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Beyond Personal Responsibility: Examining the Effects of Narrative Engagement on Communicative and Civic Actions

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Obesity is the second-leading cause of preventable death in the United States (Mokdad, Marks, Stroup, & Gerberding, 2004) and is associated with various health issues (Kumanyika et al., 2008). With more than two thirds of adults in the U.S. being overweight or obese, obesity is a serious threat to public health (U.S. Department of Health and Human Services, 2017). The number of obese people worldwide has tripled since 1975, making it a growing health concern globally (World Health Organization, 2018).

Personal responsibility-taking behaviors, such as adopting a healthy diet and maintaining physical activity, are undoubtedly a critical target of change for prevention efforts (e.g., Hwang et al., 2011; Lee & Shapiro, 2016). Meanwhile, researchers are turning attention to the larger social environment for obesity prevention, such as increasing the availability of affordable healthy foods or exercise facilities (e.g., Lee & Kim, 2017; Lee, Shapiro, & Niederdeppe, 2014; Niederdeppe, Shapiro, Kim, Bartolo, & Porticella, 2014). Promoting such social changes requires mobilizing the participation of a larger public, not just the at-risk populations. For that purpose, it is necessary to create and reinforce the public’s awareness of obesity as a societal problem and elevate their collective efforts to address it as such. Beyond personal responsibility, therefore, evoking communicative and civic actions for societal-level changes are also important goals of obesity prevention efforts.

This study builds upon the line of research using “policy narratives” (Niederdeppe, Roh, & Shapiro, 2015; Niederdeppe, Shapiro, & Porticella, 2011) that highlight social determinants of obesity and promote prosocial behaviors. We examine two sets of outcomes beyond personal responsibility-taking: communicative behaviors (e.g., interpersonal talk and online message sharing) and civic behaviors (e.g., support for public policy and intention to donate to a non-profit organization). These behaviors capture indirect routes of enhancing public health via reinforcing positive values and norms and promoting policy and social change (Wakefield & Hornik, 2010). Specifically, our study examines how a narrative vs. nonnarrative message about obesity may influence such behaviors through two narrative engagement processes, transportation and empathy. Data from a web-based experiment collected via Amazon Mechanical Turk were analyzed and reported.

Narrative Engagement

A narrative is 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). Narratives are increasingly used as a message strategy to shape health-related decisions (e.g., McKinley, Limbu, & Jayachandran, 2017). Recent meta-analyses have demonstrated the effectiveness of narrative persuasion (e.g., Braddock & Dillard, 2016; Shen, Sheer, & Li, 2015).

To explain narrative effects, various constructs of narrative engagement have been evoked (Bilandzic & Busselle, 2013). By depicting vivid and emotionally-evocative images and...
stories, narratives absorb audience members (Green & Brock, 2000) and subsequently shift their beliefs, attitudes, or behaviors to align with those suggested in the message (van Laer, de Ruyter, Visconti, & Wetzels, 2014). Narrative engagement can be story-based, as is captured by the notion of transportation, highlighting the immersion with the story itself; or it can be character-based, when engaging with the main protagonist(s) leads to a temporary loss of self-identity (identification, Cohen, 2001), generates empathic thoughts and feelings (empathy, Campbell & Babrow, 2004), or creates vicarious experiences of interacting with characters (parasocial interaction, Rubin, Perse, & Powell, 1985). Our study focuses on transportation and empathy, a story-based and a character-based narrative engagement construct respectively.

Transportation

Transportation refers to the process of becoming absorbed in the plot of a story (Green & Brock, 2000). It is “an engrossing temporary experience” (van Laer et al., 2014, p. 800) which distracts audience from critical processing or message scrutiny, thereby facilitating persuasion (Slater & Rouner, 2002). Transported individuals are more easily “transformed” by the immersive experience in the narrative world (Green, Brock, & Kaufman, 2004). Meta-analyses have shown transportation to be a significant, positive predictor of persuasive outcomes (Tukachinsky & Tokunaga, 2013; van Laer et al., 2014).

In health communication research, there has been consistent evidence of narrative effect on transportation. For example, testimonial messages about excessive drinking generated more transportation than informational messages (Braverman, 2008). Participants reading a narrative vs. nonnarrative blog post about skin cancer prevention reported a higher level of transportation (Stavrosiouti & Kim, 2015). A recent study by Barbour, Doshi, and Hernández (2016) showed that narrative messages, compared to nonnarrative messages, induced greater transportation as they were perceived as containing a clear story structure, having less information load, and being more understandable and personally relevant.

Empathy

Empathy, a concept developed in earlier communication research to understand interpersonal and prosocial behaviors (e.g., Stiff, Dillard, Somera, Kim, & Sleight, 1988), is receiving increasing attention in narrative research. As Niederdeppe et al. (2015) commented, “failure to generate empathetic feelings … may be particularly detrimental in efforts to persuade” (pp. 7–8). Campbell and Babrow (2004) define empathy as “sharing the subjective experience of another person” (p. 160). Scholars agree that empathy is a multifaceted construct that includes both cognitive and affective aspects (Campbell & Babrow, 2004; Davis, 1983; Shen, 2010b). The cognitive aspect includes perspective-taking and active contemplation of others’ psychological experiences, whereas the affective aspect highlights experiencing others’ feelings and emotions.

A review by Coplan (2004) suggests that audience members do take the character’s perspective to process a story and its emotional implications. A few studies have shown state empathy to vary with narrative features (Niederdeppe et al., 2015; Zhou & Niederdeppe, 2017). In Oliver, Dillard, Bae, and Tamul's (2012) study, reporting the news about a stigmatized group in the narrative format elicited greater compassion and sympathy (akin to affective empathy) than its nonnarrative counterpart.

The above review leads to the following hypothesis about narrative engagement:

H1: Individuals exposed to the narrative versus nonnarrative message about obesity will report a higher level of transportation (H1a) and empathy (H1b).

Promoting Collective Action in Fighting Obesity

Following a holistic approach to public health (Abroms & Maibach, 2008), scholars have called for promoting communicative behaviors and social change as an integral part of building public health as a collective enterprise (Sun, 2014; Wallack & Lawrence, 2005). In answer to these calls, we explore narrative effects on communicative and civic behaviors in this study, which are important to (re-)shaping interpersonal and social environments for personal health behavioral decisions.

Communicative Behaviors

Talking with family, friends, and colleagues about a health issue and sharing related information are communicative acts that help spread awareness and impart knowledge. Through online and offline communication, information and influence can cascade through intersecting social networks. Such communicative behaviors expand the reach of a public health message, enable elaborations of a topic through discussions, and render abstract ideas more concrete, personal, and relatable (Seo & Matsagani, 2013; van Den Putte, Yzer, Southwell, de Bruijn, & Willemsen, 2011). In public communication campaigns, interpersonal communication is “a crucial link” between campaign efforts and desired outcomes (Southwell & Yzer, 2009, p. 1). Creating strategic messages that resonate with individuals and activate interpersonal communication, some scholars argue, should be an explicit goal of health communication campaigns (Morgan, 2009).

The body of narrative research on interpersonal outcomes is small but growing. The notion of “social proliferation” (Larkey...
& Hecht, 2010) describes the ensuing interpersonal processes after exposure to narrative messages. In social proliferation, individuals share the message with others, which diffuses “the promoted behavior through rehearsal and support” (Larkey & Hecht, p. 124). Through such processes, the message is reinforced and amplified, and peer support is enacted and propa gated. Lemal and Van Den Bulcke’s (2010) study demonstrated that readers of the narrative message about skin cancer were more likely to talk to family members or friends about the topic. In a recent study, Wang and Shen (2017) showed that participants tended to engage in more reciprocal online communication after reading a narrative versus a nonnarrative message.

Narrative effects on interpersonal communication, though less studied, may also be channeled by narrative engagement. By reducing critical responses (Slater & Rouner, 2002) or enhancing enjoyment (Green et al., 2004), transportation is likely to motivate diffusion behaviors. Barbour et al.’s (2016) recent study found that transportation mediated the narrative effects on message sharing intentions. Empathy, which entails responding to others’ distress compassionately (Levenson & Ruef, 1992), has been shown to generate greater interpersonal trust (Feng, Lazar, & Preece, 2004), lower resistance to persuasion (Shen, 2010a, 2011), and underlie the success of online support communities (Preece & Ghozati, 2001). Such evidence, though indirect, points to the possibility that increased empathy will prompt more communicative behaviors.

We thus predict narrative effects on two communicative behaviors, online message sharing and interpersonal talk. Transportation and empathy, as theorized psychological processes of narrative manipulation, are hypothesized to mediate the narrative effects (O’Keefe, 2003).

H2: The narrative message, compared to the nonnarrative message, will lead to greater intention to share the message online (H2a), mediated by transportation (H2b) and empathy (H2c).

H3: The narrative message, compared to the nonnarrative message, will lead to greater intention to talk to others about the message (H3a), mediated by transportation (H3b) and empathy (H3c).

Civic Behaviors

Civic, participatory behaviors aiming toward social change in public health have been espoused as a defining element of a healthy citizen. A health-enhancing sociopolitical environment, through resources, norms, and regulations, enables and sustains positive personal behaviors. Regarding obesity prevention, mobilizing the public’s support for societal measures has been the focus of a series of studies (e.g., Lee et al., 2014; Sun, Krakow, John, Liu, & Weaver, 2016). Our paper examines two civic behaviors: support for obesity-related public policies and intention to donate to a non-profit obesity-related organization.

Narrative researchers have lamented that “… little research has examined engagement with narratives promoting social change” (Zhou & Niederdeppe, 2017, p. 326, italics added). As transportation reduces message resistance and increases story-consistent beliefs, being transported into an obesity message that highlights societal factors may also heighten the reader’s awareness of the need for social change. Whereas Zhou and Niederdeppe (2017) found no relationship between transportation and public policy support, Barbour et al. (2016) showed transportation to mediate the narrative vs. nonnarrative effect on support for CDC’s global public health mission.

The general literature on empathy has consistently shown its relationship with prosocial or altruistic behaviors (Bagozzi & Moore, 1994; Batson, Fultz, & Schoenrade, 1987; Stiff et al., 1988). For example, empathic concern in Stiff et al.’s study positively correlated with volunteering for a non-profit organization. In narrative research, studies have suggested that affective empathy could be a predictor of prosocial behaviors. Oliver et al.’s (2012) study found that feelings of compassion induced by narrative messages led to greater willingness to help the targeted group. Similarly, individuals more emotionally involved in a narrative message indicated stronger intention to become an organ donor (Morgan, Movius, & Cody, 2009). Niederdeppe et al. (2015) also showed affective empathy to mediate effects of narrative features on public policy support.

Based on the above review, we propose the following hypotheses of narrative effects on two civic behaviors, support for public policies and intention to donate to a non-profit obesity organization, mediated by narrative engagement.

H4: The narrative message, compared to the nonnarrative message, will lead to stronger public policy support (H4a), mediated by transportation (H4b) and empathy (H4c).

H5: The narrative message, compared to the nonnarrative message, will lead to greater intention to donate to a non-profit organization (H5a), mediated by transportation (H5b) and empathy (H5c).

Method

Data and Participants

Data reported in this paper were collected for a 2 (message type: narrative vs. nonnarrative) x 3 (social exclusion experience: socially rejected vs. socially ignored vs. control) between-participants experimental study built on Qualtrics (www.qualtrics.com). The second experimental factor, social exclusion experiences, was not predicted or shown to influence the mediator or outcome variables used in this paper3 and was included as a control variable in all the analyses.

3Social exclusion was included as a factor to examine how one’s need to belong may be a psychological correlate of message sharing behaviors. Details of the manipulation of the social exclusion factor are available upon request from the authors. We examined its empirical role through two-way ANOVAs on transportation, empathy, interpersonal talk, message sharing, policy support, and donation intention. Across all the analyses, the interaction effects between social exclusion and narrative manipulation ranged from F(2, 461) = 0.05 to 0.80, with p-values of .45 or higher. The main effects of social exclusion ranged from F(2, 461) = 0.11 to 1.09, with p-values of .35 or higher.
Participants (N = 467) were recruited via Amazon Mechanical Turk (www.mturk.com) and were each paid $0.50 upon completion of the study. Participant age ranged from 18 to 77 years (M = 36.07, SD = 12.36), and 60% (n = 279, 3 non-respondents) were female. The majority were non-Hispanic White (75%). The median household income was between $40,000 and $59,000. Among them, 34% of them were obese (BMI > 30) and 26% were overweight (BMI > 25 and ≤ 30) (Centers for Disease Control and Prevention, 2017). Consistent with other MTurk samples (e.g., Berinsky, Huber, & Lenz, 2012; Zhou & Niederdeppe, 2017), ours tilted toward being liberal: 43% of the participants self-identified as Democrat, 24% as Republican, 28% as Independent, and 5% as “Something Else.” The political ideology of the sample (1 = very conservative, 5 = very liberal) also leaned toward being liberal (M = 3.30, SD = 1.16).

Message Manipulation
Message stimuli were modified from Niederdeppe et al. (2011). The nonnarrative message described the problem of obesity and its contributing factors; and the narrative message presented such information via a story about John, who suffered from obesity. The two messages were designed to include the same set of causal factors of obesity. Both messages were 398 words (see the Appendix). Given O’Keeffe’s (2003) argument that manipulation checks are not necessary for intrinsic message features, no manipulation checks were performed.

Key Measures
Transportation
We measured narrative transportation using the five-item short-scale from Appel, Gnambs, Richter, and Green (2015) (1 = strongly disagree; 5 = strongly agree). The items included: “I could picture myself in John’s situation (narrative condition)/in the situation of people in the message (nonnarrative condition),” or “While reading the message, I had a vivid image of John in the story/people in the message.” These items were averaged into one scale (Cronbach’s α = .80; M = 3.70, SD = 0.77).4

Empathy
We used Campbell and Babrow’s (2004) empathy scale, asking participants how much they empathized with “John” (narrative condition) or “obese people” (nonnarrative condition) (1 = strongly disagree; 5 = strongly agree). As the content of the items reflected two dimensions, cognitive and affective empathy, a confirmatory factor analysis was performed, which clearly favored a two-factor structure. One item on affective empathy and one on cognitive empathy had high cross-loadings and were removed from the model one at a time to achieve a satisfactory model fit. Retained items were respectively combined into subscales of affective empathy (four items, including “I felt upset for John/obese people;” Cronbach’s α = .88; M = 3.41, SD = 0.94) and cognitive empathy (three items, including “I do not understand how people could get themselves into a difficult situation like this;” Cronbach’s α = .81; M = 3.93, SD = 0.93).

Interpersonal Talk
Participants were asked how likely they would talk about the message with the following people in the next 30 days (1 = very unlikely; 5 = very likely): (1) family, (2) friends, (3) colleagues, and (4) other acquaintances (such as neighbors, church members, etc.). These items were combined into a scale of interpersonal talk (Cronbach’s α = .98; M = 2.49, SD = 1.19).

Online Message Sharing
Participants were asked about the likelihood of sharing the message, if made available online, via (1) social media, (2) email, and (3) chatting apps (1 = very unlikely; 7 = very likely). Responses to these items were averaged into a scale of online message sharing (Cronbach’s α = .91; M = 2.78, SD = 1.79).

Policy Support
Participants rated their support for six obesity-related policy proposals (1 = strongly oppose; 5 = strongly support) (adapted from Brescoll, Kersh, & Brownell, 2008; Niederdeppe, Roh, Shapiro, & Kim, 2013). These proposals shared the goal of improving the social environment to facilitate physical exercise or a healthy diet, such as requiring “restaurants to list the calorie count and fat content of all items on their menus” or having zoning laws to include “sidewalks and other safe paths to encourage physical activity.” These items loaded onto one factor and were averaged into a scale of policy support (Cronbach’s α = .82; M = 3.83, SD = 0.78).

Donation Intention
Participants were asked to indicate the likelihood of making an online donation in the next three months to a non-profit organization, Children Obesity Foundation Inc., after reading a brief description5 (1 = very unlikely; 5 = very likely). This single-item measure was used to represent the donation intention (M = 2.34, SD = 1.15).

Analysis Strategies
Covariates
Bivariate correlational analyses showed that participant age, gender, income level, BMI, and political orientation were significantly correlated with at least one of the experimental

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4We first converted reported weight from pounds into kilograms and reported height from feet and inches into meters. BMI is calculated as one’s weight in kilograms divided by height in meters squared.

5To measure transportation and empathy in the nonnarrative condition, we modified the wording by changing “John” to “obese people” or “people in the situation.” The two sets of measures had comparable reliability despite the wording differences (for narrative and nonnarrative conditions: Cronbach’s α = .79 and .82 for transportation; Cronbach’s α = .87 and .89 for affective empathy).

6The complete description provided in the study is: COF is “a non-profit organization that provides assistance to the local communities, children, parents, teachers and healthcare professionals on how to prevent and treat childhood obesity proactively by implementing healthy living skills through nutritional education, physical activity classes, empowerment programming, books, videos, films and lay foundation for healthy behaviors that will reduce obesity risk and promote health over the course of a lifetime.” Donating to such an organization is regarded as a prosocial behavior to improve the health of others.
manipulation or dependent variables. They were included as control variables in the analyses reported below.

Analyses
To test experimental effects on narrative engagement, communicative behaviors, and civic behaviors, multivariate analysis of covariance (MANCOVA) and analysis of covariance (ANCOVA) were conducted via Stata (v.15.1) (using “manova,” “anova,” and “margins”). To test mediation effects, path models were estimated using the “sem” package in Stata (v.15.1). Two models were estimated on communicative and civic behaviors separately. We report conventional indices of model fit, but focus on parameter estimates related to hypothesis-testing. Unstandardized coefficients are reported to ease substantive interpretations given the dichotomous independent variable (Hayes, 2013) and should be interpreted according to the specific measurement scales.

Results
Narrative Effects on Engagement and Outcome Variables
A MANCOVA was run to examine the narrative effects on transportation, cognitive empathy, and affective empathy (H1a & H1b). The overall multivariate model was statistically significant: Wilks’ Lambda $\lambda = .74$, $p < .001$, with a significant multivariate test for the narrative effect: $F(3, 450) = 7.99$, $p < .001$. Subsequent ANCOVAs showed significant narrative effects on transportation: $F(1, 452) = 4.41, p = .036, \eta^2 = .010$, marginal means: 3.77 vs. 3.62, and on affective empathy: $F(1, 452) = 22.72, p < .001, \eta^2 = .049$, marginal means: 3.61 vs. 3.21, but no effect on affective empathy, $F(1, 452) = 1.03, p > .10, \eta^2 = .002$. H1a was supported; H1b was supported for affective empathy. As cognitive empathy was not influenced by narrative manipulation and additional analyses showed no significant mediation effects involving it, it was not included in the path models reported below for parsimony.

To examine narrative effects on communicative behaviors, a MANCOVA was run on interpersonal talk and message sharing. There was no significant multivariate effect for the narrative manipulation: Wilks’ Lambda $\lambda = .99$, $p > .10$. Subsequent ANCOVAs showed no narrative effect on message sharing, $F(1, 452) = 1.84$, or interpersonal talk, $F(1, 452) = 1.97 (ps > .10)$, thus not supporting H2a or H3a.

Similarly, the MANCOVA on the two civic outcomes showed no multivariate effect of narrative manipulation: Wilks’ Lambda $\lambda = .99$, $p > .10$. ANCOVAs revealed no narrative effect for either policy support, $F(1, 452) = 0.44$, or donation intention, $F(1, 452) = 0.74 (ps > .10)$. Thus, neither H4a nor H5a was supported.

Testing the Mediation Effects
The lack of overall effects of narrative manipulation on outcome variables does not exclude the possibility of mediating effects (Preacher & Hayes, 2008). The hypothesized mediating effects were estimated through two path models. Both models provided a good fit (i.e., non-significant model chi-squares, RMSEA < .04, CFI > .99, and SRMR < .30 for both models). Unstandardized path coefficients were depicted in Figures 1 and 2 respectively.

On Communicative Behaviors
As can be seen in Figure 1, transportation was a significant predictor of both interpersonal talk ($b = 0.37, s.e. = 0.08, p < .001$) and online message sharing ($b = 0.50, s.e. = 0.15, p < .001$). Similar findings emerged for affective empathy ($b = 0.28, s.e. = 0.07, p < .001$, for interpersonal talk; $b = 0.50, s.e. = 0.11, p < .001$, for online message sharing).

Indirect effects involving each mediator were estimated based on 5,000 bootstrap samples. Coefficients for the indirect effects, bootstrapped standard errors, and bias-corrected (BC) 95% Confidence Intervals (CI) were reported in Table 1. Narrative manipulation had significant indirect effects via transportation on both interpersonal talk, $coefficient = 0.05, BC 95\% CI = [0.01, 0.13]$, and message sharing, $coefficient = 0.07, BC 95\% CI = [0.01, 0.18]$. H2b and H3b were both supported. Affective empathy also mediated the narrative effects on both outcome variables (interpersonal talk: $coefficient = 0.11, BC 95\% CI = [0.05, 0.20]$, message sharing: $coefficient = 0.19, BC 95\% CI = [0.10, 0.33]$), supporting H2c and H3c.

Direct effects of narrative manipulation were significantly negative (interpersonal talk: $b = -0.30, s.e. = 0.10, p = .003$; online message sharing: $b = -0.51, s.e. = 0.15, p = .001$). The total effects were nonsignificant (−0.14 for interpersonal talk, −0.24 for message sharing, $ps > .10$).

On Civic Behaviors
As depicted in Figure 2, transportation had a significant positive effect on both policy support ($b = 0.15, s.e. = 0.05, p = .007$) and donation intention ($b = 0.23, s.e. = 0.09, p = .007$). Affective empathy was also a significant predictor of policy support ($b = 0.12, s.e. = 0.05, p = .007$) and donation intention ($b = 0.22, s.e. = 0.07, p = .002$).

Indirect effects involving transportation were significant for both variables (policy support: $coefficient = 0.02, BC 95\% CI = [0.01, 0.06]$; donation intention: $coefficient = 0.03, BC 95\% CI = [0.01, 0.09]$). Both H4b and H5b were supported. Supporting H4c and H5c, affective empathy was a significant mediator regarding both policy support, $coefficient = 0.05, BC 95\% CI = [0.01, 0.10]$, and donation intention, $coefficient = 0.09, BC 95\% CI = [0.03, 0.17]$.
Residual direct effects were in the negative direction but not statistically significant (on policy support, $b = -0.11$; on donation intention, $b = -0.02$, $p > .10$). The total effects of narrative manipulation were not significant for either variable ($-0.04$ for policy support and $0.10$ for donation intention, $p > .10$).

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Discussion

Previous research has examined processes whereby narrative messages influence various personal health outcomes. Answering calls to promote interpersonal diffusion and social change in health communication campaigns (Morgan, 2009; Wakefield & Hornik, 2010), this study set out to examine whether and how narratives could influence communicative and civic behaviors in the context of obesity. Our findings showed significant indirect effects through transportation and affective empathy, indicating that narratives could be a potentially useful strategy by increasing narrative engagement, but no overall advantage of the narrative message on behavioral outcomes, suggesting the need for future research to identify and isolate other factors or mechanisms that could be at work.

Narrative vs. Nonnarrative Effects

Pondering over the lack of total effects (which were in the negative direction for three outcome variables), we offer a few potential explanations. First, our study examined narrative effect by comparing narrative vs. nonnarrative messages in print format. In extant literature, direct narrative vs. nonnarrative comparisons tend to yield rather small effects. Shen et al.’s (2015) meta-analysis showed a significant but small overall persuasive advantage of narratives over nonnarratives ($r = .063, p < .01$), which disappeared for messages in print format. In light of these findings, our results were not an anomaly. Second, a concern raised in recent research on

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### Table 1. Indirect effects via transportation and affective empathy

<table>
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<tr>
<th>Mediators</th>
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<tr>
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<td>0.05 [0.01, 0.10]</td>
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<tr>
<td>Donation</td>
<td>0.03 [0.01, 0.09]</td>
<td>0.09 [0.03, 0.17]</td>
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Notes.

N = 461. Unstandardized estimates, bootstrapped standard errors, and bias-corrected confidence intervals were obtained from path analyses based on 5,000 bootstrap samples.

Residual direct effects were in the negative direction but not statistically significant (on policy support, $b = -0.11$; on donation intention, $b = -0.02$, $p > .10$). The total effects of narrative manipulation were not significant for either variable ($-0.04$ for policy support and $0.10$ for donation intention, $p > .10$).
Figure 2. Narrative effects on civic behaviors (policy support and donation intention) through transportation and affective empathy. Notes. N = 461. *p < .05, **p < .01, ***p < .001. Nonnarrative condition was coded as 0; narrative condition was coded as 1. Depicted are unstandardized coefficients. χ(10) = 14.38, p = .156, RMSEA = .031 (95% CI: [.00, .06]), CFI = .991, SRMR = .026. (RMSEA: Root mean square error of approximation; CFI: Comparative fit index; SRMR: standardized root mean square residual.)

Correlated errors between the two outcome variables and between the two mediator variables were not depicted in the figure. Significant paths involving instrumental variables include: Being female → transportation (b = .33, p < .001); Being female → affective empathy (b = .31, p < .001); BMI → transportation (b = .01, p < .001); Income level → donation intention (b = .07, p = .031); Political ideology → policy support (b = .22, p < .001); Being female → policy support (b = .20, p = .003).

obesity-related policy narratives is relevant to our study: Narratives could inadvertently foster individualistic issue understanding, thus counteracting the intended goal of promoting social changes. Zhou and Niederdeppe’s (2017) study showed that only the “completely depersonalized” narrative (i.e., no individual, identifiable character, and no inner state descriptions) elicited policy support. Our narrative message, featuring one identifiable character who verbalized his struggles, had a high degree of personalization, which could have dampened the desired social responses. Future research should articulate the underlying theoretical intersections and distinctions between policy narrative and framing research (e.g., episodic vs. thematic framing, Iyengar, 1990) so as to better understand the underlying psychological processes. Third, our null findings could also reflect constraints of the single-message design. The singularity in topic, story plot, character, and narrative perspective did not allow us to control for known or unknown effects of message features (e.g., Lee & Shapiro, 2016; Nan, Futerfas, & Ma, 2017). In Barbour et al.’s (2016) study, out of the four message replications, one yielded the opposite effect, bespeaking the influence of idiosyncratic message features. Multiple-message designs should be employed in future research for better generalizations of the theorized effect (O’Keefe, 2015; Reeves, Yeykelis, & Cummings, 2016).

Indirect Effects via Narrative Engagement

Path models in our study yielded clear, consistent evidence of narrative engagement as an explanatory pathway to socially-oriented outcomes. When audiences were more transported into the narrative story or felt stronger emotional empathy, they were more likely to share the information and engage in pro-social behaviors. Increasing narrative engagement, therefore, can be a promising strategy in promoting message diffusion and collective participation in social change.

Our findings added to the rather small repertoire of studies on the role of transportation beyond the realm of personal outcomes. Consistent with Barbour et al.’s (2016) findings, our evidence showed transportation to mediate the narrative (vs. nonnarrative) effect on interpersonal talk and online message sharing. Whether the underlying motive is to share the content that one finds persuasive (through lowered resistance, Slater & Rouner, 2002) or to impart the affective enjoyment of the immersive experience (Green et al., 2004) is a question awaiting future investigations. In our study, transportation was a significant predictor of policy support, contrary to findings in Zhou and Niederdeppe (2017) (which focused on variations within the narrative format) but consistent with those from Barbour et al.’s serial mediation model. To note, though, the narrative effect on transportation in our study was quite small (marginal means: 3.77 vs. 3.62), a link that could be further strengthened with more effective narrative designs in future research.

Affective empathy channeled narrative effect on communicative outcomes. Our findings corroborate the existing theorization and empirical evidence that empathy facilitates “social bonding and relationship development” (Shen, 2010b, p. 506) and further suggest that empathy can be a fruitful construct in exploring how to expand message reach through online and offline word-of-mouth. The observed effect of affective empathy on public policy support confirmed those of previous studies (Niederdeppe et al., 2015; Zhou & Niederdeppe, 2017). Further, by evoking readers’
empathic feelings, the narrative message exerted indirect influence on intentions to donate to a social cause related to obesity, consistent with previous evidence about the role of empathy in prompting prosocial behaviors (Olive et al., 2012).

The theoretical potential of empathy should be further explored in narrative research, especially in explaining socially-oriented outcomes, given its long-standing importance in interpersonal communication (Bagozzi & Moore, 1994; Stiff et al., 1988). More precise conceptualization and operationalization will help better pinpoint theorizing about the underlying processes unique to empathy. In our data, affective but not cognitive empathy was an explanatory variable of narrative effect. Previous research used Campbell and Babrow’s (2004) measures without differentiating the two subscales (e.g., Zhou & Niederdeppe, 2017) or just one subscale (e.g., affective empathy, Niederdeppe et al., 2015). Whether the two subscales would produce different effects in other contexts, and why, merit further attention.

Limitations

A few other limitations should be noted. First, like other MTurk samples (Berinsky et al., 2012), our sample was disproportionately liberal. A recent study (Clifford, Jewell, & Waggoner, 2015) showed that the liberal MTurk workers tended to hold more characteristically liberal political attitudes than their counterparts in the general public, though the conservative workers did not depart much from theirs. Our findings were likely subject to the liberal bias inherent to the MTurk sample, although additional analyses showed no moderating effects of political ideology. Future studies should use a more representative sample to further investigate whether and how patterns of findings may vary across the ideological spectrum.

Second, we did not include mechanisms to check for potential participant inattention. Sheehan (2018) recommended embedding attention checks and slowing down participants to improve MTurk studies. The effectiveness of instructional attention checks, however, is still open to question, as other studies found such mechanisms to introduce biases that reduce data quality (Clifford & Jerit, 2015; Hauser & Schwarz, 2015; Vannette, 2016). In general, research on MTurk samples suggests confidence in MTurk data quality. Studies have shown that MTurk workers were more attentive than college subject pool participants (Hauser & Schwarz, 2016) and produced better quality data than population-based samples (Weinberg, Freese, & McElhatten, 2014) or other professional panels (Kees, Berry, Burton, & Sheehan, 2017).

Another weakness of the study is the single-item measure of donation intention. The item specified one organization and the intention to donate within the next three months. Such specificity, while improving the precision of the measure, limits its conceptual representativeness. In future studies, multiple items should be incorporated to construct a scale with better conceptual breadth and empirical reliability.

Conclusion

This study examines how narrative messages, via engaging the audience, could shape social responses beyond personal responsibility-taking. While there was no overall advantage of the narrative vs. nonnarrative message in generating communicative behaviors and civic behaviors, there were significant indirect effects through transportation and affective empathy on all outcome variables. Future research should employ multiple messages to parse out potential influences of idiosyncratic message features and further investigate the direct and indirect effects of narrative messages on social responses.

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References


9Given previous findings about the moderating role of political ideology (Niederdeppe et al., 2011), we also examined political ideology as a potential moderator. Following the strategy outlined in Niederdeppe et al. (2011), we combined party affiliation and political ideology measures: “Liberals” (total n = 223) included those who self-identified as “Democrat” (n = 200) or those who chose “Independent/Something Else” but indicated strong liberal ideology (i.e., those who chose 5 on the 5-point political ideology scale; n = 23); “Conservatives” (total n = 111) included those who self-identified as “Republican” (n = 110) or as “Independent/Something Else” with strong conservative ideology (i.e., those who chose 1 on the 5-point political ideology scale; n = 1); the remaining participants (“Independents” or “Something-Else” with moderate ideology) were grouped as “moderates” (total n = 133). Two-way ANOVAs showed no interaction effects between narrative manipulation and political ideology on the two mediators and the four outcome variables: F(2, 461) = 0.47 to 1.22 (p < .30).


Appendix. Stimulus Messages

Narrative Message

John’s Story

“You’re very overweight. Diabetes and heart trouble run in your family, and you’ll have these problems too if you don’t lose weight.” About two years ago, John received this lecture from a doctor. The doctor also warned John that overweight parents who eat high-calorie foods and are physically inactive could also heavily influence the habits of their children, who would then be more likely to become overweight as well.

He decided to spend less time in front of a TV and more time on exercising. He was shocked when the doctor told him that more than two hours a day of TV watching—which was what he was doing every day—is linked to overweight and obesity.

However, although John successfully reduced the time he spent daily in front of a TV, he could not find a way to do much exercise, because his neighborhood has no convenient place to exercise, and the cost of membership at the nearby gym is too expensive for him.

He was relieved when he heard that walking to places instead of relying on cars is a good way to exercise. Last year, John’s car broke down, so now he gets plenty of exercise every day simply by walking to work.

Following the doctor’s advice on a diet was not easy at all. Salad costs $3 per bag, so he can’t afford to buy it very often. Like many Americans, John discovered that the path to losing weight is an obstacle course in which one’s environment can prove to be especially challenging.

"In this neighborhood, I can’t find what I need for my diet." says John. The streets of John’s neighborhood are dotted with fast food restaurants and corner stores selling cheap packaged foods, but the minimally processed foods the doctor recommended are very expensive.

Today, he has $5. Just $5 left until payday and a growling stomach. As he strides into a grocery store, his eyes spot fresh fruits and vegetables, but his nose tells him something else—fried chicken, hot buffalo wings, chicken pot pie. He knew that these foods could help reduce his stress from work.

"It is very tempting," he says, gazing at the steam trays. "I don’t get paid until tomorrow, so I’m clinging to these five dollars." Stevenson ultimately decides to buy two apples, a small yogurt, and a granola bar, totaling $4.99. A penny to spare.
Obesity

Family History
Being overweight and obesity tend to run in families. Your chances of being overweight are greater if one or both of your parents are overweight or obese. If there is a family history of diabetes and heart disease, then it is even more important to keep a healthy weight. Because families also share food and physical activity habits, there is a link between family history and a person’s social environment. Children adopt the habits of their parents. So, a child with overweight parents who eat high calorie foods and are inactive will likely become overweight like the parents. On the other hand, if a family adopts healthy food and physical activity habits, the child’s chance of being overweight or obese is reduced.

Physical Inactivity
Many Americans aren’t very physically active. There are many reasons for this. One reason is that many people spend much of their day in front of TVs. In fact, more than 2 hours a day of regular TV viewing time has been linked to being overweight and obese. One obstacle many Americans face is a lack of neighborhood sidewalks and safe places for recreation. Not having area parks, trails, sidewalks, and affordable gyms makes it hard for people to be physically active. Other reasons for not being active include relying on cars instead of walking to places, fewer physical demands at work or at home due to modern technology and lack of physical education classes in schools for children.

Healthy Diet
The type of food that people eat is far more important than the amount. There is convincing evidence that sugary drinks and fast food increase the risk of weight gain and obesity compared to minimally processed food, including whole grains, vegetables, fruits, and nuts.

However, there is a lack of access to healthy foods at a low cost in the United States: in fact, some neighborhood markets don’t sell any healthy foods at inexpensive prices at all. Instead, Americans face the problem of the cheapest food options in restaurants, fast food places, convenience stores, and supermarkets being unhealthy. Furthermore, they are surrounded and tempted by countless advertisements from companies selling unhealthy food. Stressful work and social environments are also responsible for the problem. Some people seek more unhealthy foods than usual when they are bored, angry, or stressed. Over time, overeating will lead to weight gain and may cause obesity.