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Comparing Mediational Pathways for Narrative- and Argument-Based Messages: Believability, Counterarguing, and Emotional Reaction[†]

Melinda M. Krakow[1], Robert N. Yale[2], Jakob D. Jensen[3], Nick Carcioppolo[4], & Chelsea L. Ratcliff[3]

1 Division of Cancer Control and Population Sciences, National Cancer Institute, Bethesda, MD 20850, USA
2 Satish & Yasmin Gupta College of Business, University of Dallas, Irving, TX 75062, USA
3 Department of Communication, University of Utah, Salt Lake City, UT 84112, USA
4 Department of Communication Studies, University of Miami, Coral Gables, FL 33146, USA

Narratives may outperform argument-based messages in certain situations, notably because they are thought to exert unique influence via particular mediational pathways. The present study tested three sets of potential mediators (believability, counterarguing, emotional reaction) of the relationship between message modality (narrative- vs. argument-based) and the outcome of purchase intentions. Participants (N = 214) were randomly assigned to view one of four advertisements from two brands featuring narrative- or argument-based messages and completed measures of purchase intentions, believability, counterarguing, and emotional reactions to the ad. As hypothesized, narratives increased intentions compared to non narratives. Single moderated mediation models supported the mediating contribution of the completeness dimension of believability, counterarguing, negative and positive affective reaction. A combined moderated mediation model provided further support for positive affect as a mediator. Results provide evidence for several theorized mechanisms of narrative persuasion and illustrate an approach to evaluating multiple mediators in comparative message research.

Keywords: Narrative, Persuasion, Comparative, Mediation, Believability, Counterarguing, Emotion.

Communication scholars have become increasingly interested in research comparing the persuasive effects of narrative- and argument-based messages. Narratives, or stories, can serve as powerful tools of persuasion. In broad terms, a persuasive narrative message is identified by its focus on characters and events, in contrast to the arguments

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[†]This paper is dedicated in memory of Dr. Robert Yale.
Corresponding author: Melinda M. Krakow; e-mail: melinda.krakow@nih.gov

and evidence that underpin persuasive argument-based messages (Bilandzic & Busselle, 2013). A growing body of literature has examined the comparative persuasive effects of narrative- versus argument-based messages, and highlighted many instances in which narratives may be particularly effective tools of persuasion (e.g., Kreuter et al., 2010; Murphy, Frank, Chatterjee, & Baezconde-Garbanati, 2013; Niederdeppe, Shapiro, & Porticella, 2011). Narratives may be especially effective in contexts where audiences are less likely to engage or more likely to resist overt arguments, such as product advertising (Schwarz, Kumpf, & Bussmann, 1986). Correspondingly, researchers are increasingly using narrative forms to communicate information, and create and reinforce positive attitudes and behaviors (Escalas, 1998; Woodside, Sood, & Miller, 2008).

It follows that a central question for communication research is identifying how and why narrative- or argument-based (non-narrative) messages are more likely to persuade in a given context. Comparative research is ideally suited for investigation of message modalities (e.g., narrative- vs. argument-based persuasive messages) in order to identify the type of messages likely to be persuasive in a specific context, as well as the processes through which persuasion occurs. Although a substantive body of comparative research in narrative persuasion has examined the former topic (Allen & Preiss, 1997; Zebregs, van den Putte, Neijens, & de Graaf, 2015), less research has focussed on the mechanisms through which messages exert their comparative effects on audiences.

To date, persuasion researchers have identified a number of compelling mechanisms through which narratives may operate (Busselle & Bilandzic, 2008; Cho, Shen, & Wilson, 2012; Cohen, 2001; Green & Brock, 2000; Han & Fink, 2012). However, a challenge for comparative studies examining narratives against other types of messages is in identifying processes not theorized to be narrative-specific, which may explain persuasive effects across various types of messages (Niederdeppe et al., 2011). For example, Yale (2013) identified narrative believability as a key mediator of narrative impact, but researchers have yet to examine whether believability, in general, is a comparatively strong pathway for narratives as compared to argument-based messages.

The present study sought to investigate processes that could be examined across narrative- and argument-based messages. In addition to believability, scholars have postulated that counterarguing (Slater & Rouner, 2002) and emotional reaction (Shen, Sheer, & Li, 2015) could be unique pathways for narrative impact. Moreover, because advertising has overt goals to persuade audiences, ads constitute a useful context in which to study the subtle nature of narrative persuasion processing. Thus, the present study evaluates the comparative persuasive effects of narrative- and argument-based advertisements and investigates three potential mediating processes through which this persuasion may be achieved in a real-world message environment.

Narrative persuasion

Narrative messages are those that tell a story (Escalas, 1998). Within the narrative persuasion literature, narrative has been more specifically defined as "a representation of

connected events and characters that has an identifiable structure, is bounded in space and time, and contains implicit or explicit messages about the topic being addressed" (Kreuter et al., 2007, p. 222). Over the past several decades, researchers have established that narratives, far from being merely entertaining or informational, can change, reinforce, and create attitudes, beliefs, and behaviors in a variety of contexts (Dixon, Hill, Ron, & Paxton, 2001; Holbert, Shah, & Kwak, 2004; Kim, Lloyd, & Cervellon, 2015; Slater, Rouner, & Long, 2006; Strange & Leung, 1999; Yale, 2013). Narratives exhibit this persuasive capacity whether they are true or fictional (Busselle & Bilandzic, 2008; Gerrig & Prentice, 1991), and the persuasive effects may actually strengthen as time passes (Appel & Richter, 2007; Jensen, Bernat, Wilson, & Goonewardene, 2011).

Narratives are theorized to operate in cognitively different ways from argument-based messages. Whereas argument-based messages typically frame information as facts, empirical truths, and rationally-structured arguments, narratives rely on deep cognitive and emotional engagement with the audience and the generation of mental imagery to help make sense of the information being presented. Traditional persuasion theories, such as the elaboration likelihood model (Petty & Cacioppo, 1986) and the heuristic systematic model (Chaiken, Liberman, & Eagly, 1989), are widely used to examine persuasion processes in contexts such as advertising (e.g., MacKenzie & Spreng, 1992). These theories emphasize dual psychological processes (i.e., systematic/central vs. peripheral/heuristic) typically associated with argument-based information processing. In contrast, when a narrative is effective, an individual is intensely engaged in the story and his or her capacity for mental processing is centrally focussed on the story's unfolding events (Green & Brock, 2000). Research in cognitive psychology explains that stories operate as useful memory devices (Bruner, 1987). Narratives present meaningful emotional experiences in a familiar sequential format that audiences can draw upon to shape attitudes and future behaviors.

Significant effort has been undertaken to identify the mechanisms by which narratives exert persuasive influence. Numerous mechanisms have been investigated, including narrative transportation (Green & Brock, 2000; Green, 2004; Green, Brock, & Kaufman, 2004; Van Laer, Ruyter, Visconti, & Wetzels, 2014; Wang & Calder, 2006), identification with characters (Busselle & Bilandzic, 2008; Cohen, 2001; de Graaf, Hoeken, Sanders, & Beentjes, 2011; Moyer-Gusé & Nabi, 2010; Tal-Or & Cohen, 2010), perceived realism (Busselle & Bilandzic, 2008; Cho et al., 2012; Green, 2004; Shapiro, Barriga, & Beren, 2010), emotional reactions (Murphy, Frank, Moran, & Patnoe-Woodley, 2011), believability (Yale, 2013), perceived vividness (Han & Fink, 2012), and perceived similarity (Moyer-Gusé, 2008). Research on these mechanisms has substantially advanced narrative persuasion theory over the past two decades. However, most of these studies examine mediation for narratives alone rather than in a comparative design. Niederdeppe et al. (2011) noted that one reason for this approach is that constructs of interest are often operationalized for narratives specifically. For instance, processes such as transportation and perceived realism are theorized to be mechanisms unique to narrative persuasion. Thus, research that "seeks to understand when and why narratives are more or less persuasive than

argument-based messages is unlikely to be able to directly compare messages on these features" (p. 300).

The present study focusses on exploring potential mediators of the relationship between modality (specifically narrative- vs. non-narrative, or argument-based, messages) and purchase intentions. Although some research has begun explicating the mechanisms by which narratives exert influence on persuasive outcomes (e.g., Chang, 2009; Escalas, 2004, 2007; Lien & Chen, 2013), many potential mechanisms remain unexplored (e.g., narrative believability; Yale, 2013) or exist as theoretical propositions (e.g., counterarguing; Slater & Rouner, 2002) in the context of narrative advertising.

The exploration of indirect effects does not require a significant direct effect (Hayes, 2013). Yet, narratives have generated greater direct persuasive effects in a variety of contexts (e.g., advertising, Polyorat, Alden, & Kim, 2007; health behavior, Kreuter et al., 2010; entertainment education, Moyer-Gusé, & Nabi, 2010; public policy, Niederdeppe, Heley, & Barry, 2015). Thus, it is logical to hypothesize greater direct impact for narratives than non-narratives, in addition to exploring indirect pathways.

> H1: Narrative ads will generate greater changes in intention compared to non-narrative ads.

Believability

Messages are often evaluated by the degree to which they are perceived as presenting realistic or believable information. Of these related constructs, perceived realism has been theorized as a distinctively narrative process driven by deep engagement with the story world (Busselle & Bilandzic, 2008). Alternately, believability is a construct that has been examined across message types, including evaluation of argument-based messages (Rangamath, Spellman, & Joy-Gaba, 2010), thus lending itself to comparative research. For example, in one such study, Slater et al. found narrative messages were perceived as more believable than didactic messages about nutrition (Slater, Buller, Waters, Archibeque, & LeBlanc, 2003). Believability has been demonstrated to function as a process influencing the persuasiveness of narratives, and past research has modeled believability as a four factor model comprising coverage, consistency, plausibility, and completeness (Yale, 2013). Coverage is the extent to which a message contains all of the information expected by the audience—in other words, no "loose ends" remain at the conclusion of the message. Consistency is the extent that a message's internal elements are in agreement with one another. Plausibility is the extent to which a message is consistent with the perceiver's beliefs about the way things typically happen in similar situations. Completeness is the extent to which a message contains the expected structure and flow; that is, it does not feel as though an element is missing. Messages perceived as more believable are more likely to influence intentions and future behaviors, thus it is of interest whether believability mediates the relationship between advertisement modality (narrative- vs. argument-based) and purchase intentions:

H2: Believability will mediate the relationship between modality and purchase intentions. Narrative ads will be perceived as more believable than non-narrative ads, which in turn will lead to higher purchase intentions.

Counterarguing

Another possible mechanism of narrative influence is the reduction of counterarguing. Resistance to messages has long been an obstacle for persuasion scholars (Moyer-Gusé & Nabi, 2010). Research on resistance to persuasive messages has identified a number of reasons why recipients may actively fight against a message, such as the formation of counterarguments or low levels of perceived vulnerability to the issue (Moyer-Gusé, 2008). Early research in this area has suggested that narratives hold promise as mitigators of resistance to persuasion (Bilandzic & Busselle, 2013; de Graaf et al., 2011; Moyer-Gusé & Nabi, 2010; Slater & Rouner, 2002).

In traditional argument-based appeals, a key obstacle to persuasive effects is the audience's formation of counterarguments that push back against the message. Counterarguing is the formation of direct rebuttals (Zuwerink Jacks & Cameron, 2003) or "thoughts that dispute or are inconsistent with the persuasive argument" (Slater & Rouner, 2002, p. 180). Narrative appeals offer an opportunity to circumvent the audience's ability to form counterarguments and resist messages by absorbing audiences into the story and fostering involvement with story characters. Slater and Rouner (2002) argued that "absorption in a narrative and counterarguing are fundamentally incompatible," such that messages that successfully absorb audiences in the message should necessarily produce lower levels of resistance (p. 180).

Two theoretical models have posited reduction of counterargument as a key process through which narratives may achieve persuasive outcomes. In the extended elaboration likelihood model (E-ELM), Slater and Rouner (2002) posited that unlike argument-based messages, narratives contain more subtle forms of persuasion as arguments are embedded within storylines. The model states that as audience involvement with stories and characters increases, the motivation to form counterarguments is necessarily reduced. Similarly, Moyer-Gusé's (2008) entertainment overcoming resistance model postulated that as narratives increase parasocial interaction with story characters, counterarguments will be reduced, resulting in greater persuasive effects. Other scholars have also taken up this overcoming resistance approach to the study of narrative mechanisms. For example, well-constructed narratives have been theorized to limit counterarguments through reduction of biased processing (Dal Cin, Zanna, & Fong, 2002). However, Dal Cin et al. noted that these theorized mechanisms are still largely untested within narrative persuasion research.

Interestingly, emerging research suggests the relationship between counterarguing and persuasive effects may at times be inconsistent with other theorized explanations of narrative persuasion. For example, contrary to hypotheses, Moyer-Gusé and Nabi (2010) found transportation increases counterarguing in response to narratives, rather

than reduces argument generation as hypothesized. In that study, researchers postulated that participants may have detected and argued against the persuasive intent of the message, rather than the narrative itself.

More commonly, studies have produced evidence that narratives may generate a suppressive effect, producing low levels of counterarguing (e.g., Asbeek Brusse, Neijens, & Smit, 2010; Niederdeppe et al., 2011; Slater & Rouner, 1997), but these investigations more commonly compare effects across narrative conditions (see Ratcliff, 2017). It is possible that narratives in themselves suppress the presence of counterarguments, producing a floor effect (i.e., low levels) across various types of narrative conditions. Research that evaluates message content adapted into both narrative and alternative formats provides a way to distinguish the impact of narratives on counterarguing responses. To effectively measure whether narrative messages indeed reduce counterarguments, the present study includes both narrative- and argument-based messages, which allows for comparison of counterarguing effects across these two persuasion modalities. The current study is interested in whether narrative-based advertisements elicit less counterarguing compared to argument-based advertisements:

> H3: Counterarguing will mediate the relationship between modality and purchase intentions. Narrative ads will produce less counterarguing than non-narrative ads, which in turn will lead to higher purchase intentions.

Narratives and emotion

Emotional or affective response is a principal outcome of media exposure research (Potter & Riddle, 2007). Emotional response is often conceptualized as positive or negative global affective evaluations surrounding a product (Madden, Allen, & Twible, 1988). Past research indicates that narratives may possess a greater ability to evoke these affective responses as compared to argument-based messages (Escalas, Moore, & Britton, 2004). As people become engaged with a story, they are more likely to experience affective responses consistent with that story (Bae, 2008; Morgan, Movius, & Cody, 2009; Slater & Rouner, 2002). This could prove to be a powerful tool in persuasive messaging contexts, such as advertising.

Advertising research often evaluates affective attitude or emotional response toward the ad as a mediator of an ad's impact (MacKenzie, Lutz, & Belch, 1986; Mitchell & Olson, 1981; Shimp, 1981). Previous work on narratives has found that engagement in a story resulted in greater positive affective response towards sympathetic characters in the narrative as well as reduced negative responses to the story (Green, 2006). Considering this, it may be possible that these emotional responses to advertisements mediate the relationship between ad type and outcomes. Specifically, it is of interest whether narrative advertisements yield higher brand-consistent positive affect and lower brand-consistent negative affect compared to the argument-based ads, which may in turn increase attitudes towards the brand and purchasing intentions:

H4: Affective reaction will mediate the relationship between modality and purchase intentions. Narrative ads will elicit greater positive affect (H4a) and less negative affect (H4b) toward the ad than non-narrative ads, which in turn will lead to higher purchase intentions.

Method

Study design

A 2 (modality: narrative- vs. argument-based) × 2 (brand: Intel vs. Subaru) between-participants video advertisement experiment was embedded in an online survey. All participants completed a pretest measuring demographics and baseline purchase intentions, were randomly assigned to view one of four video advertisements, and then completed a posttest survey with measures of purchase intentions, believability, counterarguing, and affective reactions.

Participants and procedure

Participants were recruited to participate in the study by a national online sampling firm (Qualtrics Panels) over a period of seven days. Screening questions, similar to those suggested by Downs, Holbrook, Sheng, and Cranor (2010), were embedded in the survey to identify nonattentive participants. All participants were age 18 or older living in the United States.

A total of 241 participants completed the online survey, with representatives from 43 U.S. states. Twenty-seven participants failed one or more of the attention checks or failed to stay on the video advertisement pages for the duration of the videos, resulting in a final sample of 214. The sample included more females (57.3%) than males (42.7%), and one participant did not report sex. Eighty-three percent of the sample identified as white, 11.2% as black or African American, 3.6% Hispanic, Latino, or Spanish origin, 1.4% as Asian Indian, 1.4% as American Indian or Alaska Native, 1.4% as Chinese, .5% as Japanese, .5% as Filipino, 1.0% as other Asian or Pacific Islander and 1.4% as other race or ethnicity (participants could select more than one race or ethnicity). For income, 57% of respondents reported annual household incomes below $50,000. Participants ranged in age from 18 to 75 years ($M = 45.8$, $SD = 15.8$, $Mdn = 47.0$). In terms of highest completed education, 13.1% of participants had no high school diploma, 30.5% had a high school diploma, 26.3% had some college credit, vocational training, or an associate's degree, 19.7% had a four-year degree, and 10.4% had a graduate or professional degree.

Stimuli

Stimuli consisted of four unmodified video advertisements from two nationally advertised brands (Subaru and Intel). The inclusion of ads from these two brands functioned as a replication factor to increase generalizability across messages. Videos collected for each brand included a narrative-based video and an argument-based video for comparison. All the videos contained similarly high production value and

included a narrator speaking over instrumental music. Ads were classified as narratives if the study team agreed that they met the elements of Kreuter et al.'s (2007) definition of narrative, including a clear connection among events and characters, a defined sense of space or time (i.e., a logical timeline could be constructed from story elements), and an implicit or explicit message about the topic (brand). Argument-based messages were classified based on a lack of characters and events and presentation of direct arguments and facts.

The Subaru narrative told the story of a family who survives a substantial car accident. The ad features a sequence of scenes in which observers of a single wreckage from a car accident note that the passengers had survived. The final scene flashes back in time to show a family (mother, father, and two children) climbing into the as-yet unwrecked vehicle, while the father states "we survived." The Subaru argument-based messages included a narrator identifying various features of a new car model while zooming in on parts of the car. Both of these ads focused on the message linking this brand to safety. Both were shortform ads, with run times of 30 seconds each.

The Intel narrative featured the story of an entrepreneur who developed a lab to 3D print prosthetic limbs for a young man wounded in South Sudan. The ad includes sequential scenes focusing on these two main characters as a team that carries out a project to build functional prostheses. The final scene flashes back to the entrepreneur at home in the United States, indicating that his motivation for the project stemmed from his own family. The Intel argument-based messages featured an off-screen narrator discussing computer features that are enabled by Intel technology. Both ads focused on the message linking this brand to innovation. Both Intel ads were longer in form, with run times of 3 minutes and 1 minute 10 seconds, respectively.

In each condition, a single ad was shown on a simple streaming media player embedded on a blank survey page. All ads were rendered to enable high streaming quality. Ads showed original content and were not manipulated by the research team. Thus, the stimuli represented actual narrative and non-narrative advertisements from nationally-recognized brands marketed during the same time periods. Viewing times for all videos were recorded in order to screen for participants who did not remain on the webpage long enough to view the video in entirety.

Measures

Purchase intentions

A primary goal of advertising as a practice is to increase customer purchase intentions (Spears & Singh, 2004), the personal action tendencies relative to a brand (Bagozzi, Tybout, Craig, & Sternthal, 1979; Ostrom, 1969). Intentions were measured before and after exposure to the stimuli using Spears and Singh's (2004) purchase intentions scale. All items are semantic differential scored on a 7-point scale. Participants responded to the prompt "Would you consider purchasing [brand] in the future?" with sample anchors including *never* to *definitely*, *definitely not buy it* to *definitely buy it*, and *probably not buy it* to *probably buy it.* As a scale, items exhibited excellent reliability with a Cronbach's alpha of .98 in the pretest ($M = 4.34$, $SD = 1.72$) and .97 in the posttest ($M = 4.70$, SD

= 1.73). The pretest and posttest intention measures were highly correlated ($r = .81$, $p < .001$). To assess change following exposure, a difference score was constructed by subtracting pretest purchase intentions scores from posttest purchase intentions scores ($M = .37$, $SD = 1.07$). Watkins' (2008) reliability of difference scores calculator was utilized to examine the reliability of the difference. The reliability of the difference was high (.87). Higher scores indicate greater change in purchase intentions following exposure. The intention difference score served as the outcome for this analysis.

Believability

Believability refers to the effects of a message's characteristics that make it more or less believable and thus acceptable as a basis for motivating attitudes, beliefs, or behaviors. Believability was measured using a modified version of the narrative believability scale (NBS-12, Yale, 2013). Yale (2013) identified four factors underlying narrative believability, but the current study modified his original measure to capture believability for both narrative and non-narrative messages. The modification involved the replacement of the word "story" with "advertisement" in each of the items. Participants responded on a 7-point scale anchored by *strongly disagree* and *strongly agree*. Sample items include "I believe this advertisement could be true," "The information presented in this advertisement was consistent," and "There was important information missing from this advertisement" (wording, labels, means, and standard deviations for all 12 items are included in Appendix A, see Supplementary material online).

Because the scale was modified, a confirmatory factory analysis (CFA) was carried out using LISREL 9.30 to examine the underlying structure of the measure (Jöreskog & Sörbom, 2017). For CFA, a key question is whether the data are normal or non-normal. Past research has observed that data is typically the latter, yet researchers rarely test or report it (Micceri, 1989). Consistent with this research, the believability items, as a group, exhibited significant multivariate abnormality, skewness = 57.26, z-score = 25.36, $p < .001$, and kurtosis = 266.22, z score = 13.17, $p < .001$.

When data is non-normal, researchers can utilize the Satorra–Bentler (S–B) χ^2, which is based on the asymptotic covariance matrix, as used for this CFA (Satorra & Bentler, 2010). We also examined the χ^2/df ratio (below 3 indicates good fit; Kline, 2004), comparative fit index (CFI greater than .95; Hu & Bentler, 1999), root mean square error of approximation (RMSEA; .08 or lower; Browne & Cudeck, 1993; Holbert & Stephenson, 2008), standardized root mean square residual (SRMR; .08 or lower; Hu & Bentler, 1999), and Model Akaike information criterion (AIC; Akaike, 1987). Model AIC is a good way to compare different models as scores can be directly compared across models and lower scores indicate superior fit.

Initially, we tested a model with all 12 items loading on a single latent factor; it was a poor fit for the data, S–B χ^2 (54, $N = 214$) = 359.49, $p < .001$, χ^2/df ratio = 6.66, CFI = .89, RMSEA = .19, 90% CI [.17, .20], SRMR = .16, Model AIC = 407.49. Next, we tested Yale's (2013) four-factor model. The four-factor model was also a poor fit for the data, S–B χ^2 (48, $N = 214$) = 178.80, $p < .001$, χ^2/df ratio = 3.73, CFI = .95, RMSEA = .13, 90% CI [.11, .15], SRMR = .17, Model AIC = 238.80. Of concern, the

Yale model revealed significant correlations between plausibility and consistency ($r = .90$) and completeness and coverage ($r = .96$). A hierarchical model was tested with believability as a first order factor and plausibility, consistency, completeness, and coverage as second order factors. The hierarchical model was not a good fit, S–B χ^2 (50, $N = 214$) $= 317.30$, $p < .001$, χ^2/df ratio $= 6.35$, CFI $= .90$, RMSEA $= .18$, 90% CI [.16, .20], SRMR $= .18$, Model AIC $= 373.30$. The correlations between Yale's four factors suggested a possible two factor solution wherein plausibility/consistency and completeness/coverage combined (combined factors labeled plausibility and completeness). The two-factor model was a better fit for the data (superior Model AIC), but still short of conventional fit standards, S–B χ^2 (53, $N = 214$) $= 184.80$, $p < .001$, χ^2/df ratio $= 3.49$, CFI $= .95$, RMSEA $= .12$, 90% CI [.10, .14], SRMR $= .18$, Model AIC $= 234.80$.

An examination of the models revealed that four items were loading poorly on their respective factors (P2, CN3, CM1, CV3; see Appendix A, see Supplementary material online). All four items were cut, and the two-factor model was tested again with four items for plausibility (P1, P3, CN1, CN2) and four for completeness (CM2, CM3, CV1, CV2). The eight-item, two-factor model was a good fit for the data, S–B χ^2 (19, $N = 214$) $= 33.78$, $p = .028$, χ^2/df ratio $= 1.78$, CFI $= .99$, RMSEA $= .07$, 90% CI [.03, .11], SRMR $= .04$, Model AIC $= 67.78$ (see Appendix B, see Supplementary material online). No error terms were allowed to covary in this model. The correlations between the combined factors was .42. Thus, the eight-item, two-factor model was retained: plausibility ($\alpha = .92$, $M = 5.42$, $SD = 1.29$) and completeness ($\alpha = .90$, $M = 5.24$, $SD = 1.61$).

Counterarguing

Counterarguing was measured using a five-item scale adapted from Nabi, Moyer-Gusé, and Byrne (2007). The scale was adapted by replacing references to the "author" with references to the "advertisement." Participants respond on a 5-point scale anchored by *strongly disagree* and *strongly agree*. Sample items include "I found myself actively agreeing with the advertisement," "I was looking for flaws in the advertisement," and "I wanted to correct one or more points in the advertisement." As a scale, the counterarguing measure demonstrated adequate reliability ($\alpha = .75$, $M = 2.25$, $SD = .79$).

Affective reaction

Affective reaction to an advertisement (Holbrook & Batra, 1987; Shimp, 1981) was measured using Madden et al.'s (1988) positive and negative affective measures of attitude toward an ad. Positive affect toward the ad is a five-item subscale in which participants report whether the ad for the brand made them feel good, cheerful, pleased, stimulated, or soothed, scored on a 7-point scale from *not at all* to *very much so*. The positive affect subscale exhibited excellent reliability, with a Cronbach's alpha of .96 ($M = 4.58$, $SD = 1.68$). Negative affect toward the ad is a three-item subscale in which participants report whether the ad for the brand made them feel insulted, irritated, or repulsed, scored on the same scale as the positive affect subscale. The negative affect subscale also demonstrated excellent reliability, with a Cronbach's alpha of .94 ($M = 2.16$, $SD = 1.71$).

Analysis

As a first step, a correlation matrix was constructed to examine bivariate relationships between all of the study variables. Not only does this provide readers with the bivariate relationships in the dataset, but it also helps to inform subsequent multivariate analyses. For instance, Preacher and Hayes (2008) noted that researchers should be mindful of correlations between mediator variables in multiple mediator models as they are common and can attenuate indirect effects. Understanding correlations between mediators is key as multiple mediation analyses "do not compare two mediators in their ability to mediate, but rather their unique abilities to mediate, above and beyond any other mediators or covariates in the model" (Preacher & Hayes, 2008, p. 887). It has been argued that collinearity issues manifest only when correlations are .80 or higher (Midi, Sarkar, & Rana, 2010), but others have argued that even small correlations can be problematic in multiple mediation models (Imai & Yamamoto, 2013; Loeys, Moerkerke, & Vansteelandt, 2014). Given the conceptual overlap between several mediators (e.g., counterarguing and negative emotions), it is important to carefully consider all correlations between mediator variables and how these might attenuate indirect effects.

Bivariate correlations aside, this study utilized an experimental design to examine the relative impact of modality on purchase intentions (H1) and to test mediational pathways (H2–H4). Brand was included as a replication factor, but one with only two levels (Intel, Subaru). Thus, brand is examined as a moderator in all hypothesis-driven analyses to examine whether the relationships replicated.

H1 was directly tested via a two-way ANOVA with modality and brand as fixed factors and purchase intentions as the dependent outcome. To test the indirect paths (H2–H4), the effects of modality on persuasive outcomes were evaluated using a conditional process modeling program, PROCESS, which uses ordinary least squares regression-based path analysis to estimate direct and indirect effects in mediated models (Hayes, 2013). In light of the expected relationships between modality, plausibility, completeness, counterarguing, positive and negative emotional reaction, and purchase intentions, PROCESS model 8 was used to first test five moderated mediation models, each of which included a single mediator (H2–H4). Finally, we also conducted a *post hoc* analysis to test for unique mediational pathways using a combined moderated mediation model with all five mediators entered in parallel. The testing of both single and multiple mediation models allowed us to address the potential limitations inherent in either approach as we interpreted results. In each of these six models, modality was included as an independent variable, brand as a moderator, and intention the dependent variable. All detected indirect effects were followed with bootstrap analyses with 10,000 samples and 95% bias-corrected.

Results

Bivariate correlation matrix

Results of the correlation matrix examining all zero-order relationships are reported in Appendix C, see Supplementary material online. Compared to non-narratives,

narratives yielded greater changes in intentions ($r = .20$, $p = .003$), were viewed as more plausible ($r = .14$, $p = .039$) and complete ($r = .18$, $p = .009$), and triggered less counterarguing ($r = -.21$, $p = .002$) and more positive affect ($r = .20$, $p = .003$). All five mediator variables were significantly related to purchase intentions. Plausibility ($r = .15$, $p = .025$), completeness ($r = .22$, $p = .001$), and positive emotions ($r = .21$, $p = .003$) were positively correlated with intentions whereas counterarguing ($r = -23$, $p = .001$) and negative emotions ($r = -.18$, $p = .009$) were negatively correlated with intentions.

Perhaps unsurprisingly, several of the mediators were strongly correlated with each other (Preacher & Hayes, 2008). Counterarguing was strongly correlated with plausibility ($r = -.60$, $p < .001$), completeness ($r = -.68$, $p < .001$), and negative emotion ($r = .56$, $p < .001$), positive emotion was strongly correlated with plausibility ($r = .52$, $p < .001$), and negative emotion was strongly correlated with completeness ($r = -.68$, $p < .001$).

Impact of modality on purchase intentions

An ANOVA revealed a significant main effect for modality, $F(1, 231.30) = 8.86$, $p = .003$. Narrative ads generated greater changes in intention ($M = .59$, $SD = 1.08$) compared to non-narrative ads ($M = .16$, $SD = 1.02$, Cohen's $d = .41$; see Table 1 for means and standard deviations by condition). Thus, H1 was supported. There was no significant main effect for brand, $F(1, 231.30) = 1.41$, $p = .24$, and no significant interaction for modality × brand, $F(1, 231.30) = .29$, $p = .59$.

Moderated mediation analyses

One objective of this research is to examine mediational pathways—whether narratives and non-narratives exert influence via different routes—a question best answered via mediation analysis (Hayes, 2013). First, we tested each mediator variable in a separate moderated mediation model. Second, we tested all five mediators simultaneously in a parallel mediation model. This approach is ideal as the single mediator models test H2–H4 (i.e., does each mediator explain the relationship between modality and

Table 1 Purchase Intentions by Modality, Brand, and Modality × Brand

	Intel	Subaru	Total	
Non-narrative	.21 (1.28)	.12 (.70)	.16 (1.02) ⎤	$p = .003$
Narrative	.72 (1.13)	.47 (1.02)	.59 (1.08) ⎦	
Total	.45 (1.23)	.29 (.88)	.37 (1.07)	

Note. $N = 214$. Means with standard deviations in parentheses. Only two means are significantly different: non-narrative—total ($M = .16$, $SD = 1.02$) versus narrative—total ($M = .59$, $SD = 1.08$), $F(1, 231.30) = 8.86$, $p = .003$, Cohen's $d = .41$. Cell sizes are: non-narrative, Intel ($n = 55$); non-narrative, Subaru ($n = 56$); narrative, Intel ($n = 50$); narrative, Subaru ($n = 53$); non-narrative total ($n = 111$); narrative total ($n = 103$); Intel total ($n = 105$); Subaru total ($n = 109$).

Table 2 Single Mediator Models: Conditional Indirect Effect(s) of Modality on Purchase Intentions at Values of the Moderator (Intel vs. Subaru)

		b	Boot SE	Boot CI
Plausibility	Intel	.0690	.0555	−.0221, .2027
	Subaru	.0057	.0317	−.0433, .0942
Completeness	Intel	.0956*	.0530	.0166, .2309
	Subaru	.0527	.0460	−.0147, .1722
Counterarguing	Intel	.1138*	.0568	.0302, .2562
	Subaru	.0622	.0486	−.0105, .1845
Pos. Affect	Intel	.0920*	.0479	.0245, .2242
	Subaru	.0480	.0384	−.0087, .1514
Neg. Affect	Intel	.0739*	.0498	.0052, .2007
	Subaru	−.0008	.0349	−.0764, .0693

Note. Conditional indirect effect for single mediator models. The table shows the indirect effect by mediator (e.g., plausibility) and brand (e.g., Intel). Four indirect pathways were significant (completeness, counterarguing, positive affect, and negative effect) but only for the Intel ad conditions. Significant pathways highlighted in gray to ease comprehension of the table. *$p < .05$.

purchase intentions?) and the parallel mediation model allowed for *post hoc* analyses of the meditators in combination (i.e., do any of the variables explain unique variance when entered in the same model?). This two-step approach also aids interpretation as it tests whether each mediator variable independently explained variance mindful of the fact that the combined model may have attenuated indirect effects (Preacher & Hayes, 2008).

Single mediator models

In this analysis, brand did matter; mediation was observed for the Intel condition. For participants viewing the Intel ads, four of the five mediators significantly mediated the relationship between modality and intention (see Table 2). The Intel narrative was viewed as more complete, triggered less counterarguing, and evoked more positive and less negative emotions than Intel non-narrative (see Figure 1). These results did not replicate for Subaru. These results provided partial support for H2, H3, and H4a–b as four of the mediators were significant, but only for the Intel ads.

Multiple mediator model

A potential concern with individual mediation models is the inability to evaluate the performance of potential mediators simultaneously; that is, do any of the variables continue to mediate when controlling for the effects of others? Thus, a *post hoc* moderated meditation model was also tested with all of the mediator variables included in parallel in a single model (see Table 3). In the combined model, only positive emotion was a significant mediator, and only for the Intel ads, $r = .11$, bootstrapped $SE = .07$,
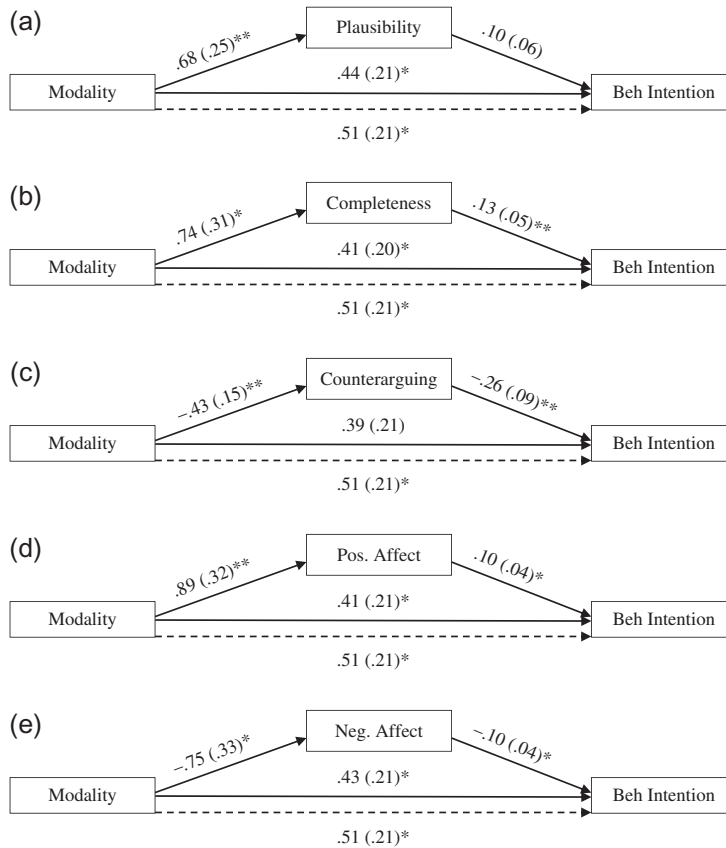
Figure 1 Single mediator models for those viewing Intel ads. All coefficients are unstandardized. $^*p < .05$. $^{**}p < .01$.

95% CI [.0129, .3016]. Thus, positive affect explained unique variance in the relationship between modality and purchase intentions in the combined model.

Discussion

The present study investigated the persuasive influence of narrative and non-narrative messaging in an advertising context. Consistent with a recent meta-analysis (Zebregs et al., 2015), results indicated that narratives had a stronger impact on intention compared to non-narratives across the two brands. As the field of narrative persuasion has progressed, researchers have shifted scholarly attention from simply investigating whether narratives or argument-based messages are more persuasive in specific communicative contexts to explicating the processes driving these effects (e.g., Chang, 2009; Escalas et al., 2004; Escalas, 2004; Lien & Chen, 2013; Quintero Johnson & Sangalang, 2017; Van Laer et al., 2014). The present study continued this process-oriented research

Table 3 Parallel Mediation Model: Conditional Indirect Effect(s) of Modality on Purchase Intentions at Values of the Moderator (Intel vs. Subaru)

		b	Boot SE	Boot CI
Plausibility	Intel	−.0322	.0722	−.2372, .0835
	Subaru	−.0037	.0290	−.1081, .0319
Completeness	Intel	.0658	.0662	−.0311, .2415
	Subaru	.0384	.0506	−.0191, .2038
Counterarguing	Intel	.0149	.0671	−.1106, .1619
	Subaru	.0084	.0428	−.0629, .1215
Pos. Affect	Intel	.1085*	.0694	.0129, .3016
	Subaru	.0566	.0517	−.0075, .2168
Neg. Affect	Intel	.0416	.0669	−.0464, .2427
	Subaru	−.0004	.0305	−.0743, .0585

Note. Conditional indirect effect for the parallel mediation model. The table shows the indirect effect by mediator (e.g., plausibility) and brand (e.g., Intel). In the parallel model, only one indirect pathway was significant (positive affect) and only for the Intel ad condition. Significant pathways are highlighted in gray to ease comprehension of the table. $*p < .05$.

by testing several possible mechanisms of persuasion to investigate the ways in which narrative- and argument-based messages may exert their effects.

Results of moderated mediation analyses extended the evidence base for believability, counterarguing, and positive and negative affect as mechanisms of narrative persuasion. First, H2 posited that believability would serve as a mediator of modality and intention. One dimension of believability, completeness, mediated this relationship for one of the two brands. Not surprisingly, narratives were deemed more complete than argument-based messages. There are a few possible explanations for this result. Although the believability scale was adapted for use across different message modalities, it is possible that the role of completeness is more likely to be conveyed through narrative structure, as message elements are pieced together by the audience to form the storyline. This finding is consistent with Cho et al.'s (2012) conceptualization of perceived narrative consistency as a key dimension of perceived realism, a narrative-specific construct related to believability. To further explore the completeness dimension, future studies could evaluate the relative effects of believability and perceived realism as mediators of narrative persuasion. At the same time, results did not support the plausibility dimension of believability. It could be that audiences do not expect commercial advertising messages to present plausible or realistic scenarios. As a result, plausibility may be less essential to engaging audiences and inducing persuasive effects. Future research should continue to refine the adapted believability scale and investigate the degree to which each dimension impacts message engagement.

Second, it is of significant interest that the narrative ad produced less counterarguing than the non-narrative ad in the Intel narrative condition (H3). This is consistent with theory and with the majority of prior empirical findings (see Ratcliff, 2017).

However, not all past research found counterarguing to be lower in narrative conditions than non-narrative conditions (e.g., Moyer-Gusé & Nabi, 2010). There are several possible reasons narratives would fail to reduce counterarguing in some cases. One possibility is that research has typically used narratives designed to enhance narrative transportation or "absorption into a story" (Green & Brock, 2000, p. 701). Gerrig (1993) proposed that highly absorbed readers may engage in anomalous replotting, whereby thoughts are generated about what characters could have done differently to change an unexpected or unfortunate outcome. It is possible that current measures of counterarguing are sensitive to anomalous replotting thoughts, increasing the measured presence of counterarguments even though subjects are not actually generating arguments against the persuasive themes in the narrative. Another possibility is that some narrative stimuli are less conducive to transportation and in turn have a weaker attenuating effect on counterarguing (Ratcliff, 2017; Van Laer et al., 2014). Either possibility could explain the finding in the present study that counterarguing served as a less robust mediator, compared with plausibility and positive affect.

Consistent with past research (MacKenzie et al., 1986; Mitchell & Olson, 1981), the present study found both positive and negative affect served as mediators (H4). Overall, the stimuli produced relatively low negative affective reactions and relatively high positive affect for Intel narratives. That they did not produce substantial negative affect may be a result of the message's content (depicting a successful innovative health solution), portraying a happy conclusion likely intended to stimulate positive emotions in relation to the brand. Additionally, positive affect explained unique variance in a combined model containing all theorized mediators. A fruitful question stemming from these results is whether emotion is a necessary ingredient for a narrative. Past work indicates narratives have tended to be persuasive on emotional rather than cognitive levels (e.g., Kopfman, Smith, Ah Yun, & Hodges, 1998; Murphy et al., 2013). While non-narratives may engage and persuade through paths that do not require stimulation of emotion (e.g., perceived salience, cognitive elaboration), frequently cited mechanisms of narrative persuasion all contain measures of emotional response (e.g., transportation, Green & Brock, 2000; identification, Cohen, 2001). Thus, it may be the case that quality narratives are ones that inherently trigger emotional responses to the story in a message. A strength of this study was the use of both single and multiple mediation models to examine the indirect effects of hypothesized processes. This approach bolstered our conclusion that positive affect appears to contribute uniquely to the narrative persuasion process. In light of the study findings, positive affect warrants additional investigation as an explanatory mechanism in narrative persuasion research that may complement processes of narrative engagement that have been more extensively theorized and studied to date.

Finally, while narrative condition predicted purchase intention across both brands, hypothesized mediators only explained the persuasion process for the Intel ad. That is, the mediation models did not replicate for Subaru. One explanation for this difference is that the products (computer chip, car) are quite different. It is possible that product type changes how we perceive and react to message features. An alternative

explanation is that the Intel ad was longer than the Subaru ad. It is possible that narratives may require sufficient time to stimulate audience engagement with characters and story elements, and that the shorter form of the Subaru ads did not reach a threshold necessary to trigger these processes. Other mechanisms, such as perceived vividness of the message (Han & Fink, 2012), could be explored to identify how persuasion occurs for shorter narrative messages. For examples, while narratives may evoke vivid images for audiences, such imagery can also distract from a message. Thus, the impact of perceived vividness and other processes may differ across narratives of different lengths.

This study had several limitations. First, although this study used two brands and multiple examples of their advertising (i.e., message replications), this represents only a tiny fraction of all possible actual advertisements. Further, the products of both brands are relatively expensive, and may not represent responses to lower cost brand messages. Future studies could consider possibilities for classifying advertisements (for example, by price point) and sampling within classes to obtain more representative messages. Second, although purchase intention is an established, widely-used concept within advertising research, it may be conceptually different from actual purchase behavior. Another potential limitation is the use of a counterarguing scale. Counterarguing has previously been assessed through one of two approaches in the literature: thought listing or a multi-item scale, each of which carries its own strengths and limitations (Bilandzic & Busselle, 2013). A constraint of the scale approach is the inability to categorize the counterarguments (e.g., is the argument countering the message's source or content?). Future studies could attempt to replicate the present findings using a thought-listing approach or a comparative approach utilizing both types of measurement to better understand the nature of counterarguing against narrative advertisements. Finally, the use of difference scores has been a topic of some debate (see, e.g., Edwards, 2001; Thomas & Zumbo, 2012). Calculating differences between pre- and posttest purchase intentions allowed us to account for within-participant changes and assess the *relative* impact of message exposure in a parsimonious set of mediation models. Researchers should consider the use of difference scores alongside alternative approaches, including controlling for pretest scores as a covariate in regression models or testing structural equation models with repeated measures, as each approach contains its own limitations.

This study highlights the need for continuing investigations into the mechanisms of narrative impact in comparative message research. The study provides evidence that narrative persuasion processes can be observed even in the context of relatively brief messages occurring in overtly persuasive communication contexts (i.e., advertisements). Results also offer preliminary evidence for the successful adaptation of a narrative believability scale for measurement of both narrative and argument-based message processing. Believability, counterarguing, and emotional response are promising constructs in narrative persuasion research and should be investigated across a variety of communication contexts using longer-form narratives. Findings contribute to the body of narrative persuasion knowledge by offering evidence for several mediating pathways that can explicate effects across message modalities.

Supplementary Material

Supplementary material is available at *Human Communication Research* online.

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