive associations between humor and source liking (see Weinberger & Gulas, 1992). Thus, consistent with these findings, we too expect humor and source liking to positively associate (H1a). Although there does not appear to be evidence in the humor literature supporting a relationship between message humor and credibility judgments (Weinberger & Gulas, 1992), source liking has been associated with credibility perceptions in other contexts (e.g., Garcia & Griffitt, 1978; Stone & Eswara, 1969; Vanden Bergh, Soley, & Reid, 1981). Thus, to the extent humor enhances source liking, we expect humor to maintain a positive association with credibility judgments (H1b), though this effect would likely be mediated by source liking.

Humor and Message Processing

Past reviews have concluded that humor attracts attention (e.g., Weinberger & Gulas, 1992). However, its effects on message processing itself are open to debate. Given Weinberger and Gulas' review, it seems humor is associated with peripheral, or more superficial, processing, which has been argued to be a function of humor's negative effect on processing ability, rather than motivation. This compromised ability might derive from multiple sources. On the one hand, the humorous aspects of the message might draw attention away from critical message information (message distraction). On the other hand, if humor is integrated into that critical message content, the positive affect and laughter associated with humor evocation may compromise a person's ability to process carefully. No empirical evidence, however, supports the notion that humor restricts processing ability. In fact, Duncan and Nelson (1985) found some evidence that humor might be associated with *less* distraction.

If we accept that ability to process humorous messages is not compromised, then we must consider its effects on processing motivation. Surely there is little question that people enjoy messages that make them laugh, and thus would be motivated to consume messages that do so. If ability and motivation to process humorous messages are both high, then according to cognitive response theories, the audience should process more centrally. Thus, we expect humor integrated into the presentation of message arguments to motivate deeper processing of the message (H2a).

Ordinarily, we would expect greater cognitive elaboration to elicit more counterarguing of a counterattitudinal message, and depending on the nature of the message-related thoughts, message rejection to occur (e.g., Petty & Cacioppo, 1986). However, these notions are derived from and best applied to expository message contexts. Research in entertainment contexts provides a different lens through which to understand message processing. As both Green and Brock (2000) and Slater and Rouner (2002) argue, entertainment or narrative-based messages may absorb an audience's attention and cognitive efforts, but at the same time short-circuit one's desire to critically process information. That is, the cognitive focus is placed on following the plot (or perhaps the joke)—waiting for the outcome—rather than on examining the validity of the information being presented. Thus, although cognitive response models might predict motivation and ability to result in more counterargument of an expository counterattitudinal message, entertainment-education theory and research suggest the opposite. That is, the greater the involvement in the message, the *less* counterargument there would be. Given humorous messages presented in entertainment forums are likely consumed more for their entertainment value, we predict that comedic messages will be associated with less counterargument (H2b).

Finally, an increase in processing depth, but a reduction in counterargument, suggests that a message (assuming arguments are perceived as strong) should be persuasive. Yet, little evidence from the humor literature supports this view. We suggest this is because of an additional and fundamental cognitive process triggered by the entertainment context, that is, message discounting. Although entertaining messages may reduce motivation to counterargue, it is also possible that the message form itself suggests the information contained in the humorous message is not relevant to forming judgments about important issues. In other words, because the message is seen as entertainment, one might discount it as “just a joke” intended to entertain rather than inform, thus excluding it from influencing judgments, at least in the short run. Thus, we predict that perceived humor will associate with greater message discounting (H2c).

Humor and Persuasion

To this point, we have predicted greater processing motivation and closer attention to the message, yet reduced counterargument. The less one counterargues, or actively disagrees with, a message, the more likely one will accept the validity of the message

arguments (i.e., perceive the argument quality to be high). As perceived argument quality is a key predictor of attitude change from a cognitive response perspective (e.g., Petty & Cacioppo, 1986), one might expect enhanced persuasive effect. However, if we consider that one is also likely to discount the message as just a joke, this should not only increase counterarguing generally but also, in turn, impair perceptions of argument quality. Assuming discounting undermines any persuasive benefit that results from reduced counterargument via source liking and entertainment-based processing, it is unlikely that, as Weinberger and Gulas (1992) have noted, meaningful attitude change in response to a comedic message will emerge in the short run (H3). The hypothesized model of relationships among the key variables noted above is presented in Figure 1.

In sum, we suggest that consideration of the process through which potentially persuasive humorous social issue messages might have effects must reflect both their entertainment, as well as their persuasive, elements. In Study 1, we test the relationships among the identified variables with four different humorous messages. As we were particularly interested in how humor arousal affected message responses, we relied on natural variation in humor to test our hypotheses (see O’Keefe, 2003, for arguments in support of using the aroused psychological state, rather than message features, as suitable tests for hypotheses about those states). However, in Study 2, we repeat these analyses but then compare humorous to serious messages.

Study 1

Method

Study design, participants, and procedures: This between-subjects study assessed 212 undergraduates’ reactions to transcripts of four monologues delivered by political comedian Bill Maher, former host of the comedic political talk show *Politically Incorrect*. Although the program is no longer produced, the data were collected while the program was still on the air. The sample was 60% female and 40% male, and was split among juniors and seniors. Respondents’ average age was 21.3 years ($SD = 1.58$). In exchange for course extra credit, students were asked to participate in a study on

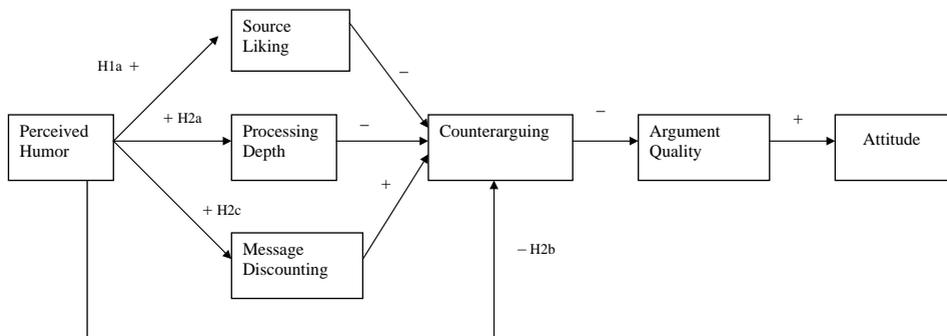


Figure 1 Hypothesized path model of humor’s effect on attitude.

social issue message perceptions. They completed a pretest, read one of the four messages with no author-identifying information, and completed message evaluation measures.

Several monologues were pretested to ensure they: (a) addressed a debatable social issue, (b) were funny, and (c) had a reasonably clear statement of the author's position. Four messages met these criteria. The first argued in favor of gun control (418 words), the second favored drug legalization (417 words), the third argued against warning labels on media with violent content (409 words), and the fourth disagreed with bans on smoking in public places (197 words).

Measures: Four sets of three belief-based questions assessed *initial attitude* toward the four target issues. All were 7-point Likert items, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), and examples include "The government should legalize currently illegal drugs", and "Restrictions on smoking in public places are justified." The reliabilities of the drug and smoking items were acceptable ($\alpha = .82$ and $\alpha = .76$). The reliability of the gun control items was marginal ($\alpha = .66$), and only two of the warning label attitude items correlated well ($r = .51$) and were combined to form its initial attitude measure ($\alpha = .67$). Attitude strength and issue salience measures were also included in the questionnaire, though neither factored meaningfully into these analyses.

After message exposure, *attitudes* toward the four message topics were measured with six 7-point semantic differentials (*bad/good*, *foolish/wise*, *unintelligent/intelligent*, *negative/positive*, *wrong/right*, *unacceptable/acceptable*) similar to those used in previous attitude research (e.g., Fabrigar, Priester, Petty, & Wegener, 1998; Nabi, 2002; Pfau et al., 2005). These items formed single-factor, reliable attitude measures for each topic ($\alpha = .91-.98$). As these items did not precisely match the pretest items, initial attitude was used as a covariate in the relevant analyses.

As a potential moderator of attitude change, *perceived argument quality* was assessed with six 7-point semantic differentials, ranging from 1 to 7 (*weak/strong*, *bad/good*, *unbelievable/believable*, *invalid/valid*, *unconvincing/convincing*, *false/true*). These combined to form single-factor, reliable measures ($\alpha = .91-.94$).

Source liking was assessed with three, 7-point semantic differentials (*unfriendly/friendly*, *unlikable/likable*, *unpleasant/pleasant*). These formed a single-factor, reliable measure ($\alpha = .93$). *Source credibility* of the messages' unnamed source was assessed with seven 7-point semantic differentials (*untrustworthy/trustworthy*, *unreliable/reliable*, *dishonest/honest*, *uncredible/credible*, *unqualified/qualified*, *uninformed/informed*, *inexpert/expert*). Combined they formed a single-factor, reliable scale ($\alpha = .94$). These measures were based on McCroskey's (1966) commonly-used credibility items.

Perceived humor was assessed with four 7-point items (*not funny/funny*, *not amusing/amusing*, *not entertaining/entertaining*, *not humorous/humorous*), which formed single-factor, reliable measures for each topic ($\alpha = .94-.97$). Overall, the messages ranged in mean perceived humor from 2.50 to 5.28. Further, respondents' reactions spanned the entire range of the scale (with an overall mean hovering slightly over the scale mid-point of 4; $M = 4.15$, $SD = 1.69$), suggesting the perceived humor

measure would allow us to consider the effects of both high and low humorous reactions on message processing.

Message processing depth was assessed with Wolski and Nabi's (2000) 14-item closed-ended scale designed to assess ability, motivation, and overall depth of information processing. This measure has demonstrated predictive validity in persuasive contexts. Sample items include "I was interested in what the author had to say," "I didn't pay close attention to the author's arguments," and "While reading, I didn't let myself get distracted from focusing on the message content." The items were assessed with 5-point Likert scales, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), and formed a reliable measure ($\alpha = .92$). We chose a closed-ended measure rather than the traditional thought-listing technique because the latter is not well-suited for entertaining messages as it tends to elicit general message reactions rather than cognitions about the embedded persuasive message (Green & Brock, 2000). This makes it a poor measure of counterargument as well, and thus self-report measures of cognitive response and counterargument are suggested as preferable alternatives (Slater & Rouner, 2002). Indeed, closed-ended processing measures have become an accepted method for assessing processing constructs (e.g., Bohner & Weinerth, 2001; Eveland, 2001; Eveland & Dunwoody, 2002; Griffin, Neuwirth, Giese, & Dunwoody, 2002; Neuwirth, Frederick, & Mayo, 2002).¹

Counterarguing then was assessed with four 5-point Likert items designed to tap into the participant's tendency to critically examine or disagree with the message. These items included: "I found myself actively agreeing with the author's points (reversed)," "I found myself actively disagreeing with the author," "I was looking for flaws in the author's arguments," and "It was easy to agree with the arguments made in the message (reversed)." They formed a single-factor, reliable index ($\alpha = .80$) with face validity.

Message discounting is conceptualized as dismissing the message as not containing information relevant to serious judgments. As such, the following four 5-point Likert items were constructed: "The author of the message was just joking," "The message was intended more to entertain than to persuade," "The author was serious about advancing his views in the message (reversed)," and "It would be easy to dismiss this message as simply a joke." They formed a single-factor, reliable index ($\alpha = .76$) with face validity.

The survey concluded with measures of demographic information. The analyses based on the full sample have the power of .99 to detect a small/medium effect size of $r = .30$ and .29 to detect a small effect size of $r = .10$. For individual message analyses, power to detect a medium effect size of $r = .30$ is .60 and for a small effect size $r = .10$ is .11.

Results

Topic and message assessments: Respondents were initially most supportive of gun control, followed by drug legalization, smoking in public places, and not having warning labels on violent media (see Table 1). Analysis of perceived humor indicated that each monologue eliciting responses ranging from 1 to 6.75 or 7 (see Table 1).

Table 1 Study 1 Initial Attitude, Perceived Humor, and Final Attitude by Topic

	Smoking	Gun control	Drug legalization	Warning labels
Initial attitude				
<i>M</i>	2.66	5.28	3.54	2.50
(<i>SD</i>)	(1.39)	(1.46)	(1.53)	(1.24)
Humor				
<i>M</i>	4.28	4.36	4.65	3.70
(<i>SD</i>)	(1.74)	(1.69)	(1.59)	(1.65)
Final attitude				
<i>M</i>	5.39	5.73	3.96	5.35
(<i>SD</i>)	(1.42)	(1.10)	(1.61)	(1.18)

Notes: Measures are all on 1–7 scales. Initial attitude is relative to the position argued in the comedian’s message.

Perceived humor proved significantly different from the scale midpoint for only the drug legalization monologue, $t(53) = 3.02$, $p < .01$.

Initial attitude and perceived humor: RQ1 asked whether initial attitude would associate with humor evocation. Correlation analyses revealed no significant associations between initial attitudes and humor perceptions: drug $r(52) = .16$, *ns*; gun $r(50) = .12$, *ns*; smoking $r(51) = .01$, *ns*; warning label $r(51) = .00$, *ns*, with a 95% CI of $\pm .29$ for each.² Although the confidence intervals include 0 for each association, the range for each suggests the possibility that small to moderate associations are possible between initial attitude and humor perception, perhaps due to individual perceptions or message features.

Humor, source judgments, message processing, and attitude change: To assess humor’s relationship to message judgments and processing style, analyses were performed on the full data set, though Table 2 includes the results for each topic separately. Unless otherwise noted, all correlations reported below are partial correlations that control for initial attitude. H1a–b suggested humor would positively relate to source liking and credibility. Consistent with expectations, humor positively correlated with source liking, $r(209) = .51$, $p < .001$, and credibility, $r(209) = .17$, $p < .05$. Of note, when source liking was included as a control, the humor-credibility association was significantly reduced, $r(208) = -.08$, $p = .24$. However, when credibility was included as a control, the humor-liking association was not affected, $r(208) = .49$, $p < .001$. These results support H1a–b as well as the notion that the effect of humor on credibility is mediated by source liking.

H2a–c predicted that perceived humor would increase processing depth and reduce counterargument, yet increase message discounting. Correlations indicated that perceived humor positively associated with processing depth, $r(209) = .22$, $p < .001$; negatively associated with counterargument, $r(209) = -.24$, $p < .001$; and positively associated with discounting, $r(209) = .15$, $p < .05$. Thus, H2a–c were supported.

Table 2 Study 1 Correlations of Perceived Humor with Information Processing and Persuasion Measures

	Liking	Credibility	Depth	Counter-argument	Discount	Argument	Attitude
All topics N = 212	.51***	.17**	.22***	-.24***	.15*	.08	.02
Drug legalization n = 54	.67***	.05	.40**	-.26 ⁺	.05	.07	.11
Gun control n = 52	.47***	.16	.24 ⁺	-.22	.15	.06	.14
Smoking n = 53	.01	.01	.20	-.04	.07	-.08	-.01
Warning labels n = 53	.76***	.63***	-.02	-.50***	.13	.45***	.03

Note: The reported associations are partial correlations, controlling for initial attitude.
 *** $p < .001$, ** $p < .01$, * $p < .05$, ⁺ $p < .10$.

Finally, H3 predicted minimal association between humor and final attitude. Correlation analysis suggested that we cannot reject the null hypothesis that there is no association between humor and final attitude, $r(209) = .02$, $p = .73$, 95% CI $-.12$ to $.16$. Of note, analyses for the four messages separately revealed the associations of perceived humor with final attitude to fall within the confidence interval. Because the confidence interval contains association levels that might be considered small effects, we conclude that humor may, at times, have small direct associations with attitude, but that generally speaking, they are unlikely to be meaningful. Further, though not specifically predicted, there was little evidence for a direct relationship between perceived humor and perceptions of argument quality, $r(209) = .11$, $p = .10$. We note this as cognitive response persuasion theories consider evaluations of argument quality to be important precursors to attitude change during close information processing.

In sum, these data suggest that the funnier respondents found a message, the greater they liked the source and found him credible, the deeper they processed the message and the less they counterargued. Yet, they were also more likely to discount the message as just a joke. In the end, no attitude change was identified. The correlation analyses for each topic, controlling for initial attitude, indicated quite different patterns of associations (see Table 2). Thus, there is little doubt that individual topics (or, more likely, individual messages) may not precisely follow the predicted pattern.

Modeling humor's effects: To assess both the direct and indirect relationships among the variables of interest, a path model was constructed based on the hypothesized relationships between humor and processing variables as well as relationships supported by cognitive response models (e.g., source liking should reduce counterarguing; discounting should increase counterarguing; counterarguing

should reduce argument quality; argument quality should positively associate with attitude change; see earlier explanations and Figure 1). Testing this model will help demonstrate whether or not humor distracts or attracts attention to message content and further whether the positive influences of source and processing depth are counteracted by message discounting.

Our sample size of over 200 suggests we have sufficient sample size to undertake the path model (Hair, Anderson, Tatham, & Black, 1998; Ullman, 2001). Further, a general rule of thumb for sufficient sample size to allow model reproduction is at least 10 subjects for each parameter (Hair et al., 1998; Kline, 1998). Our hypothesized model includes 16 parameters, suggesting a desired sample size of 160. Thus, our sample size of 212 is sufficient. We used the path analysis program AMOS (5.0) using the maximum likelihood approach with the correlation matrix as the basis for the model, setting error terms for each endogenous variable with a mean of 0 and a variance of 1. The goodness of the path model's fit to the data was judged using the following criteria: (1) a χ^2/df ratio of 5 or less (Jorskog & Sorbom, 1989; Marsh & Hocevar, 1985; Wheaton, Muthen, Alwin, & Summers, 1977), (2) a CFI of .90 or greater, (3) an RFI close to 1 (Bollen, 1986), and an RMSEA less than or equal to .08 (Browne & Cudeck, 1993).

The resulting model suggested a marginal fit to the data, $\chi^2/df = 4.03$, $p < .001$, CFI = .90, RFI = .78, RMSEA = .12. Of the predicted paths, only humor's direct association with counterargument was not significant ($p = .48$) and thus was dropped. In an effort to improve the model's fit, the modifications indices were consulted, which suggested the addition of three paths, $\chi^2/df = 1.23$, $p = .27$, CFI = .99, RFI = .93, RMSEA = .03 (see Figure 2). The final model suggests that perceived humor enhances both source liking and processing depth, both of which negatively associate with counterargument. Counterarguing is negatively (and strongly) associated with perceptions of argument quality which, in turn, positively relates to attitude. Thus, humor may have paved the way for attitude change by indirectly reducing

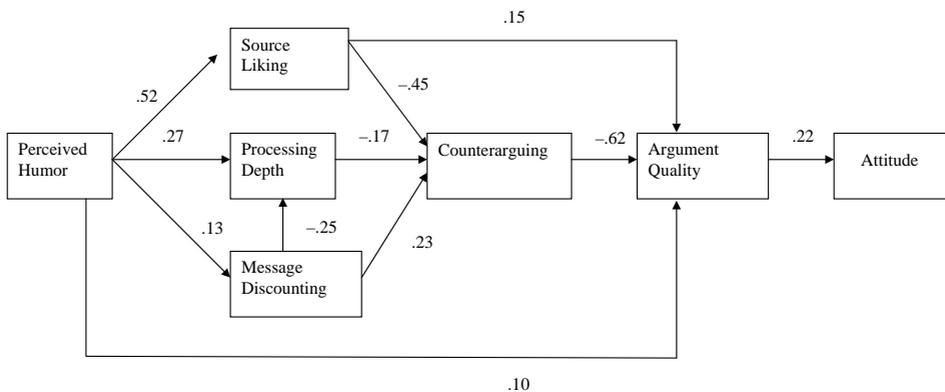


Figure 2 Path model of humor's effect on attitude from Study 1. $\chi^2/df = 1.23$, $p = .27$, CFI = .99, RFI = .93, RMSEA = .03.

counterargument and enhancing argument quality perceptions. However, the model also suggests that perceived humor associates with discounting the message as a joke, which associates with reduced processing depth and more counterarguing. This, in turn, reduces perceptions of argument quality and minimizes persuasive effects.

Theoretically, this model offers three important insights. First, humor does not distract from message processing, as some have suggested, but rather enhances it. Second, the closer processing depth generated by humorous messages is associated with reduced (not enhanced) counterarguing as the entertainment/narrative literature would predict. Third, message discounting plays a key role in limiting the persuasiveness of humorous messages. Thus, though humor may increase processing depth and source liking, which enhance persuasion, it simultaneously promotes message discounting, which impedes it.

Discussion

Consistent with theories of humor elicitation (e.g., Wyer & Collins, 1992) and past research (e.g., Grote & Cvetkovich, 1972), initial attitude had little impact on perceptions of humor. Once evoked, humor tended to be strongly associated with source liking, though it had a more modest relationship with source credibility. As expected, humor associated with greater processing depth and less counterarguing, but more discounting as well. However, humor maintained no meaningful direct associations with argument quality and/or attitude. The patterns for individual topics were quite varied, and though the smaller sample sizes for each message suggest these coefficients are less stable, the differences are more likely attributed to differences in individuals' perceptions of the topics as well as individual message characteristics.

These results are largely consistent with Weinberger and Gulas' (1992) review of the humor and persuasion literature, particularly the source liking, processing depth, and persuasion findings. Most interesting and unique in these data, though, are the relationships among humor, processing depth/counterargument, and discounting. The data support our assertions that, consistent with the entertainment-education literature, respondents who find a message funny are also more likely to pay closer attention to the message, yet are less motivated to argue against its substance. Theoretically one might wonder if reduced counterargument is the result of impaired motivation or ability. Though this study was not designed to answer this question, we note that if ability were compromised, we would expect a negative, not positive, association between humor and processing depth. Thus, we infer that to the extent that humor detracted from critical message processing, this effect is a function of reduced motivation and more specifically, reduced motivation to disagree with message content. Further, the inclusion of discounting is a critical element that would explain why humor does not ultimately result in attitude change, given its effects on the other persuasion-related variables.

If it is the case that humor encourages closer (but less critical) message processing but also message discounting, we see two important implications for persuasion. First, any attitude change evidenced may be relatively enduring as it is based on the processing of message content. This is reinforced by the lack of direct relationships

between peripheral features (e.g., humor, source liking) and attitude. Second, even if attitude change is not evidenced immediately, conditions are ripe for humorous messages to evidence a sleeper effect (see Pratkanis, Greenwald, Leippe & Baumgardner, 1988). That is, if respondents attend to the message but dismiss it in the moment as a joke, they may remember the message information thus allowing that information to increase its influence on attitudes after some time has passed.

There are, of course, constraints to this study that limit our ability to draw inferences about the persuasive effects of humor. First, as a cross-sectional study, our ability to make causal inferences is limited (though variables are presented in an order consistent with theoretical views of the relationships among persuasion-based constructs). Second, the study did not include control messages to allow us to compare how humorous messages might compare to serious ones. Third, the messages were in text form and without source identification, which may have limited the messages' ability to evoke humor. Fourth, in using somewhat satirical messages rather than those based on wit, there was a greater likelihood respondents may have misunderstood the argument thesis.³ Study 2 addresses these concerns.

In addition, it is evident that a second test of the model, given the modifications made, is necessary. As we considered what the model should look like, with an eye toward both theory and parsimony, we chose to make an important change. Given cognitive response theories suggest that it is not counterargument per se but overall thought valence (ratio of positive to negative message-relevant thoughts) that reflect argument quality and impact subsequent attitude, given message discounting itself is arguably a form of counterargument, and given the strong association between counterargument and argument quality, we concluded that counterargument could be removed from the model while maintaining theoretical integrity. We tested our assumption with the Study 1 data, and found the resulting model offered a comparable fit to the data as previously reported, $\chi^2/df = 1.23$, $p = .28$, CFI = .99, RFI = .90, RMSEA = .03, with source liking, depth, and discounting associated with argument quality directly, rather than indirectly via counterargument. Thus, we proposed this model as the one to test in Study 2.

Study 2

Study 2 replicates Study 1, though with several alternations. First, we manipulated message-based humor. Although this required us to use messages in text form, we included a video condition to allow comparison of humor evocation across modality. Second, the messages relied on overt humor, rather than satire, to minimize the chances that the message position would be misunderstood. Third, we included an open-ended thought-listing task, in addition to a closed-ended measure of message processing motivation, to compare the methods of processing measurement. Finally, we assessed attitudes both immediately after message exposure as well as one week later to assess the impact of humor over time, which to our knowledge has not previously been considered.

As in Study 1, we were first interested in the effect of humor perception on message processing, specifically processing depth and discounting. However, with Study 2 we were also interested in comparing the persuasive effect of humorous and serious messages. The following sets of hypotheses focus on these comparisons.

Humor, Source Liking, and Message Processing

Given humorous messages are associated with greater source liking (Weinberger & Gulas, 1992), we expect the source of a humorous message to be rated as more likeable than the source of a serious message (H4a). Past research suggests humorous messages are processed with equal comprehension as serious messages, suggesting comparable processing depth (Weinberger & Gulas, 1992). However, our evidence from Study 1 suggests that humor can increase processing depth. If a message topic is not inherently of interest to the audience, then a humorous message should generate greater motivation to process, and thus generate deeper processing, than a serious message (H4b). However, given its humorous nature, the audience is likely to see a humorous message as less relevant than a serious message to making judgments. Thus we expect a humorous message to be discounted more than a serious one (H4c).

As we consider the relative persuasiveness of humorous and serious messages, past findings suggest no persuasive advantage of humorous messages (Weinberger & Gulas, 1992). The notion that the increased processing motivation is counteracted by message discounting supports this view. Thus, we expected humorous messages to have comparable persuasive impact to serious messages immediately after message exposure (H5). However, the sleeper effect hypothesis suggests that, to the extent humorous messages meet the criteria for a sleeper effect, they may generate increased persuasive influence over time. Past evidence suggests that sleeper effects occur when (a) a message contains strong arguments (or might ordinarily be persuasive), (b) those arguments are processed by the audience, but (c) the message is accompanied by a discounting cue (usually a low-credible source) that causes the audience to dismiss the influence of that message information (e.g., Pratkanis, Greenwald, Leippe & Baumgardner, 1988; Priester, Wegener, Petty, & Fabrigar, 1999). However, because the information was processed centrally and because the source and message content information is disassociated in memory, over time, the persuasive message can gain influence over relevant attitudes. In this case, we suggest that the humor serves as the discounting cue. Thus, as long as the arguments are perceived as strong, we expect the initial discounting incurred by humorous messages to dissipate, thus allowing the persuasive impact of the message information to increase over time (H6a). However, given the lack of a discounting cue with the serious message, no such increase in persuasive effect should occur (H6b).

Study Design, Participants, and Procedures

Two hundred and four undergraduates were exposed to one of five versions of a message based on the comedy of Chris Rock. In exchange for course credit, students

volunteered to participate in a study of media message modality. They completed the pretest, read one of the four messages that varied in humor and source attribution or saw the video comedy segment, and then completed message evaluation measures. One week later, respondents were e-mailed a link to an online survey with several follow-up questions. Of the respondents, 59% were women, and 41% men. Their average age was 19.68 years ($SD = 1.50$), and 35% were freshmen, 23% sophomores, 26% juniors, and 17% seniors. Further, two-thirds (68%) were Caucasian, 14% Asian American, 8% Hispanic, and 2% African American.

We selected Chris Rock's comedy for its popularity, humor, and explicit social commentary. Several segments of his routines were pretested for: (a) humor, (b) inconsistency with audience's current attitudes to allow for persuasive influence, and (c) attitudes not strongly held by the audience such that they would be more susceptible to change. Of the four potential segments we identified (which addressed drug legalization, gun control, medical research funding, and organ donation), the topic that best met our criteria was medical research funding. In this clip, Rock argues that the profit motives of drug manufacturers result in the development of medicines that only treat, rather than cure, diseases, like AIDS.

We then transcribed the segment and created a matched serious message. Developing control messages for humorous content can be tricky as other message variations besides humor (e.g., length, argument strength; Markiewicz, 1974) can be introduced, making it difficult to attribute any differences in effects found to humor alone. Thus, we were particularly careful in our message construction. The messages were of equal length (200 words), formatted similarly, and matched in structure and essence of content.

For each message version, we either identified the source as Chris Rock or left the author anonymous, as the comedian name is a cue for humor arousal. We then pretested the four resulting messages on a sample of 90 undergraduates for perceived humor, argument clarity, argument strength, and source credibility. A series of 2×2 ANCOVAs with message type (humor vs. serious) and source (Chris Rock vs. unnamed source) as the independent variables, controlling for gender and having seen the message before, suggested no main effect for message type on argument strength ($p = .45$), argument clarity ($p = .27$), or credibility ($p = .58$). However, a main effect on perceived humor, $F(1, 82) = 10.12$, $p < .01$, $\eta^2 = .11$, indicated that the funny messages were in fact perceived as funnier than the serious messages. There was also a main effect of source on perception of humor, $F(1, 82) = 17.34$, $p < .001$, $\eta^2 = .18$, argument strength, $F(1, 82) = 3.85$, $p = .05$, $\eta^2 = .05$, and, to a lesser extent, credibility, $F(1, 82) = 2.77$, $p = .10$, $\eta^2 = .03$, suggesting the messages were perceived as funnier and containing stronger arguments when attributed to Chris Rock versus not. Rock was also perceived as slightly more credible than the unnamed source. There were no differences in argument clarity ($p = .80$). No interactions were significant. Thus, the messages seemed well-suited to test our hypotheses.

Measures

Four sets of seven semantic differentials (e.g., *good/bad*, *wise/foolish*) assessed *initial attitude* toward several topics including the target issue of support for the market-driven nature of medical research ($\alpha = .97$). Higher scores on this index indicate greater support for allowing market forces to drive the development of medical cures and, thus, less agreement with Chris Rock's position. Topic relevance was then assessed but did not factor into the reported analyses. After demographic measures and message exposure, respondents' *attitude* toward market-driven medical research was assessed with the same seven semantic differentials from the pretest ($\alpha = .97$) followed by the *argument quality* ($\alpha = .91$), *perceived humor* ($\alpha = .97$), *source credibility* ($\alpha = .90$), and *liking* ($\alpha = .92$) measures from Study 1.

After asking about the main point of the message and if they had seen the message before, participants engaged in a *thought-listing task* in which they were asked to write down the thoughts they had while reading the message, to number them, and then rate each as positive, negative, or neutral. The total number of message-relevant thoughts was taken as one indicator of processing depth. In addition, we subtracted the number of negative thoughts from the number of positive thoughts to create a measure of *thought valence*.

Six of the 14 message processing items from Study 1 were included to target *processing depth/motivation* as humor was expected to affect motivation specifically, rather than ability, as the key factor underlying processing depth. Sample items include "The issue discussed in the message was interesting to me" and "I didn't really care what the message had to say about the topic (reverse coded)" ($\alpha = .83$).

In place of the counterargument items, which seemed to offer little beyond processing depth and discounting in Study 1, we thought to include items that might capture humor's potential ability to minimize the bias with which people process counterattitudinal messages. Thus, we constructed three items to tap into *processing bias* (e.g., "I didn't let how I feel about the issue influence how I reacted to the message," "My prior beliefs about the issue prevented me from evaluating the message objectively"). These items had modest reliability ($\alpha = .62$).

The same *message discounting* items ($\alpha = .76$) from Study 1 were included. In addition, we included four items to tap into *communication appropriateness* (e.g., "The way in which the source expressed his views was simply improper," reverse coded, and "There was nothing about the tone of the message that was inappropriate"), which were assessed with four 5-point Likert items ($\alpha = .86$). The survey concluded with the multidimensional humor appreciation scale (Thorson & Powell, 1993).

One week after participation, respondents were e-mailed a link to an online survey in which they were asked to recall the message topic, to indicate whether they had discussed the message with anyone after the study, and to complete the attitude items from the pre- and posttests. Of the original 204 participants, 179 provided valid responses to the online survey (88% response rate).

Results

The analyses with the full sample have the power of .99 to detect a medium effect size of $r = .30$ and the .29 to detect a small effect size of $r = .10$. For the text messages only, power to detect a medium effect size of $r = .30$ is .97 and the power to detect a small effect size of $r = .10$ is .24.

Manipulation check: A 2×2 ANOVA revealed a main effect for both message type and message source on humor perception. Specifically, the humorous messages were perceived as funnier ($M = 4.76$, $SD = 1.64$) than the serious messages ($M = 3.23$, $SD = 1.69$), $F(1, 160) = 35.81$, $p < .001$, $\eta^2 = .18$. Further, the messages attributed to Chris Rock ($M = 4.40$, $SD = 1.66$) were perceived as funnier than the same messages attributed to an unnamed source ($M = 3.64$, $SD = 1.92$), $F(1, 160) = 8.76$, $p < .01$, $\eta^2 = .05$. The interaction was not significant, $p = .13$ (see Table 3). Of note, a post hoc comparison of means indicated that the Chris Rock video routine was rated as the funniest message ($M = 5.69$, $SD = 1.43$), followed by the Chris Rock comedy transcript ($M = 4.94$, $SD = 1.67$), $p = .04$. Given the video transcript message was close to a 5 out of 7 on the humor scale and was within one point of the video message, the message in text form appeared suitably funny. Thus, the humor manipulation was successful.

Humor perception, message processing, and attitude change: As in Study 1, we found that, speaking to RQ1, initial attitude did not significantly correlate with finding the message funny, $r(202) = -.09$, $p = .19$, 95% CI $-.23$ to $.05$. Although 0 is

Table 3 Study 2 Means (and SDs) of Humor and Attitudes by Message Type and Source

	Attitude			
	Serious		Funny	
	No Source $n = 41$	Chris Rock $n = 39$	No Source $n = 42$	Chris Rock $n = 42$
Humor				
<i>M</i>	2.68 ^a	3.81 ^b	4.58 ^c	4.94 ^c
(<i>SD</i>)	(1.74)	(1.45)	(1.61)	(1.67)
Initial attitude				
<i>M</i>	6.01 ^a	5.62 ^{a,b}	5.37 ^b	5.61 ^{a,b}
(<i>SD</i>)	(1.11)	(1.39)	(1.54)	(1.34)
Post attitude				
<i>M</i>	4.80 ^a	4.69 ^a	4.76 ^a	4.79 ^a
(<i>SD</i>)	(1.69)	(1.62)	(1.59)	(1.43)
Follow-up attitude				
<i>M</i>	4.63 ^a	4.92 ^{a,c}	4.99 ^{b,c}	4.41 ^a
(<i>SD</i>)	(1.45)	(1.47)	(1.51)	(1.44)
	$n = 33$	$n = 34$	$n = 37$	$n = 40$

Notes: Analyses for post and follow-up attitude included initial attitude as a covariate. Means shifting toward 1 suggest persuasive effect. Means within rows that do not share superscripts differ at $p < .05$.

included in the confidence interval, the correlation was in the direction of message agreement, and we cannot rule out that a small association between humor and initial attitude is possible.

For the analyses below, partial correlations, controlling for initial attitude are reported. Consistent with H1a–b, the funnier respondents found the message, the more likeable, $r(201) = .54$, and credible, $r(201) = .30$, they found the source, $ps < .001$. Of note, when also controlling for credibility, the humor–liking correlation was hardly affected, $r(200) = .47$, $p < .001$; however, when controlling for liking, the humor–credibility association was meaningfully reduced, $r(200) = .09$, *ns*. As in Study 1, this supports the assumption that humor’s effect on credibility is largely a function of its impact on source liking.

Consistent with H2a, the funnier participants found the message they read or saw, the more motivated they were to process it deeply, $r(201) = .31$, $p < .001$, and the more thoughts they generated about it, $r(190) = .14$, $p = .05$. Consistent with H2b regarding counterargument, the funnier respondents found the message, the more positive their thoughts, $r(190) = .45$, $p < .001$, and the less biased their processing, $r(201) = -.20$, $p < .01$, both of which support reduced counterargument. Consistent with H2c, humor perception associated with greater message discounting, $r(201) = .28$, $p < .001$, and consistent with H3, humor evidenced minimal persuasive impact in the short run, $r(201) = -.07$, $p = .33$, 95% CI $-.21$ to $.07$. Of note, unlike in Study 1, the funnier respondents found the message, the stronger they perceived its arguments, $r(201) = .42$, $p < .001$. Still, the humor–attitude association was relatively small. Overall, the pattern of results associated with humor perception is comparable to that from Study 1 and supportive of the hypotheses.

Finally, relevant to H6, initial humor perception associated with modest attitude change after one week, $r(176) = -.12$, $p = .10$, offering a hint that a sleeper effect might occur.⁴ Of note when controlling for gender, this effect approached the convention standard of significance, $r(175) = -.14$, $p = .06$.

Modeling humor’s effects: A path model was constructed based on the model developed in Study 1, omitting counterarguing (as described above). All paths were significant, and evidenced an acceptable fit of the data, $\chi^2/df = 1.91$, $p = .08$, CFI = .98, RFI = .90, RMSEA = .07. However, modification indices suggested one additional path—source liking to processing depth—would improve the model’s fit, $\chi^2/df = .99$, $p = .42$, CFI = 1.00, RFI = .95, RMSEA = .000.⁵ Unlike Study 1, three of the five messages identified a well-known and liked source. Thus, this additional path is not surprising. The final model appears in Figure 3. Of note, we ran an additional model including delayed attitude. There was a significant path between immediate and delayed attitude (.75), suggesting postmessage attitude significantly predicted attitude one week later, $\chi^2/df = .85$, $p = .58$, CFI = 1.00, RFI = .96, RMSEA = .000. No other meaningful differences or paths arose.

We then conducted a series of 2×2 ANCOVAs (with initial attitude as a significant covariate) to examine how message type and message source impacted message processing, message evaluation, and persuasive effect.

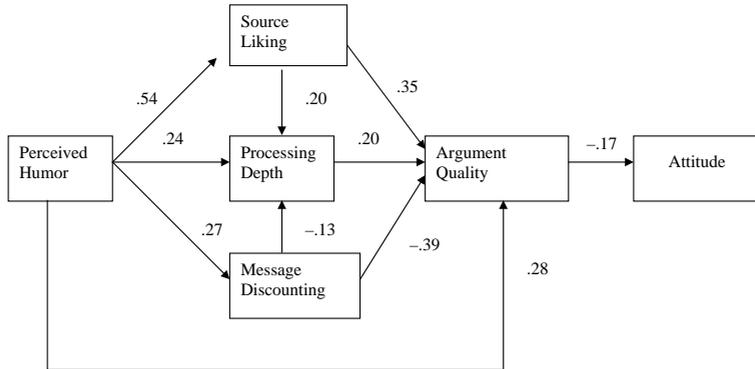


Figure 3 Path model of humor's effect on attitude from Study 2. *Notes:* Argument quality negatively associates with attitude because respondents were initially supportive of market-driven medical research. The stronger they found Rock's arguments against it, the more their attitude shifted down toward his position. $\chi^2/df = .84$, $p = .58$, CFI = 1.00, RFI = .96, RMSEA = .000.

Message and source assessments: H4a suggested the humorous message source would be more likeable than the serious message source. ANCOVAs revealed no main effect of message type (humorous or serious) on source liking ($p = .84$) or credibility ($p = .12$). However, there was a main effect for message source such that respondents liked Chris Rock more than the unnamed source ($M = 4.48$, $SD = 1.52$ vs. $M = 3.55$, $SD = 1.49$), $F(1, 159) = 15.90$, $p < .000$, $\eta^2 = .09$. The sources did not differ in credibility ($p = .64$). No interactions were significant ($ps > .18$). Thus, these data do not support H4a as the source effect seemed to be a function of familiarity rather than message humor.

Humor and message processing: H4b–c proposed that the humorous messages would be processed more deeply than the serious messages, but would be discounted more. ANCOVAs indicated no significant main effect of message type (humorous or serious) on processing motivation ($p = .80$), number of message-relevant thoughts ($p = .38$), or processing bias ($p = .91$). There was, however, a main effect for message discounting, $F(1, 159) = 10.21$, $p < .01$, $\eta^2 = .06$, suggesting the humorous messages were discounted more ($M = 2.84$, $SD = 0.76$) than the serious messages ($M = 2.47$, $SD = 0.76$).

We found no evidence that message source impacted processing motivation ($p = .41$), number of message relevant thoughts ($p = .11$), processing bias ($p = .79$), or discounting ($p = .22$), nor were any of the interactions significant ($ps > .28$). Thus it appears that the messages were processed with comparable depth, though the humorous messages were more likely to be discounted as simply a joke. These data are not supportive of H4b but are supportive of H4c.

Humor and persuasion: H5 suggested there would be minimal persuasive difference between the humorous and serious messages in the short run. We first looked at perceived argument quality. ANCOVA results indicated no main effect of

message type on perceived argument quality ($p = .83$); however, the arguments were perceived as stronger when presented by Chris Rock ($M = 4.45$, $SD = 1.34$) than by the unnamed source ($M = 3.99$, $SD = 1.31$), $F(1, 159) = 4.88$, $p < .05$, $\eta^2 = .03$. The interaction was not significant ($p = .53$).

Focusing on postmessage attitude, the ANCOVA revealed no main effect for message type ($p = .15$) or message source ($p = .90$), nor was their interaction significant ($p = .37$). Post hoc comparisons among message groups revealed no significant differences at $p < .05$ (see Table 3). Thus, we cannot reject the null posed by H5 as immediately after message exposure, all groups held comparable attitudes toward the market-driven nature of medical research.

H6a–b, however, suggested that after some time had passed, the humorous messages would increase in their persuasive impact relative to the serious messages. The ANCOVA revealed no main effect for message type ($p = .74$) or message source ($p = .38$) on delayed attitude. However, a significant interaction, $F(1, 139) = 7.38$, $p < .01$, $\eta^2 = .05$, suggested that when no source was identified, the serious message was more persuasive after one week than the humorous one ($p = .03$); when Chris Rock was the source, the humorous message was more persuasive than the serious version ($p = .09$).

Paired *t*-tests within each condition give us a clearer picture of how each message impacted persuasive outcome in the short and longer run. These analyses indicate that each group experienced significant attitude change from pretest to posttest, $p < .001$. However, only the Chris Rock–Funny group experienced a significant change from posttest to the one week follow-up ($p = .04$). The No Source–Serious and Chris Rock–Serious groups experienced no significant change over the course of the week ($p = .38$ and $p = .27$), and the No Source–Funny group evidenced near-significant loss in the initial persuasive effect ($p = .07$). Of note, the Video segment evidenced no significant change ($p = .86$).

As a further test of H5–6, we performed a repeated measure mixed ANOVA with attitude as the within-subjects factor and message condition as the between subjects factor. Mauchly's test of sphericity was significant (Mauchly's $W = .89$, $p < .001$), supporting the validity of the *F* statistic. Results indicated a significant effect for time, $F(2, 280) = 45.80$, $p < .001$, $\eta^2 = .25$, as well as a significant Time \times Condition interaction, $F(6, 280) = 2.62$, $p < .05$, $\eta^2 = .05$. Across the conditions, there was a significant change in attitude from Time 1 to both Times 2 and 3 ($ps < .001$), but not Time 2 to Time 3 ($p = .56$). For all groups, there was a significant Time 1 to Time 2 change ($p < .01$). All groups but the No Source–Funny group had a significant Time 1 to Time 3 change ($p < .01$), suggesting those three groups evidenced persistent attitude change. The only group, however, that evidenced a significant change from Time 2 to Time 3 was the Chris Rock–Funny condition ($p < .01$). These results reinforce the earlier analyses and confirm the sleeper effect for only the Chris Rock–Funny condition.

Discussion

Based on these data, it appears that humor has numerous implications for message processing: enhancing source liking (and credibility) and argument strength, increasing processing motivation and minimizing bias, and also increasing discounting of the message as simply a joke. Yet, humorous and serious message comparisons indicate the messages are actually processed similarly, though the humorous message is more likely to be discounted. Immediately after message exposure, all four messages were equally persuasive. This is consistent with past research indicating that humorous messages are no more persuasive than non-humorous ones (Weinberger & Gulas, 1992).

However, after one week, interesting differences emerged. First, the Chris Rock comedy transcript not only evidenced a persuasive effect immediately after message exposure, but this influence continued to increase over the course of the next several days such that a significant gain in attitude change emerged after one week. This was not the case for any other condition. Thus, we offer evidence of a sleeper effect for certain comedic messages. What might have motivated this effect? Even though the message may have been more likely to be initially discounted as a joke, the memorable nature of the message may have encouraged respondents to think more about it over time, which can increase persuasive effect (Tesser & Conlee, 1975). Although we did not ask how much respondents thought about the message over the course of the week, we did ask whether they had discussed it—a more conservative measure. Only 33 of the 178 respondents indicated having discussed the message, but an ANCOVA indicated that the humorous messages were, in fact, discussed more than the serious ones, $F(1, 138) = 3.78, p = .05, \eta^2 = .03$. No main effect for source or interaction emerged. Though not significant, the Chris Rock–Funny message was the most frequently discussed. Although it might seem strange that the video condition did not also evidence a sleeper effect, we suggest that the visual image of the routine was a constant reminder of the entertaining nature of the message, which might have continually primed message discounting. The conditions under which humor promotes a sleeper effect is an intriguing direction for future research, especially as it appears that the process through which it emerges may not be through disassociation of source and message content (as is typically believed) but through some other means of message reflection.

A second interesting finding related to the interaction between message type and message source, which suggested that the humorous message was more persuasive when attributed to a comedian. Yet the serious message was more persuasive when not attributed to a comedian. We offer two possible explanations for this finding. First, one might imagine the results were a function of message expectation. Respondents would not find it unusual to read a swear-laden, funny message by Chris Rock or a serious message attributed to an unnamed writer. But a swear-laden, funny message from an unnamed source or a serious message from Rock might have struck them as unusual. This may have undermined the credibility of those messages, thus minimizing their impact over time. However, given the initial attitude change

evidenced by all four messages and the lack of difference in perceived credibility among the messages, this explanation may not hold.

An alternative and more likely explanation is that the one processing difference—discounting—had a different effect depending on whether the source was known and liked or not. When the respondents received the humorous message from Chris Rock, they may have discounted the message somewhat initially but, over time, they likely remembered the source and because they liked him, and in turn found him more credible, granted more credibility to his position, allowing the message to increase in its effect. Conversely, when the message was presented by an unknown source, the initial exposure may have influenced attitudes, but after some time, the discounting associated with the message was not counteracted by the recall of a particularly likeable source, allowing the initial persuasive effect to lose some of its edge.

In the end, though, the Chris Rock–Funny and No Source–Serious messages generated comparable attitudes toward market-driven medical research. This suggests that humor offers no persuasive advantage. But consider one additional finding. In looking at the response rate to the delayed posttest, we see that 95% of those who read the Chris Rock–Funny message responded to the survey and, of those, 63% accurately recalled the nature of the message they had seen. In comparison, 80% of the No Source–Serious message group responded to the follow-up, and only 39% accurately recalled the nature of the message, $\chi^2(1, 73) = 3.87, p < .05$.⁶ Given we controlled for message exposure and it took relatively little effort for respondents to process the 200-word messages, it is not surprising they had comparable initial effects. However, in more naturalistic environments, humor is likely to not only attract but also maintain audience attention. If humor aids in these critical steps in the persuasion process (see McGuire, 1968), then we do the study of the persuasive effects of humor a disservice by controlling on the very variables that underlie its potential persuasive advantage. Testing the role of humor on selective attention, processing attention, and recall should be a priority for future humor and persuasion research.

Summary and Conclusion

Ultimately, this research suggests that there are two counteracting forces at play generated by the entertaining nature of humorous messages in counterattitudinal contexts: enhanced (though not critical) message processing weighed against message discounting. The notion of counterargument disruption receives support here. However, we assert that the more important process in this context is message discounting. The more a message is discounted, we argue, the less likely a humorous message is to have an immediate persuasive effect. This is not to say that a humorous message cannot have such an effect as our evidence suggests it is possible, but rather that discounting minimizes immediate persuasive influence. If the full potential of humorous presentations of serious content is to be seen, we suggest that message discounting needs to be counteracted. One approach might be what we shall call “restoration of gravity.” That is, to the extent persuasive effect is desired, perhaps the

conclusion of a humorous message should reestablish serious intent. This would short-circuit the minimizing effect of discounting while still maintaining the benefit of the close information processing generated by entertaining messages.

This research contributes to the broader persuasion literature by considering humor's impact on processing variables, the role of message discounting as a potentially key factor in the persuasive impact (or lack thereof) of humorous messages, and the role of humor as a discounting cue in the context of the sleeper effect. Exploring the conditions under which these effects are likely to occur, particularly in more naturalistic environments, is especially needed. Indeed, by determining the conditions under which humor could be functional in serious contexts, its power could be harnessed to raise awareness, disseminate information, and encourage positive attitudes and behavior while simultaneously minimizing conflict, anger, and resistance.

Notes

- [1] Pilot testing of the closed-ended measures relative to the open-ended thought list supported the validity of these measures (see also Wolski & Nabi, 2000).
- [2] These associations changed little when controlling for age, gender, issue salience and attitude strength. Similar considerations were made in Study 2, and again, gender, issue salience, and having seen the segment before had minimal impact on the reported associations.
- [3] Our early attempts at designing control messages for political satire proved very difficult. For example, in one monologue, Maher argues that gun policy should be based on the guns available when the Founding Fathers were alive (i.e., muskets). Asserting Americans should be allowed to carry muskets in a "serious" message surely appeared ludicrous, thus lowering perceptions of argument quality. Yet, to introduce progun control arguments not included in the satirical piece would create discrepancies not only in argument content but in conclusion explicitness.
- [4] Because the respondents were initially more in favor of the market-driven nature of medical research than Chris Rock, attitude shift consistent with the message appears as a negative correlation.
- [5] We also ran models with initial attitude, but fit was not meaningfully higher nor were the relationships among the variables altered. Thus, we present the more parsimonious model.
- [6] Recall in each of the humorous conditions was about 62%, and recall in the serious conditions was about 39%.

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