Journalism & Mass Communication Quarterly
2018, Vol. 95(1) 49–75

DOI: 10.1177/1077699017710453
http://journals.sagepub.com/home/jmq
SAGE

Fact-Checking Effectiveness as a Function of Format and Tone: Evaluating FactCheck.org and FlackCheck.org

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Abstract

This experiment explores the role of information format (print vs. video) and tone (humorous–nonhumorous) in shaping message interest and belief correction in the context of political fact-checking (N = 525). To understand the mechanisms by which audience misperceptions may be reduced, this experiment tests the belief-correcting effectiveness of a humorous fact-checking video produced by Flackcheck.org, a long-form FactCheck.org print article on the same topic, a nonhumorous video debunking the same set of claims, an unrelated humorous video, and a non-stimulus control group. Mediating psychological mechanisms (message interest, counterargumentation, message discounting) and message perceptions (message confusion) are explored. Results suggest video (humorous or nonhumorous) is an effective way to reduce audience misperceptions by increasing message attention and reducing confusion.

Keywords

fact-checking, motivated reasoning, belief correction, political communication, humor, persuasion

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Democratic Theory and the Challenges of Informing the Public

Because a "fully functioning democracy" requires " . . . an informed and engaged citizenry, able to deliberate about important issues of the day in open and free discussions" (Valentino, Hutchings, Banks, & Davis, 2008, p. 248), most theories of democratic governance (see Fishkin, 1991) assume political knowledge on the part of citizens. Without adequate information, citizens " . . . cannot follow public discussion of issues, are less accepting of the give and take of democratic policy debates, make judgments on the basis of character rather than issues, and are significantly less inclined to participate in politics at all" (Galston, 2001, p. 218). While a basic understanding of political processes and issues enables the public to engage in healthy decision-making processes, finding ways to provide citizens with such information has proven challenging (Delli Carpini & Keeter, 1997).

Efforts to inform citizens face myriad obstacles. Attempts to *accurately* inform them face even greater ones—particularly in a campaign environment. Politicians and political operatives have an interest in obfuscating, particularly on thorny or controversial issues (Page, 1978), while disengaged citizens have little motivation to acquire political information in the first place (Galston, 2001). Complicating matters further, those interested in politics often have established belief systems that shape how information is processed in the brain (Taber & Lodge, 2006). Scholars have become increasingly concerned about citizens who are "misinformed," who believe in information that is demonstrably false (Kuklinski, Quirk, Jerit, Schwieder, & Rich, 2000). As described by Kuklinski et al. (2000), " . . . if [people] firmly hold beliefs that happen to be wrong, they are *mis*informed—not just in the dark, but wrongheaded" (p. 793). The existence—and persistence—of such political "misperceptions," or belief in, "false, misleading, or unsubstantiated information," has proven both problematic and psychologically complex (Nyhan & Reifler, 2010). In recognition of the prevalence and persistence of political "misinformation" and "misperceptions," journalistic and academic institutions are seeking ways to counter their detrimental effects on American democracy.

In the United States, fact-checking organizations (such as Factcheck.org, PolitiFact, and Fact Checker) are working to create that "informed and engaged citizenry." In today's political and media climate, fact-checking organizations face numerous challenges, including promoting belief correction without fueling so-called "backfire effects," and generating interest in corrective content from the public in a competitive information environment. The current project examines how video formats and humor might promote audience interest and reduce backfire effects in the context of the website FlackCheck.org, a companion site to the Annenberg Public Policy Center's Factcheck.org.

The Rise of the Fact-Checking Industry

Thirty years ago, on the heels of the particularly deceptive ads of the 1988 Presidential election, scholars worked with news organizations to create the visual language of

"Adwatches," television news segments that explored the accuracy of candidate ads (Cappella & Jamieson, 1994). Several independent, non-partisan fact-checking organizations were soon launched in the early 2000s with the expansion of the Internet to provide corrective information for false political claims (Nyhan & Reifler, 2010). Fact-checking efforts have expanded exponentially in the past decade, both in number and in scope (see Graves & Glaisyer, 2012).

In 2003, Factcheck.org, a project of the Annenberg Public Policy Center, was launched to " . . . monitor the factual accuracy of what is said by major U.S. political players in the form of TV ads, debates, speeches, interviews and news releases" with a goal of "applying the best practices of both journalism and scholarship, and to increase public knowledge and understanding" (Factcheck.org). Within 5 years, two newspaper-initiated fact-checking organizations were launched: PolitiFact.com, of the *Tampa Bay Times*, designed to "rate the accuracy of claims by elected officials and others who speak up in American politics," and Fact Checker, of the *Washington Post*, with a mission of "truth-squading" the statements of political figures.

The effectiveness of fact-checking efforts has been scrutinized empirically for over a decade (Amazeen, Thorson, Muddiman, & Graves, 2016; Cappella & Jamieson, 1994; Garrett, Nisbet, & Lynch, 2013; Garrett & Weeks, 2013; Graves & Glaisyer, 2012; Nyhan & Reifler, 2010). While some studies have found isolated corrective effects on audience beliefs (Cappella & Jamieson, 1994), others suggest fact-checking does *not* reduce citizens' misperceptions when existing beliefs are challenged (Anderson, Lepper, & Ross, 1980; Garrett & Weeks, 2013; Nyhan & Reifler, 2010). With few exceptions, selective exposure and perception fuel the perseverance of pre-existing beliefs, even when those beliefs have been shown to be factually inaccurate (Ecker, Lewandowsky, & Tang, 2010; Greitemeyer, 2014; Guenther & Alicke, 2008; Johnson & Seifert, 1994; Kuklinski et al., 2000; for a review, see Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012). When confronted with attitude-discrepant information, many politically interested—often partisan—citizens counterargue, and thus reactivate and *strengthen rather than change their misinformed belief* (Garrett & Weeks, 2013; Hart & Nisbet, 2011; Nyhan & Reifler, 2010).

The mechanism underlying such "backfire" or "boomerang" effects stems from an underlying process of "motivated reasoning" (Flynn, Nyhan, & Reifler, 2017; Kunda, 1990), a concept that captures the notion that individuals do not process information objectively, with a goal of being "correct." Instead, our cognition is motivated by affect (emotions), driven mainly to protect our preexisting beliefs systems, avoid cognitive dissonance, and protect us from social and identity threats. Motivated reasoning explains how corrective information can reinforce false information debunked by factual information. According to the Elaboration Likelihood Model (ELM; Petty & Cacioppo, 1986), our likelihood of thoughtfully processing a message hinges on our motivation and ability to do so. Politically interested and knowledgeable individuals will tend to scrutinize political messages more than those less so. However, consistent with motivated reasoning, this argument scrutiny does not occur in an objective way. Instead, politically engaged message recipients—who also tend to be more politically partisan—cognitively elaborate upon message arguments through the filter of their own preexisting beliefs and group identities.

Our fragmented media landscape allows individuals to avoid attitude-discrepant information and opt instead for content that supports their existing belief systems (Stroud, 2011; Taber & Lodge, 2006). Political campaigns command the resources to construct realities that are reinforced by partisan media. Research shows that consumption of such ideological media contributes significantly to the construction and maintenance of inaccurate beliefs (Garrett, Weeks, & Neo, 2016).

In addition to the challenges inherent in correcting misperceptions among partisan audiences is the obstacle posed by general political disinterest. Incentivizing motivation to consume political information is particularly challenging when our extensive range of media choices makes it possible for citizens to avoid politics altogether (Prior, 2007). In sum, when playing the role of dispassionate arbiter-of-fact in a political context, fact-checking organizations find it challenging to (a) correct information without triggering backfire effects through motivated reasoning and (b) gain the interest and attention of either the politically disinterested or hyper-partisan (Amazeen, 2013).

Experimenting With Fact-Checking Formats

Even as fact-correcting organizations have grown in number and in prominence, most fact-checking is done through text-based articles providing evidence contradicting the scrutinized claim (Amazeen, 2013). Increasingly, journalistic organizations are acknowledging that contextual long-form print may not be the most effective way to correct misperceptions (see Mantzarlis, 2016). For decades, researchers in education and communication have studied how informational formats (text, audio, and visual) affect interest, learning, and recall (Lang, 2000; Mayer & Moreno, 2003). While print has certain processing advantages, the comprehension, encoding, and retrieval of information obtained through reading is heavily determined by an individual's working memory capacity and processing abilities (Masson & Miller, 1983). This suggests that, when presented with textual information, those with lower working memory processing capacity are unlikely to excel in learning or recall. Placing the high demands of print on politically disinterested—often less politically knowledgeable—citizens is unlikely to facilitate learning or recall. In addition, according to ELM, overloading working memory with complex information reduces recipients' ability to engage with a message in a way that might promote attitude change.

Most American fact-checking organizations employ visual rating systems to complement the contextual information conveyed in print (Amazeen et al., 2016). Such structures offer a visual cue (such as PolitiFact's "Truth-o-meter" or Fact Checker's "Pinocchio ratings") as a summary judgment on the truth value of the claim. Experimental work by Amazeen et al. (2016) indicates that this combination of a visual ratings system plus contextual information is not only *preferred* by respondents, but increases belief correction as well. Importantly, though, this benefit was only found in the context of nonpolitical misinformation, and not more polarizing kinds of political misinformation. Research by Garrett et al. (2013) explored the impact of

complementary images on belief correction. When paired with text-based fact-checks, complementary images were found to increase the effectiveness of corrective information.

Visual ratings systems and static images are not the only forms of visual information being integrated into fact-checking efforts. Worldwide, organizations are recognizing the importance of video formats and the need to adapt to television and video (Mantzarlis, 2016). In 2016, the Poynter Institute introduced a Webinar to help journalists transform text-based fact-checks into effective videos (Elizabeth, 2016).

Such efforts to boil down complex fact-checking texts into videos with narration are supported by various theories of information processing. According to Baddeley's (1999) working memory model, textual and visual information are processed through a visuo-spatial working memory system, while verbal or spoken words are processed separately. Hence, pairing visual information with redundant *spoken narration* may facilitate learning without overwhelming working memory capacity (Mayer & Moreno, 2003). Numerous studies confirm that visuals plus narration work both to teach (Herron, York, Corrie, & Cole, 2006) and to boost news recall (Walma van der Molen & van der Voort, 1997). Evidence suggests video with narration is a *preferred* learning format as well (Tang & Austin, 2009).

The Potential of Humor in Fact-Checking

Research in communication and linguistics consistently demonstrates that humor enhances recall, learning, and construct salience (Banas, Dunbar, Rodriguez, & Liu, 2011; Young, 2004; Young, Holbert, & Jamieson, 2014). Humor increases message attention and interest while decreasing counterargumentation, two phenomena that traditionally counteract each other when processing nonhumorous texts (Nabi, Moyer-Gusé, & Byrne, 2007; Young, 2008). Message attention and interest increase as the recipient anticipates the reward associated with "getting" the joke, which in turn fuels recall and salience (Schmidt, 1994; Young, 2006).

In the context of serious messages, increases in attention and interest enhance argument scrutiny, which can undermine persuasion if that scrutiny is negative (Petty & Cacioppo, 1986). But, in humor, attention and interest work at the *expense* of argument scrutiny. According to Nabi et al. (2007), this happens because audiences "discount" humorous messages as "just a joke" and hence have little motivation to critique the underlying arguments. In Young's (2008) model, this reduction in argument scrutiny occurs when cognitive resources, allocated to humor comprehension (or "getting the joke"), are no longer available for argument scrutiny. LaMarre, Landreville, Young, and Gilkerson (2014) suggested that humor reduces argument scrutiny through both pathways, but depends on whether the humor is biting or playful. In the context of serious attitude-discrepant corrective information, people counterargue, often reinforcing their inaccurate beliefs (Nyhan & Reifler, 2010). But, if arguments presented through humor reduce counteragumentation (Nabi et al., 2007; Young, 2008), then perhaps corrective information presented humorously can change minds in a way that

nonhumorous fact-checks cannot. While evidence of the persuasive effects of humor are mixed (Boukes, Boomgaarden, Moorman, & de Vreese, 2015; LaMarre & Walther, 2013; Nabi et al., 2007), its positive effects on message attention and negative effects on counterargumentation suggest that it could be an effective way to facilitate belief correction.

H1: Format (print vs. video) and tone (humorous vs. nonhumorous) of corrective information facilitate belief correction.
H1a: Humorous corrective information will facilitate belief correction to a greater extent than nonhumorous corrective information.
H1b: Fact-checking information in video format will facilitate belief correction to a greater extent than print.
H2: The effect of format (video with narration vs. print) on belief correction will be mediated through an increase in message interest.
H3: The effect of tone (humorous vs. nonhumorous) on belief correction will be mediated through a reduction in argument scrutiny.

Due to motivated reasoning processes discussed above (Ecker et al., 2010; Greitemeyer, 2014; Johnson & Seifert, 1994; Kuklinski et al., 2000), we hypothesize that party identification will shape how deceptive and corrective stimuli are processed and hence the extent to which stimuli affect belief change. Because the source of the original deceptive claim is a Republican Congressman, processes of motivated reasoning associated with the party cue should lead Republicans to be more persuaded by the original deceptive claim (Petty & Cacioppo, 1986), less persuaded by the corrective information (Flynn et al., 2017; Kunda, 1990), and more likely to counterargue the corrective information than Democrats (Petty & Cacioppo, 1986).

H4: Party identification will moderate the effects of the stimuli on beliefs.
H4a: Republicans will be more persuaded by the original deceptive claim (from a Republican Congressman) than will Democrats.
H4b: Republicans will be less persuaded by the corrective information than will Democrats.
H4c: Argument scrutiny in response to all three fact-checking stimuli will be greatest among Republicans.
H4d: Given that we expect argument scrutiny to be greatest among Republicans (**H4c**), we anticipate that the humorous corrective video will foster the greatest reduction of argument scrutiny among Republicans.

Finally, given the normative goal of making fact-checking information accessible and understandable to a wide audience, we set out to test whether the effectiveness of fact-checking format and tone varied with the baseline political interest of the audience. Extensive research on the effects of political entertainment indicates that humorous and entertaining formats elicit the greatest effects on learning, interest, and attitude change among the least political engaged viewers (Baum, 2005; Xenos & Becker,

2009; Young, 2004). Building upon this research, we anticipate that those with lower levels of political interest will benefit more when the fact-checking information is conveyed in video format and is humorous in tone.

H5: Political interest will moderate the effects of format and tone on belief correction such that those lowest in interest will experience the greatest corrective effects in video formats with humorous tone (compared with text formats with a nonhumorous tone).

Case Study: *FlackCheck.org*

The website FlackCheck.org was launched by the Annenberg Public Policy Center in 2012 as a "political literacy companion site to the award-winning Factcheck.org" (see www.FlackCheck.org) to provide "resources designed to help viewers recognize flaws in political claims and in political ads in particular" (FlackCheck.org). As a complement to the longer and denser articles provided at Factcheck.org, FlackCheck.org provides short, clever videos delivering general information on how to spot spin and deception, as well as videos that duplicate the content of specific Factcheck.org articles, accompanied by humor and narration. This latter category of videos is experimented with innovations in both *format* (short videos with narration) and *tone* (humor instead of serious discourse), to increase the effectiveness of corrective information. This study tests the effectiveness of—and participants' reactions to—an original long-form fact-checking article and its humorous video equivalent to determine how format (video vs. print) and tone (humor vs. nonhumorous) affect belief correction, and the mechanism through which this might occur.

While FlackCheck.org produced numerous videos throughout the campaign, for research purposes, a conservative set of criteria was established for stimuli selection. First, the original deceptive claim had to have demonstrably fostered misperceptions. If a deception does not deceive, then corrective information does not have any utility. Second, the "humorous" condition had to be perceived as funnier than the "nonhumorous" conditions. Third, the deception needed to be clearly rooted in false information, and not just vaguely misleading. Fourth, the deception needed to include a clear source cue (such as party identification) to assess motivated reasoning processes. However, (fifth), we chose to avoid topics that would trigger strongly rooted well-worn biases. Research indicates that fact-checks are least effective and most likely to foster backfire effects in the context of controversial issues (Amazeen et al., 2016). To maximize the possibility that corrective effects would be found (such that the underlying processing mechanisms could be explored), we opted for a less familiar, less polarizing topic. While this prevents us from understanding the role of humor and video formats in correcting strongly held partisan beliefs, our hope is that this study will serve as a springboard to future research by assessing the underlying mechanisms through which humor and video might correct misperceptions.

Specifically, this project focuses on a FlackCheck.org video based on an original Factcheck.org article from the 2012 campaign concerning the impact of the Keystone

XL Pipeline on job creation (Finley, 2012). The Keystone Pipeline is an oil pipeline commissioned in 2010 to bring crude oil from Alberta Canada to regions in the United States. Rejected by President Obama in November 2015, the pipeline was slated to bring oil through a pipe with a larger diameter than past projects, hence not only increasing the speed with which the line could transport the oil, but also raising concerns about viability of the process and environmental implications. The original Factcheck.org article debunked a misleading claim by Georgia Republican Congressman Lynn Westmoreland about the number of jobs that would be created by construction of the pipeline. The staff at Factcheck.org deemed the Congressman's claim false and deceptive.

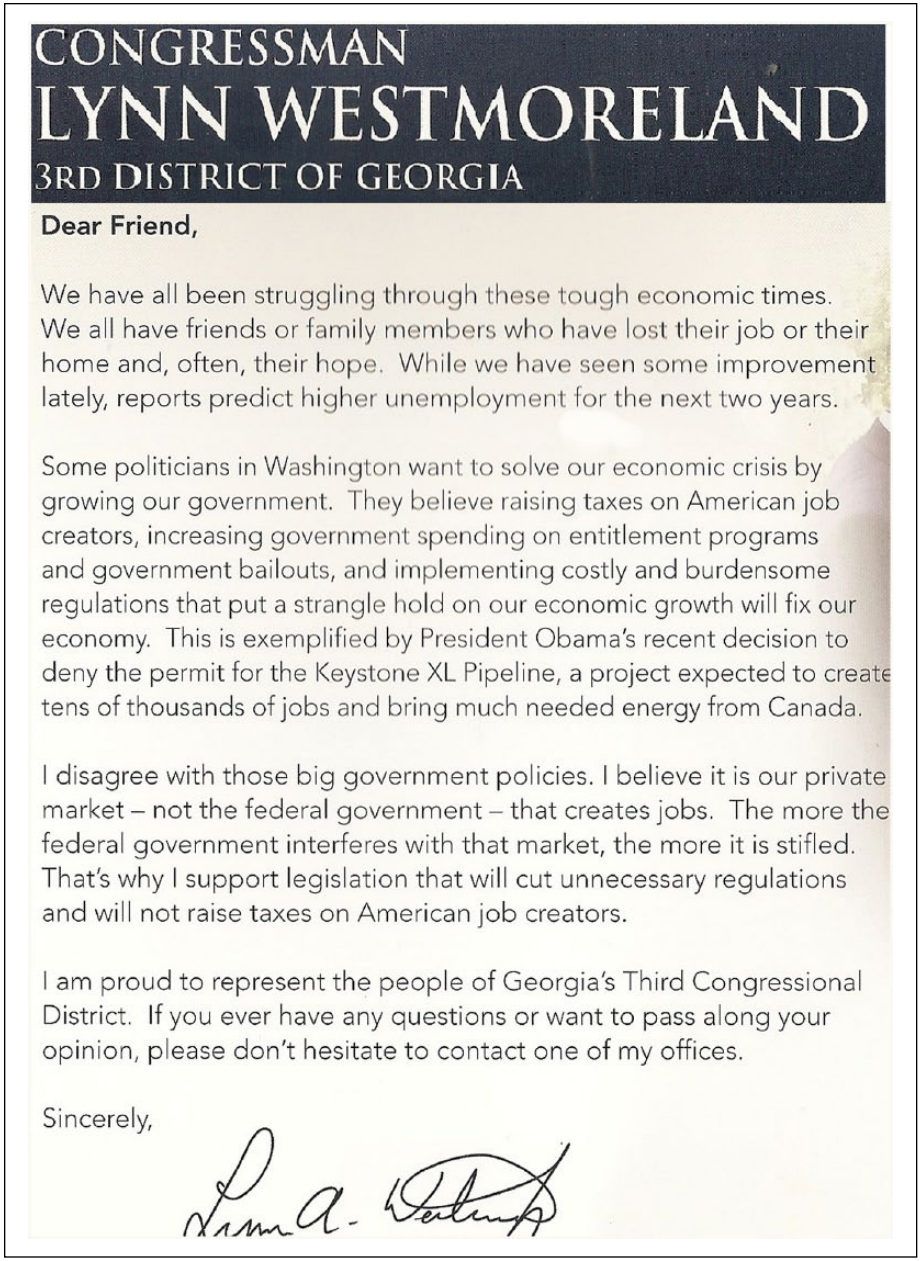
Method

The study was administered online to Qualtrics Panels between January 27 and January 31, 2016. Filters were used to limit participants to those at least 18 years of age living in the United States. Qualtrics used quota sampling methods to match the sample to national averages in terms of gender, education, income, race, and age distributions (N = 525). Average age of respondents in the sample was 46 years old, with 13.5 years of education, earning US$67,000 per year. Sixty-three percent of the sample reported being White/Caucasian, 13.1% African American, 5.3% Asian/Asian American, and 17% Hispanic. The sample was 42% Democrat, 28% Republican, and 30% Independent/Other. Qualtrics recruits individual respondents to panels through advertisements placed online. Advertisements promote incentives offered to participants. Incentives include rewards points that people can put toward coupons, discounted services, and online shopping. They are also given a cash incentive for completing the survey and providing accurate data.

Procedure and Experimental Stimuli

The details of the experimental design and procedure are contained in Appendix A. Respondents were directed to a Qualtrics survey with baseline items regarding opinions on the main topic of the deceptive claim, including questions on the number of jobs likely to be created by the Keystone XL pipeline and the likely impact of the pipeline on the economy. All respondents viewed the initial deceptive political claim, a political flyer from Georgia Congressman Lynn Westmoreland sent to constituents in spring of 2012 (see Figure 1). Before viewing the flyer, respondents were instructed to "Please read the following flyer sent by Republican Congressman, Lynn Westmoreland, to his constituents in Georgia," hence providing a partisan source cue to trigger potential motivated reasoning processes. The flyer stated that the construction of the Keystone XL pipeline would create "tens of thousands of jobs," yet research by Factcheck.org indicated the more accurate estimate is 5 to 6,000 jobs. After reading the flyer, respondents again answered questions about the number of jobs likely to be created by the pipeline, and the impact it would have on the economy.

Respondents were randomized into one of five conditions (see Appendix B):



CONGRESSMAN
LYNN WESTMORELAND
3RD DISTRICT OF GEORGIA

Dear Friend,

We have all been struggling through these tough economic times. We all have friends or family members who have lost their job or their home and, often, their hope. While we have seen some improvement lately, reports predict higher unemployment for the next two years.

Some politicians in Washington want to solve our economic crisis by growing our government. They believe raising taxes on American job creators, increasing government spending on entitlement programs and government bailouts, and implementing costly and burdensome regulations that put a strangle hold on our economic growth will fix our economy. This is exemplified by President Obama's recent decision to deny the permit for the Keystone XL Pipeline, a project expected to create tens of thousands of jobs and bring much needed energy from Canada.

I disagree with those big government policies. I believe it is our private market – not the federal government – that creates jobs. The more the federal government interferes with that market, the more it is stifled. That's why I support legislation that will cut unnecessary regulations and will not raise taxes on American job creators.

I am proud to represent the people of Georgia's Third Congressional District. If you ever have any questions or want to pass along your opinion, please don't hesitate to contact one of my offices.

Sincerely,

Figure 1. Initial deception.

a. Original long-form text fact-checking article from Factcheck.org from March 12, 2012, by Ben Finley. The 1699 word article provided detailed evidence that the jobs estimates used by Westmoreland were inflated by the TransCanada company building the pipeline: http://www.factcheck.org/2012/03/bogus-bipartisan-claims/
b. Humorous corrective video from Flackcheck.org: The 59-s video included graphics, sound effects, and bold text, focusing on how the firm "TransCanada . . . used creative counting" to get their jobs estimate. The video incorporated humorous analogy to make the point: "TransCanada counted each 'job' as one full time job that lasts one year. Which means that if Billy here [shows image of construction worker] works on the pipeline for three years, TransCanada counts that are three jobs, not one [show two additional 'Billies' popping up saying, 'Hey! What the . . .?']": http://www.youtube.com/embed/cxSjweFwEkg
c. Nonhumorous Flackcheck video: 48-s video with same visual and informational content as the humorous version, but without humorous analogies, sound effects, or witty asides: https://www.youtube.com/embed/sl0tFAcHb8A
d. Unrelated humorous video: 62 s of a baby singing gibberish in the bathtub: https://www.youtube.com/embed/BRt1NJLIUGI
e. Non-stimulus control group

After viewing experimental stimuli, respondents were issued the two job-related questions a third time to measure belief change resulting from the corrective information. Finally, respondents completed items on perceptions of the stimulus and message processing, followed by political and socio-demographic items.

Measures

Estimated number of jobs to be created by Keystone XL. Respondents were asked, "For several months, lawmakers in Washington have been debating the costs and benefits of constructing the 'Keystone XL' pipeline, a pipeline that would bring oil from Canada to various locations within the United States. To the best of your knowledge, which of the following do you think comes closest to the number of jobs that would be generated by the construction of the Keystone XL pipeline?" 20,000; 10,000; 5,000; 2,000; less than 1,000 (Baseline, $M = 14{,}001$, $SD = 9{,}965$).

Perceived impact of Keystone XL on economy. Respondents were asked, "What kind of impact do you think construction of the Keystone XL pipeline would have on the U.S. economy?" Responses were scored on a 5-point scale ranging from *very positive* (5) to *very negative* (1). (Baseline, $M = 3.83$, $SD = 0.96$).

Message interest and attention. Respondents were asked how much they agreed or disagreed with seven questions, issued in random order (coded on a scale from 1 to 5). Questions included the following: "This video/article was interesting to me," "I was excited to watch this video/read this article," "This video/article held my attention," "I paid close attention to the video/article," "My mind kept wandering as I watched this video/read this article (reversed)," and "I kept getting distracted by other things as I watched this video/read this article (reversed)" ($\alpha = .81$, $M = 3.86$, $SD = 0.78$).

Argument scrutiny. Argument scrutiny was measured based on three items modified from Nabi et al. (2007). Participants were asked how much they agreed or disagreed on a scale of 1 to 5 with "I was looking for flaws in this video's/article's arguments," "I focused on the arguments that were made in the video/article," and "While watching the video/reading the article, I concentrated on the strength of the arguments being made" ($\alpha = .69$, $M = 3.61$, $SD = 0.81$).

Message discounting. A scale constructed by Nabi et al. (2007) was used to assess the extent to which people discounted the corrective stimuli as "just a joke." Participants were asked how much they agreed or disagreed with three items, issued in random order. Responses were coded on a scale from 1 to 5. The questions included, "The maker of this video/article was just joking," "This video/article was made to entertain people more than persuade them," and "It would be easy to dismiss this video/article as simply a joke." The resulting scale variable proved reliable ($\alpha = .93$, $M = 2.44$, $SD = 1.20$).

Perception of humor in stimulus. Participants exposed to the fact-checking stimuli were asked to "indicate how much you agree or disagree with the following statements, issued in random order: This [video/article] was: funny, amusing, serious (reversed), unfunny (reversed), and entertaining" ($\alpha = .83$, $M = 2.60$, $SD = 0.93$).

Perception of stimulus as "confusing." Participants were the asked to "indicate how much you agree or disagree with the following in random order: This [video/article] was: 'confusing'" ($M = 2.32$, $SD = 1.11$).

Interest/attention to politics and public affairs. Two questions measured baseline interest and attention to politics and public affairs: "Generally speaking, how interested are you in politics and public affairs," *extremely* (4), *somewhat* (3), *not very* (2), *not at all* (1); and "Generally speaking, how often do you pay attention to information about politics and public affairs?" *all the time* (5) to *not at all* (1). The two items were averaged to create our measure ($\alpha = .84$, $M = 3.38$, $SD = 0.81$).

Party affiliation. The party affiliation was measured using a 7-point Likert-type scale, ranging from *strong Democrat* (1) to *strong Republican* (7) with *independent* as a midpoint ($M = 3.67$, $SD = 1.70$).

Political ideology. The political ideology was measured using a 7-point Likert-type scale, ranging from *very liberal* (1) to *very conservative* (7), with *moderate* as a midpoint ($M = 3.95$, $SD = 1.60$).

Demographic information. Age ($M = 45.71$, $SD = 15.03$), years of education ($M = 13.51$, $SD = 2.26$), and income, in thousands ($M = 66.60$, $SD = 53.46$), were assessed. Race and ethnicity were obtained by asking "Which of the following best describes your race/ethnicity?" (62.7% White/Caucasian, 13.1% African American, 5.3% Asian/

Table 1. Perceptions of Humor and Confusion Across Experimental Condition.

		Perception of humor		Confusing	
	n	*M*	*SD*	*M*	*SD*
Humorous FlackCheck Video	107	2.63	0.70	2.12	0.97
Nonhumorous FlackCheck Video	111	2.12	0.67	1.93	0.90
Original FactCheck article	111	2.16	0.66	2.41	1.03
Unrelated Funny	94	3.63	0.87	2.92	1.31

Asian American, 17% Hispanic, 1.9% Other). For purposes of regression analyses, respondents were coded as being of a minority race/ethnicity (coded 1) or not (coded 0) ($M = 0.37$, $SD = 0.48$).

Randomization Checks

Means comparisons were run across all five conditions for baseline political interest/attention, political ideology, party identification, income, education, race, and age. Only interest/attention showed a significant correlation with experimental condition, with respondents in the humorous FlackCheck video condition showing higher interest/attention than those in the neutral funny condition ($t = 2.08$, $p < .05$). As this variable is correlated with condition, the statistical models control for baseline interest/attention.

Manipulation Checks

Verifying that the initial deception fostered misperceptions. To check that the initial deception fostered misperceptions, paired-samples *t* tests were run to measure changes in misperceptions pre–post deceptive claim. Results indicate significant increases in the number of jobs respondents believed the Keystone XL pipeline would create (M Time 1 = 14,001.14, M Time 2 = 15,876.76, $t = -4.49$, $p < .001$). Results also indicate significant increases pre–post deception in the impact that the Keystone XL pipeline would have on the economy (M Time 1 = 3.83, M Time 2 = 3.93, $t = -3.16$, $p < .002$). Both of these increases are consistent with the nature of the deception in Congressman Westmoreland's flyer. Hence, the deception increased misperceptions sufficiently to merit the introduction of corrective information.

Humor manipulation. To verify that the humorous condition was deemed "funny" by respondents, the second set of checks used independent-samples *t* tests to assess the significance of differences in perceptions of humor across the fact-checking stimuli (see Table 1). The humorous FlackCheck video was rated significantly funnier than the nonhumorous FlackCheck video or the original Factcheck.org article ($p < .001$), indicating that the humor manipulation was successful. However, the unrelated humorous

video (baby speaking gibberish in a bathtub) was found to be significantly funnier than *any* of the conditions ($p < .001$).

Stimulus confusion. To assess whether any stimulus was deemed significantly more "confusing" than the others (which would affect these models and results), independent *t* tests were also run. The unrelated humorous video (baby speaking gibberish) was rated significantly more confusing than the other conditions ($p < .001$), which makes sense given how incongruous this video content was with any other aspect of the survey. It should also be noted that respondents rated the long-form text Factcheck.org article as significantly more confusing than either the Flackcheck.org video ($p < .04$) or the unfunny Flackcheck video ($p < .001$). Given this difference, respondents' ratings of stimuli as "confusing" are incorporated into the analyses.

Results

To test **H1** regarding the impact of format and tone on belief correction, change scores were calculated (pre to post exposure to fact-checking stimulus) for both dependent variables—estimated number of jobs likely to be created by the pipeline and perceived impact of the pipeline on the economy. Multivariate generalized linear model (GLM) was used to test for variance in both dependent variables as a function of experimental condition, controlling for baseline interest/attention (which was correlated with condition in the randomization checks). Results indicate significant differences by condition in the reduction of respondents' estimates of the number of jobs that the pipeline would create ($F = 34.04$, $p < .001$), and in perceptions of the pipeline's "impact on the economy" ($F = 4.68$, $p < .001$; see Table 2). Post hoc Bonferroni tests indicate all three fact-checking conditions (humorous and nonhumorous videos and Factcheck.org article) corrected beliefs to a greater extent than either the irrelevant humorous condition or the non-stimulus control group (see Table 2). However, these differences were greater in the context of change in the number of jobs item than in the "impact on the economy" item. Results also indicate that both video conditions produced greater belief correction than the original Factcheck.org article, particularly in the nonhumorous video's capacity to change estimates of the number of jobs likely to be produced by the pipeline ($p < .001$).

To assess the significance of these differences between conditions, multivariate ordinary least squares (OLS) regression was used with dummy variables for each condition (reference group is the non-stimulus control group) predicting each of the two change scores (change in estimated number of jobs and change in perceptions of the pipeline's economic impact), controlling for baseline interest/attention. As illustrated in Table 3, compared with the non-stimulus control group, the humorous Flackcheck video and the unfunny Flackcheck video significantly reduced misperceptions, both when measured in terms of the impact of the pipeline on the economy and the number of jobs likely to be created. The original Factcheck.org article showed a significant reduction in misperceptions, but only when measured in terms of the number of jobs.

Table 2. Changes in Misperceptions by Experimental Condition With Post Hoc Bonferroni Tests.

		Change in estimated number of jobs			Change in perceived impact of Keystone XL on economy		
	n	*M*	*SD*	Significance	*M*	*SD*	Significance
a. Humorous FlackCheck Video	107	−7,530.84	9,973.79	vs. b: *ns*	−0.18	0.64	vs. b: *ns*
				vs. c: *ns*			vs. c: *ns*
				vs. d: $p < .001$			vs. d: *ns*
				vs. e: $p < .001$			vs. e: *ns*
b. Nonhumorous FlackCheck Video	111	−10,005.41	10,401.16	vs. a: *ns*	−0.31	0.90	vs. a: *ns*
				vs. c: $p < .001$			vs. c: *ns*
				vs. d: $p < .001$			vs. d: $p < .05$
				vs. e: $p < .001$			vs. e: $p < .01$
c. Original FactCheck article	111	−5,330.63	9,205.58	vs. a: *ns*	−0.11	0.69	vs. a: *ns*
				vs. b: $p < .001$			vs. b: *ns*
				vs. d: $p < .001$			vs. d: *ns*
				vs. e: $p < .001$			vs. e: *ns*
d. Unrelated Funny	94	605.32	4,826.41	vs. a: $p < .001$	−0.04	0.25	vs. a: *ns*
				vs. b: $p < .001$			vs. b: $p < .05$
				vs. c: $p < .001$			vs. c: *ns*
				vs. e: *ns*			vs. e: *ns*
e. Control[a]	102	0		vs. a: $p < .001$	0		vs. a: *ns*
				vs. b: $p < .001$			vs. b: $p < .01$
				vs. c: $p < .001$			vs. c: *ns.*
				vs. d: *ns*			vs. d: *ns*

[a]Lack of change in control condition is an artifact of no post-stimulus measure having been obtained as there was no fact-checking experimental stimulus.

Table 3. OLS Regression Models Predicting Change in Misperceptions Pre to Post Exposure to Experimental Stimuli, Controlling for Baseline Interest/Attention.

	Change in perceived impact of Keystone XL on economy		Change in estimated number of Jobs	
	B (*SE*)	β	B (*SE*)	β
Constant	−0.22 (0.12)		−388.34 (1,639.47)	
Interest/Attention	0.07 (0.03)	.09*	118.60 (436.93	.01
Dummy variables for experimental condition (control group is reference group):				
Humorous FlackCheck Video	−0.19 (0.08)	−.13*	−7,558.14 (1,123.37)	−.34***
Nonhumorous FlackCheck Video	−0.32 (0.08)	−.21***	−10,016.12 (1,109.68)	−.45***
Original FactCheck article	−0.12 (0.08)	−.08	−5,352.57 (1,111.92)	−.24***
Unrelated Funny Video	−0.04 (0.09)	−.03	605.70 (1,156.01)	.03
N	525		525	
R^2	.03		.20	

Note. Reference group for dummy variables is the non-stimulus control group. OLS = ordinary least squares. *$p < .05$. **$p < .01$. ***$p < .001$.

These results suggest that both fact-checking videos were successful in reducing misperceptions, even to a greater extent, and in a broader way, than the long-form text-based fact-check, hence confirming **H1b**.

To test whether message interest/attention (**H2**) and argument scrutiny (**H3**) mediate the effects of format and tone on belief correction, the first step was to assess whether message processing and perception varied across experimental condition. GLM was used to assess differences in message processing (message interest/attention, argument scrutiny, message discounting) across condition. Also, as the earlier analyses showed the original Factcheck.org article was perceived as more "confusing" than either video condition, "confusing" was explored as a possible effects mediator as well. The model included experimental condition as the key independent variable, and controlled for baseline interest/attention, with message interest/attention, argument scrutiny, message discounting, and message confusion as the dependent variables. Results indicate that experimental condition was significantly related to all three processing variables as well as perceptions of message confusion: message interest/attention ($F = 17.52$; $p < .001$), argument scrutiny ($F = 31.98$; $p < .001$), message discounting ($F = 126.60$; $p < .001$), and message confusing ($F = 16.05$; $p < .001$).

To understand the nature and direction of these differences, OLS regression was used to predict each processing variable as a function of experimental condition, controlling for baseline political interest/attention. Because our focus is on how video, text, humor, and non-humor may have affected misperceptions differently, we concentrate here on differences among the three main fact-checking conditions: Humorous Flackcheck video, nonhumorous Flackcheck video, and Original Factcheck.org article. As illustrated in Table 4, perceptions of message interest/attention show significant differences as a function of experimental condition, with the humorous and nonhumorous

Flackcheck videos both rated as significantly more interesting/attention-getting than the original Factcheck.org article. In addition, perceptions of message confusion were significantly lower in both video conditions compared with the article condition (reference group), even when controlling for baseline interest (Humorous Flackcheck video: $\beta = -.14$, $p < .05$; nonhumorous Flackcheck video: $\beta = -.24$; $p < .001$).

Testing Mediation Processes

To test whether message interest/attention, counterargumentation, message discounting, or message confusion served as mediators, Hayes and Preacher's (2014) MEDIATE SPSS macro was used. Although only message interest/attention and confusion were found to be significantly related to experimental condition, all four constructs are tested to be consistent with the hypotheses posited at the outset. The Hayes and Preacher (2014) macro assesses mediation effects while controlling for possible confounders (baseline political interest/attention). Two models were run, one predicting changes in each of the belief items (jobs and impact on economy). Because our goal is to understand how different formats and tones of fact-checking information facilitate belief correction, all mediation analyses are again restricted to the three fact-checking stimuli (unrelated funny and non-stimulus control are *excluded*). These analyses compare the effects of the humorous Flackcheck video and nonhumorous Flackcheck video with the effects of the Factcheck.org article condition (reference group) on belief correction. These analyses test the mediating effects of message interest/attention, argument scrutiny, message discounting, and message confusion as they operate between condition and belief correction.

Consistent with **H2**, results indicate that message interest/attention significantly mediated the effects of experimental condition on estimates of the number of jobs. When the Factcheck.org article is the reference group, coefficients for both video conditions are positive and significant with 90% confidence intervals excluding zero, indicating that message interest/attention likely contributed to the effects of condition on estimated total jobs. The indirect effects of condition on estimated number of jobs *through* message interest/attention were humorous video condition—effect = −334.66, *SE* = 279.21; lower limit confidence interval (LLCI) (90%) = −993.82, upper limit confidence interval (ULCI) = −17.68—and nonhumorous video condition—effect = −494.29, *SE* = 365.63; LLCI (90%) = −1,277.15, ULCI = −27.16. Hence, respondents in the humorous corrective Flackcheck video condition *and* the nonhumorous video condition both experienced greater message interest/attention (controlling for baseline interest) which then contributed to greater belief correction (supporting **H2**).

Meanwhile, perceptions of message confusion mediated the effects of condition on estimates of the pipeline's impact on the economy. The indirect effects of condition on perceptions of the pipeline's impact on the economy *through* message confusion were humorous video condition—effect = .05, *SE* = .03; LLCI (90%) = .01, ULCI = .11—and nonhumorous video condition—effect = .08, *SE* = .04; LLCI (90%) = .03, ULCI = .15. Respondents in the Factcheck.org article condition found it to be more

Table 4. OLS Regression Models Predicting Message Interest/Attention, Argument Scrutiny, and Message Discounting as a Function Experimental Stimuli, Controlling for Baseline Interest/Attention.

	Message interest/ attention		Argument scrutiny		Message discounting		Message confusion	
	B (*SE*)	β	B (*SE*)	β	B (*SE*)	β	B (*SE*)	β
Constant	2.83 (.18)		2.75 (.15)		2.18 (.23)		3.01 (.25)	
Political Interest/Attention	0.28 (.05)	.31***	0.29 (.04)	.37***	−0.04 (.06)	−.03	−0.17 (.07)	−.14*
Dummy variables for experimental condition (control group is reference group):								
Humorous FlackCheck Video	0.21 (.09)	.14*	0.04 (.08)	.03	0.00 (.12)	.00	−0.29 (.13)	−.14*
Nonhumorous FlackCheck Video	0.35 (.09)	.23***	0.10 (.08)	.07	−0.18 (.12)	−.10	−0.50 (.13)	−.24***
N	329		329		329		329	
R^2	.13		.13		.00		.06	

Note. Reference group for dummy variables is the Original Factcheck.org article as the goal was to assess different processing mechanisms between fact-checking stimuli. OLS = ordinary least squares. † $p < .1$. *$p < .05$. **$p < .01$. ***$p < .001$.

confusing than did respondents in the two video conditions, and this confusion then translated into *less* belief correction. Neither argument scrutiny nor message discounting played a significant mediating role in predicting either dependent variable. Hence, **H3** was not supported in the data.

Individual Differences and Moderating Effects

H4 proposes differences in belief change and message processing as a function of respondent party identification. **H4a** hypothesized that Republicans would be more persuaded by the original deceptive claim than Democrats due to the party source cue and motivated reasoning processes. Bivariate correlations of party identification with pre–post deception belief change confirm significantly greater belief change among Republicans than Democrats consistent with the direction of the Republican-sponsored message ($r = .09$, $p < .05$; Democrat change $M = 862.33$, $SD = 9{,}673.47$, Republican change $M = 3{,}290.85$, $SD = 8{,}462.95$, $p < .05$). However, these differences only emerged when looking at the more quantitative assessment of the number of jobs likely to be created by the pipeline, and not with the overall perception of the impact of the pipeline on the economy (see Figures 2 and 3 for belief change by party identification).

H4b posited that belief correction would be lowest among Republicans across conditions. While party identification was significantly correlated with belief correction in the context of estimates of the number of jobs likely to be created ($r = -.12$, $p < .01$, Democrat change $M = -3{,}437.22$, $SD = 7{,}982.09$, Republican change $M = -6{,}394.37$, $SD = 10{,}245.41$, $p < .01$), the direction is opposite of what was expected. Contrary to expectations, Republicans experienced significantly *greater* belief correction than Democrats from the corrective information. This could have resulted from a ceiling effect following the very high post-deception job estimates reported by most Republican respondents.

H4c posited that Republicans would experience higher levels of argument scrutiny than their more Democratic counterparts across all fact-checking conditions. Correlations of party and counterargumentation scores indicate no significant effects of party identification ($r = .05$, $p = ns$). **H4d** posited that humor would exhibit the greatest reduction in argument scrutiny among Republican respondents. To test this hypothesis, an interaction of the "humorous video" condition and party identification was calculated and added as an independent variable to the OLS regression model predicting argument scrutiny. Perhaps unsurprisingly, given the lack of evidence for **H4c**, no significant moderating effects were found. To illustrate the comparative effects of corrective information delivered through various formats and tones across political party, Table 5 includes descriptives of belief change variables pre–post corrective information as a function of party and experimental condition.

H5 hypothesized that those lowest in baseline political interest/attention would experience the strongest corrective effects in the humorous video condition compared with the other conditions. OLS regressions were run predicting changes in misperceptions. Interaction terms used as predictors in the model were created as product terms of the baseline political interest/attention measure with the dummy variables indicating each condition, humorous fact-checking, nonhumorous fact-checking, and print fact-check

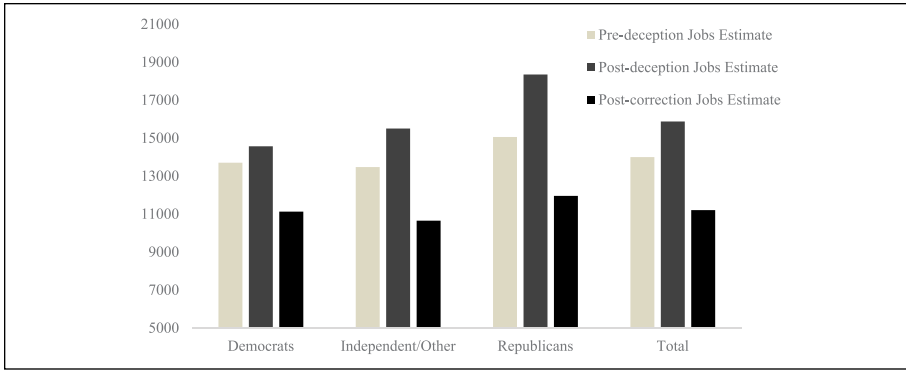


Figure 2. Estimated number of jobs likely to be created by construction of the Keystone XL Pipeline, pre-deception, post-deception, and post-correction, by party identification.

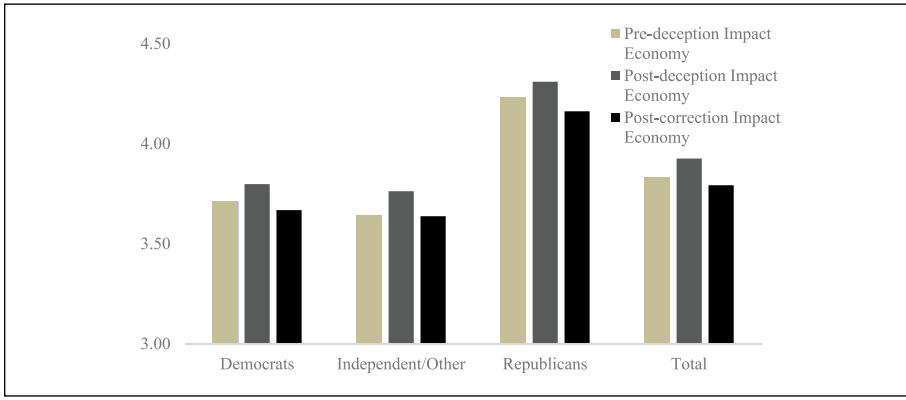


Figure 3. Estimated impact of the Keystone XL pipeline on the economy, pre-deception, post-deception, and post-correction, by party identification: Coded *very negative* (1) to *very positive* (5).

with unrelated humorous video as the reference group. The main effects of each construct were also included. None of the interaction terms was significant, meaning that the effectiveness of the stimuli did not vary with the a priori political interest/attention of the audience.

Discussion

Without an accurately informed citizenry, democratic institutions cannot function as intended. The increased visibility of fact-checking organizations reflects a growing effort to integrate neutral, non-partisan arbiters of truth into the news environment to counteract the influence of misinformation and deception. This project sought to understand whether and, if so, *how* innovations in format (video with narration vs.

Table 5. Belief Change Pre–Post Corrective Information by Condition as a Function of Party Identification.

	Democrats		Independent/other		Republicans	
	M (SD)	*n*	*M* (SD)	*n*	*M* (SD)	*n*
Predicting change in the estimated number of jobs created by the pipeline						
Humorous FlackCheck Video	−7,775.61 (10,842.48)	41	−7,342.86 (9,229.92)	35	−7,419.35 (9,902.10)	31
Nonhumorous FlackCheck Video	−6,772.22 (7,764.30)	36	−10,074.36 (11,632.77)	39	−13,163.89 (10,572.80)	36
Original FactCheck article	−4,997.92 (8,715.12)	48	−3,560.00 (9,194.85)	30	−7,424.24 (9,772.51)	33
Unrelated Funny	782.61 (4,807.00)	46	−909.09 (2,942.45)	22	1,573.08 (5,893.97)	26
Predicting change in estimated impact of pipeline construction on economy						
Humorous FlackCheck Video	−0.20 (0.71)	41	−0.17 (0.71)	35	−0.16 (0.45)	31
Nonhumorous FlackCheck Video	−0.44 (1.03)	36	−0.23 (0.84)	39	−0.28 (0.85)	36
Original FactCheck article	−0.08 (0.71)	48	−0.07 (0.78)	30	−0.18 (0.58)	33
Unrelated Funny	−0.02 (0.15)	46	−0.14 (0.35)	22	0.00 (0.28)	26

print) and tone (humorous vs. nonhumorous) might aid fact-checkers in their efforts to appeal to audiences and correct misperceptions.

This study produced partial support for party-guided motivated reasoning processes, as the party cue associated with the original deceptive claim increased its effectiveness on Republican participants, compared with Democrats. However, Republicans also experience significantly greater belief correction as a result of exposure to corrective information compared with Democrats, a finding that runs counter to motivated reasoning processes. Importantly, both video formats (humorous and nonhumorous) demonstrated significantly greater belief correction than the original long-form Factcheck.org article. Humor did not demonstrate corrective advantages over nonhumor when looking at the two video conditions. The effectiveness of the stimulus stemmed from its format (video with narration) rather than its tone (humorous vs. nonhumorous). Also of note is that while these findings confirm that long-form text-based fact-checking corrects misperceptions, those belief corrections only occurred in the context of the more quantitative item asking about the number of jobs the Keystone XL pipeline would create. When examining the corrective effects of the two video formats, however, both the humorous and nonhumorous videos were successful at correcting not *only* respondents' quantitative estimates of job growth, but their overall impressions of the pipeline's economic impact as well. Arguably, if the goal of corrective information is to reduce misperceptions, we want citizens to not only have the correct "facts" (e.g., the number of jobs a project will create) but also to be able to use those "facts" to draw correct inferences (e.g., whether investing in that project with have a notable effect on the economy). As Gaines, Kuklinski, Quirk, Peyton, and Verkuilen (2007) have found, individuals are more likely to change core beliefs based on the *interpretations of facts*, rather than on facts themselves. And, unsurprisingly, the interpretations of facts are themselves guided by partisan-driven motivated reasoning processes. Scholars will need to further explore how format and tone interact with the nature and scope of the belief in need of correction. It may be the case that while print-based fact-checks are successful at correcting viewers' understanding of quantifiable facts, inference-drawing and belief-formation *related to those facts* might be better served by multimedia formats that foster attention and message clarity.

As is clear from the mediation analysis, the videos were more interesting and less confusing than the original print article in a way that translated into broader belief correction and inference making. To be fair, the long-form print article corrected several "bogus claims" advanced in the Westmoreland flyer, from inflated estimates of pipeline jobs to misleading claims about the "bipartisan" nature of economic bills in Washington. In contrast, both of the videos focused solely on Westmoreland's Keystone jobs claim, and more specifically, on the misleading algorithm used to calculate the jobs numbers. This more digestive form of information offered through the video, which streamlined content and eliminated superfluous details, likely fueled comprehension and recall by *not* overburdening respondents' cognitive processing capacity—illustrated by the lower "confusing" ratings ascribed to both videos compared with the long-form article.

While the hypotheses posited that the strategic use of humor could fuel belief correction by reducing argument scrutiny and motivated reasoning, these results offer no evidence of humor's unique effectiveness per se. Instead, the video format itself (both humorous and nonhumorous) increased message interest/attention *and* reduced audience confusion in a way that then contributed to belief correction. In addition, the notion that humorous videos might fuel belief correction among audience members who are not typically interested in politics is complicated by the null findings presented here. While the video format significantly increased *message* interest and attention compared with the text-based fact-check, participants who were not politically interested from the start experienced no greater benefit from the videos than did more politically interested participants. Future studies will need to revisit this question to assess whether politically disinterested audiences benefit any more or less than others from novel fact-checking formats.

This study has several important limitations, most of which stem from the limited scope of the stimulus topic and its potential to trigger motivated reasoning processes. Construction of the Keystone XL pipeline is not a "hot-button" issue such as abortion, climate change, or immigration. Choice of a non-polarizing issue was a deliberate attempt to increase the likelihood that corrective effects would be found—which would allow us to explore mediating processes. However, as a result, these analyses cannot speak to the role of humor or video in facilitating belief correction in the context of more polarizing, identity-threatening topics. Future research ought to assess these processes in more ideologically salient contexts in the face of polarizing attitude objects.

A second concern is the degree of humor in the humorous Flackcheck video. While the video was rated "funnier" than the nonhumorous video or the original article, the *unrelated* funny video (the gibberish-speaking baby in the tub) was perceived as significantly funnier than *any* of the stimuli. One of the obvious challenges in using humor as a strategic device is integrating it in a way that remains central to the persuasive argument, but is still perceived as funny rather than didactic. Future studies will need to experiment with the nature and scope of humor to understand if some genres of humor work better than others (hyperbole vs. irony, for example).

Finally, this study suffers from limitations in the scope of the dependent variables explored. The analyses focused on misperceptions specifically related to the informational content of the stimulus. Broader beliefs about the potential for industry (in general) to create jobs, or the need to balance the interests of business and the environment, were not asked. Nor were respondents queried about their trust of this particular politician (Westmoreland), or his party (Republican). Future studies ought to expand the scope of the dependent variables explored as a function of exposure to corrective information. And, as is the case with all repeat-measures designs, it is certainly possible that respondents answering the same belief questions 3 times would feel the pressure to respond in a particular way as a function of being observed.

While visual ratings systems and complementary images have been found to augment the corrective effects of fact-checking information (Amazeen et al., 2016; Garrett et al., 2013), scant empirical attention has been paid to how video with narration might aid fact-checkers in generating audience interest and fostering belief correction. The findings of this study indicate that, at least in the context of less polarizing or less salient issues, audiences find video with narration (both funny and serious) more interesting and understandable than print-based fact-checks in ways that then significantly *reduce their misperceptions*.

In light of our findings, it seems appropriate for fact-checking organizations to invest in short, shareable videos. Our results suggest that video is an effective way of correcting misperceptions while also generating interest in fact-checking information and reducing viewer confusion compared with print-based fact-checks.

For democracy to function, citizens need accurate information that is accessible and understandable. In an information-saturated and politically polarized world, fact-checkers must find ways to stimulate interest and promote accurate inference making through pithy, clear information that corrects one false claim at a time. This study suggests that short, simplified video-based fact-checks (whether humorous or not) offer a successful way to accomplish these goals.

Appendix A: Experimental Design

Introduction				
Pre-deception opinion on main topic				
Original Deceptive Claim				
Post-deception opinion on main topic				
Qualtrics Randomizes respondents equally into one of the following five conditions:				
Condition 1	Condition 2	Condition 3	Condition 4	Condition 5
Note: these 3 are considered "fact-checking conditions"				
Humorous FlackCheck Video	Nonhumorous FlackCheck Video	Original FactCheck Article	Unrelated Funny Video	No Stimulus
Post-test opinion on main topic	Post-test opinion on main topic	Post-test opinion on main topic	Post-test opinion on main topic	
Opinions of video stimulus	Opinions of video stimulus	Opinions of article stimulus	Opinions of video stimulus	
Series of cognitive processing, socio-demographic, and political measures				

Appendix B: Experimental Stimuli

	Details	Word count /runtime
Original Factcheck.org article	March 12, 2012, by Ben Finley. Providing evidence about questionable math used to predict Westmoreland's inflate jobs numbers: http://www.factcheck.org/2012/03/bogus-bipartisan-claims/	1699 words
Humorous Flackcheck video	Graphics, sound effects, and bold text, focusing on how the firm "TransCanada . . . used creative counting" to get their jobs estimate. "TransCanada counted each 'job' as one full time job that lasts one year. Which means that if Billy here (shows image of construction worker) works on the pipeline for three years, TransCanada counts that as three jobs, not one (show two additional 'Billys' popping up saying, 'Hey! What the . . . ?')": http://www.youtube.com/embed/cxSjweFwEkg	59 s
Nonhumorous Flackcheck video	Same visual and information content as the humorous version, but without humorous analogies, sound effects, or witty asides: https://www.youtube.com/embed/sl0tFAcHb8A	48 s
Unrelated Funny Video	Baby singing gibberish in the bathtub: https://www.youtube.com/embed/BRt1NJLIUGI	62 s

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study is supported by the Omidyar Network's Democracy Fund and the Annenberg Public Policy Center at the University of Pennsylvania.

References

Amazeen, M. A. (2013, October). *Making a difference: A critical assessment of fact-checking in 2012* (New America Foundation Media Policy Initiative Research Paper). Retrieved from https://www.newamerica.org/new-america/making-a-difference/

Amazeen, M. A., Thorson, E., Muddiman, A., & Graves, L. (2016). Correcting political and consumer misperceptions: The effectiveness and effects of rating scale versus contextual correction formats. *Journalism & Mass Communication Quarterly*. Advance online publication. doi:10.1177/1077699016678186

Anderson, C. A., Lepper, M. R., & Ross, L. (1980). Perseverance of social theories: The role of explanation in the persistence of discredited information. *Journal of Personality and Social Psychology*, *39*, 1037-1049.

Baddeley, A. D. (1999). *Essentials of human memory*. Hove, UK: Psychology Press.

Banas, J. A., Dunbar, N., Rodriguez, D., & Liu, S. J. (2011). A review of humor in educational settings: Four decades of research. *Communication Education*, *60*, 115-144.

Baum, M. A. (2005). Talking the vote: Why presidential candidates hit the talk show circuit. *American Journal of Political Science*, *49*, 213-234.

Boukes, M., Boomgaarden, H. G., Moorman, M., & de Vreese, C. H. (2015). At odds: Laughing and thinking? The appreciation, processing, and persuasiveness of political satire. *Journal of Communication*, *65*, 721-744.

Cappella, J. N., & Jamieson, K. H. (1994). Broadcast adwatch effects a field experiment. *Communication Research*, *21*, 342-365.

Delli Carpini, M. X. D., & Keeter, S. (1997). *What Americans know about politics and why it matters*. New Haven, CT: Yale University Press.

Ecker, U. K., Lewandowsky, S., & Tang, D. T. (2010). Explicit warnings reduce but do not eliminate the continued influence of misinformation. *Memory & Cognition*, *38*, 1087-1100.

Elizabeth, J. (2016, July 7). *The week in fact-checking: The fact is, fact-checking can get better*. American Press Institute. Retrieved from https://www.americanpressinstitute.org/fact-checking-project/week-fact-checking-fact-fact-checking-can-better/

Finley, B. (2012, March 12). Bogus bipartisan claims. *FactCheck.org*. Retrieved from http://www.factcheck.org/2012/03/bogus-bipartisan-claims/

Fishkin, J. S. (1991). *Democracy and deliberation: New directions for democratic reform* (Vol. 217). New Haven, CT: Yale University Press.

Flynn, D. J., Nyhan, B., & Reifler, J. (2017). The nature and origins of misperceptions: Understanding false and unsupported beliefs about politics. *Political Psychology*, *38*(S1), 127-150.

Gaines, B. J., Kuklinski, J. H., Quirk, P. J., Peyton, B., & Verkuilen, J. (2007). Same facts, different interpretations: Partisan motivation and opinion on Iraq. *Journal of Politics*, *69*, 957-974.

Galston, W. A. (2001). Political knowledge, political engagement, and civic education. *Annual Review of Political Science*, *4*, 217-234.

Garrett, R. K., Nisbet, E. C., & Lynch, E. K. (2013). Undermining the corrective effects of media-based political fact checking? The role of contextual cues and naïve theory. *Journal of Communication*, *63*, 617-637.

Garrett, R. K., & Weeks, B. E. (2013, February). The promise and peril of real-time corrections to political misperceptions. In *Proceedings of the 2013 Conference on Computer Supported Cooperative Work* (pp. 1047-1058). San Antonia, TX: Association for Computing Machinery.

Garrett, R. K., Weeks, B. E., & Neo, R. L. (2016). Driving a wedge between evidence and beliefs: How online ideological news exposure promotes political misperceptions. *Journal of Computer-Mediated Communication*, *21*, 331-348.

Graves, L., & Glaisyer, T. (2012). *The fact-checking universe in Spring 2012*. Washington, DC: New America Foundation.

Greitemeyer, T. (2014). Article retracted, but the message lives on. *Psychonomic Bulletin & Review*, *21*, 557-561.

Guenther, C. L., & Alicke, M. D. (2008). Self-enhancement and belief perseverance. *Journal of Experimental Social Psychology*, *44*, 706-712.

Hart, P. S., & Nisbet, E. C. (2011). Boomerang effects in science communication: How motivated reasoning and identity cues amplify opinion polarization about climate mitigation policies. *Communication Research*, *39*, 701-723. doi:10.1177/0093650211416646

Hayes, A. F., & Preacher, K. J. (2014). Statistical mediation analysis with a multicategorical independent variable. *British Journal of Mathematical and Statistical Psychology*, *67*, 451-470.

Herron, C., York, H., Corrie, C., & Cole, S. P. (2006). A comparison study of the effects of a story-based video instructional package versus a text-based instructional package in the intermediate-level foreign language classroom. *Calico Journal*, *23*, 281-307.

Johnson, H. M., & Seifert, C. M. (1994). Sources of the continued influence effect: When misinformation in memory affects later inferences. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *20*, 1420-1436.

Kuklinski, J. H., Quirk, P. J., Jerit, J., Schwieder, D., & Rich, R. F. (2000). Misinformation and the currency of democratic citizenship. *Journal of Politics*, *62*, 790-816.

Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, *108*, 480-498.

LaMarre, H. L., Landreville, K. D., Young, D., & Gilkerson, N. (2014). Humor works in funny ways: Examining satirical tone as a key determinant in political humor message processing. *Mass Communication and Society*, *17*, 400-423.

LaMarre, H. L., & Walther, W. (2013). Ability matters: Testing the differential effects of political news and late-night political comedy on cognitive responses and the role of ability in micro-level opinion formation. *International Journal of Public Opinion Research*, *25*, 303-322.

Lang, A. (2000). The limited capacity model of mediated message processing. *Journal of Communication*, *50*, 46-70.

Lewandowsky, S., Ecker, U. K., Seifert, C. M., Schwarz, N., & Cook, J. (2012). Misinformation and its correction continued influence and successful debiasing. *Psychological Science in the Public Interest*, *13*, 106-131.

Mantzarlis, A. (2016, May 31). Can the worldwide boom in digital fact-checking make the leap to TV? *Poynter.org*. Retrieved from http://www.poynter.org/2016/can-the-worldwide-boom-in-digital-fact-checking-make-the-leap-to-tv/411668/

Masson, M. E., & Miller, J. A. (1983). Working memory and individual differences in comprehension and memory of text. *Journal of Educational Psychology*, *75*, 314-318.

Mayer, R. E., & Moreno, R. (2003). Nine ways to reduce cognitive load in multimedia learning. *Educational Psychologist*, *38*, 43-52.

Nabi, R. L., Moyer-Gusé, E., & Byrne, S. (2007). All joking aside: A serious investigation into the persuasive effect of funny social issue messages. *Communication Monographs*, *74*, 29-54.

Nyhan, B., & Reifler, J. (2010). When corrections fail: The persistence of political misperceptions. *Political Behavior*, *32*, 303-330.

Page, B. I. (1978). *Choices and echoes in presidential elections: Rational man and electoral democracy*. Chicago, IL: University of Chicago Press.

Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. In *Communication and persuasion* (pp. 1-24). New York, NY: Springer.

Prior, M. (2007). *Post-broadcast democracy: How media choice increases inequality in political involvement and polarizes elections*. Cambridge, UK: Cambridge University Press.

Schmidt, S. R. (1994). Effects of humor on sentence memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *20*, 953-967.

Stroud, N. J. (2011). *Niche news: The politics of news choice*. Oxford, UK: Oxford University Press on Demand.

Taber, C. S., & Lodge, M. (2006). Motivated skepticism in the evaluation of political beliefs. *American Journal of Political Science*, *50*, 755-769.

Tang, T. L. P., & Austin, M. J. (2009). Students' perceptions of teaching technologies, application of technologies, and academic performance. *Computers & Education*, *53*, 1241-1255.

Valentino, N. A., Hutchings, V. L., Banks, A. J., & Davis, A. K. (2008). Is a worried citizen a good citizen? Emotions, political information seeking, and learning via the internet. *Political Psychology*, *29*, 247-273.

Walma van der Molen, J. H., & van der Voort, T. H. (1997). Children's recall of television and print news: A media comparison study. *Journal of Educational Psychology*, *89*, 82-91.

Xenos, M. A., & Becker, A. B. (2009). Moments of zen: Effects of the daily show on information seeking and political learning. *Political Communication*, *26*, 317-332.

Young, D. G. (2004). Late-night comedy in election 2000: Its influence on candidate trait ratings and the moderating effects of political knowledge and partisanship. *Journal of Broadcasting & Electronic Media*, *48*, 1-22.

Young, D. G. (2006). Late-night comedy and the salience of the candidates' caricatured traits in the 2000 election. *Mass Communication & Society*, *9*, 339-366.

Young, D. G. (2008). The privileged role of the late-night joke: Exploring humor's role in disrupting argument scrutiny. *Media Psychology*, *11*, 119-142.

Young, D. G., Holbert, R. L., & Jamieson, K. H. (2014). Successful practices for the strategic use of political parody and satire: Lessons from the P6 Symposium and the 2012 election campaign. *American Behavioral Scientist*, 58, 1111-1130.

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