Restorative Narratives: Using Narrative Trajectory for Prosocial Outcomes

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Article Information	Abstract
	Restorative narratives are stories that highlight how people recover from adversity. Researchers have proposed that this storytelling approach may provide a way to share negative news without emotionally overwhelming audiences. Instead, restorative narratives may decrease the need for emotion regulation processes and as a result, increase the willingness to help those in need. In Study 1, a restorative narrative elicited more positive emotions and an increased willingness to volunteer compared to a negative and control version of the same story. In Study 2, the restorative narrative again evoked more positive emotions and higher hypothetical donations to a relevant charity. Study 2 also varied the narrative ending and found that restorative narratives may need to end positively to maintain their effects.

Introduction

The media landscape in the United States is rife with negative news. News agencies frequently highlight stories of suffering, ranging from local-level disasters to larger socioeconomic issues. Repeated exposure to problem-focused news is not only emotionally challenging for viewers— there is also ample evidence that it can be psychologically harmful in the long term (see McNaughton-Cassill et al., 2009; Pfefferbaum et al., 2014; Silver et al., 2013). Moreover, the distress from watching negative news can potentially reduce viewers' likelihood to help those suffering. This effect, described as the *collapse of compassion*, occurs when the emotional cost

of perceiving many people in need is overwhelming, leading viewers to suppress their emotional responses (Cameron & Payne, 2011; Slovic, 2007). As a result, viewers prevent themselves from feeling empathy and subsequently become less willing to help (Small et al., 2007). At the same time, ignoring or avoiding negative media content can mean missing important information about current events.

Although media agencies cannot ignore the negative elements of news, the way these stories are presented or the types of stories that are shared could help to reduce adverse effects. Specifically, a *restorative narrative* is a particular approach to storytelling that emphasizes character strengths to highlight a meaningful progression of individuals who experience hardship. Rather than focusing exclusively on loss or suffering, restorative narratives shift the focus to the disaster victims' strength and progress.

News reporting could take a restorative approach or could use restorative narratives in addition to stories of tragedy. Restorative narratives may complement traditional journalism by providing a way to share negative information without overwhelming audiences with negative emotions. Instead, restorative narratives may reduce the desire to avoid negative media content, and thus decrease the need for emotion regulation processes. As a result, restorative narratives may potentially increase audiences' willingness to help (Fitzgerald et al., 2020). Because of their potential prosocial effects, restorative narratives thus may be a valuable approach for both journalists and public interest communicators more broadly.

The restorative narrative approach has gained recent attention from journalists (DeJarnette, 2016; Tenore, 2015) and some researchers (Dahmen, 2016, 2019; Fitzgerald et al., 2020). However, very few studies have examined the mechanisms and effects of restorative narratives experimentally (but see Fitzgerald et al., 2020). The current studies seek to provide experimental evidence for the effects of restorative narratives and expand the restorative narrative literature by testing one of its key components: the narrative ending. In particular, we ask whether a restorative narrative, because of its theoretical ties to positive affect and moral elevation, will lead to decreased negative emotions, increased willingness to help, and increased desire to continue engaging with the media content when compared to a wholly negative version of the same story. We also test whether the narrative ending plays an integral part in those effects.

Literature review

Defining restorative narratives

The term restorative narrative initially emerged from the nonprofit organization Images & Voices of Hope (ivoh), which recently merged with the Peace Studio organization. ivoh has identified certain characteristics that describe restorative narratives and differentiate them from other storytelling approaches. In particular, restorative narratives are strengths-based, show hard truths without giving false hope, pursue authenticity, and involve sustained inquiries that present

universal truths and human connection (Tenore, 2015). For the purposes of our research, we have distilled these characteristics into two key features that we can experimentally manipulate: restorative narratives are (a) strengths-based and (b) highlight a meaningful progression. We feel these features best encompass the aspects that may be necessary to evoke the positive and prosocial effects of restorative narratives. Thus, we propose the following working definition: *a restorative narrative is a story that provides an authentic sharing of negative experiences while highlighting the strength and meaningful progression of the individual(s)*. In this paper, we focus primarily on the meaningful progression feature.

Our working definition of restorative narratives differs from the full list of characteristics presented by ivoh: specifically, it does not focus on authenticity, sustained inquiry, or universal truths. These characteristics may be valuable for journalists to consider, but some of them are less suited for empirical study. For example, although authenticity is important, it would be difficult to manipulate experimentally. Rather, we chose stories that we thought embodied authenticity in all conditions. Similarly, although some restorative narratives are sustained inquiries, we propose that stories can provide a restorative trajectory even if they are a single journalistic report rather than a long-form story or a series. Lastly, we feel that the aspect of showing hard, universal truths and human connection is inherent within restorative narratives and need not be included as an operational component.

The strengths-based feature of restorative narrative relates to the focus on character strengths and/or virtues in the face of adversity (Tenore, 2015). Research on character strengths (see Park & Peterson, 2009) identifies a number of virtues such as courage (e.g., bravery, persistence) and transcendence (e.g., gratitude, hope). These virtues are linked to well-being and other positive psychological outcomes, such as recovery (Park & Peterson, 2006). Thus, the focus on character virtue as opposed to harm may foster more psychological well-being and prosociality in audiences (Fitzgerald et al., 2020).

A meaningful progression is an upward path from hardship toward an improved life or situation (Tenore, 2015). Meaningful progress may be understood as conceptually similar to the process of recovery. Progress, like recovery, is not necessarily a linear process: it may include setbacks and challenges faced by the individual. Nonetheless, a restorative narrative as a whole should maintain a positive trajectory in which viewers perceive that story individual(s) will end in a better place than where they began.

Little empirical research has explored this genre of storytelling (but see Dahmen, 2016; Fitzgerald et al., 2020). However, similar concepts have garnered recent attention. For example, solution-focused, or constructive journalism, is an emerging form of journalism that applies positive psychology techniques to produce stories that are both productive and engaging (e.g., McIntyre & Gyldensted, 2018). Although restorative narratives are similar to constructive or solutions journalism, they differ from such stories because they aim to provide hope to a devastating situation by demonstrating resilience, rather than necessarily providing a solution.

The restorative narrative concept emerged in journalism, but it can be used across a range of storytelling contexts, including strategic communication, public relations, and stories for

prosocial action (e.g., by nonprofits that wish to encourage volunteerism or donations to a cause). Restorative narratives can even include fictional stories. For example, the movie *The Pursuit of Happyness* tells the story of a man's journey from poverty to success. We suggest that the basic functions and outcomes of restorative narratives should be similar across different contexts, making these ideas broadly applicable to public interest communications.

Despite the promising effects of restorative narrative, few studies have directly tested them. In one recent study, Fitzgerald and colleagues (2020) examined the use of restorative narratives for promoting engagement and prosocial behavior in relation to a health campaign. Researchers compared a restorative and negative version of a story about a woman's illness diagnosis and treatment. Those in the restorative narrative condition reported more positive and less negative emotions overall, and more willingness to read or share the story with others than those in the negative story condition. Additionally, significant indirect effects emerged for narrative condition on willingness to help through emotional responses.

Although Fitzgerald and colleagues (2020) provided an initial examination of indirect effects of the emotion and moral elevation mechanisms on helping, restorative narrative research would benefit from a test of a full statistical model of restorative narrative effects on helping. Additionally, the meaningful progression feature—involving the role of the narrative ending—is an especially understudied area in the restorative narrative literature. Thus, we focus this paper around understanding this feature. Toward these goals, we next review the theoretical mechanisms and hypothesized effects of restorative narratives.

Building a restorative narrative model

Restorative narratives may counteract negative effects of news coverage in two ways: reducing the need to regulate emotion in the face of negative news and inducing a state of moral elevation.

Emotion regulation

Cameron and Payne (2011) found that collapse of compassion is contingent upon participants' expectation of being asked for help. For instance, when individuals expect helping to be costly, they actively avoid feeling prosocial emotions that would otherwise compel them to help (Shaw et al., 1994). Thus, if emotion regulation occurs under certain motivational conditions such as the expectation of being overwhelmed, then altering those conditions should change how people respond to negative news. We posit that restorative narratives alter the expectation of being overwhelmed by shifting the focus from loss to recovery, allowing viewers to experience more positive emotions and less negative emotions overall. As a result, viewers may become more willing to help those afflicted (e.g., donate or volunteer; Cameron & Payne, 2011; Slovic, 2007). Thus, we hypothesize that a restorative narrative will induce more positive emotions (H1a), less negative emotions (H1b), and an increased willingness to donate and volunteer (H2) compared to a negative story version that directly counters these features (e.g., focuses on continued suffering rather than recovery), and a control story version that is neutral toward the features. In particular,

the more positive the emotional responses to the story, the more willing audiences should be to help. Thus, we hypothesize an indirect effect of narrative condition on willingness to help through emotional response (H3).

In addition to reducing the need for emotion regulation, restorative narratives may further negate the effects of negative news by inducing a state of moral elevation.

Moral elevation

Moral elevation refers to a feeling of warmth and appreciation evoked by witnessing acts of moral goodness. Instances of moral beauty or exemplars of positive character strengths such as generosity or altruism can induce this feeling (Aquino et al., 2011; Dale et al., 2017; Haidt, 2003; Oliver et al., 2012). Elevation is associated with positive emotions (e.g., happiness), meaningful emotions (e.g., touched, moved), and prosocial motivations, such as helping (Algoe & Haidt, 2009; Ellithorpe et al., 2015; Schnall et al., 2010). Because restorative narratives feature such character strengths, we hypothesize that a restorative narrative will induce more elevation than a negative and a control version of the same story (H4). Moreover, more elevation should increase the willingness to help. Thus, we hypothesize an indirect effect of narrative condition on willingness to help through elevation (H5).

Continued engagement

Because restorative narratives evoke a more positive affective state, reduce emotion regulation, and induce moral elevation, readers may be more willing to continue to engage with the stories. That is, they may be more willing to keep reading, to read more similar stories, and read more stories from the media source; they also may be more willing to share the story. The desire to continue engaging with the news rather than avoiding it can be important for both news media (by increasing readership) and for organizations involved in recovery (by helping to spread the word about their efforts). Thus, we also will examine whether the desire to read similar stories (*RQ1a*) and the desire to share the story with others (*RQ1b*) differs between a restorative narrative and negative and control versions of the same story.

Lastly, we will test a hypothesized path model of restorative narrative effects (see Figure 1). We propose that restorative narratives will increase both positive emotion (Path 1) and moral elevation (Path 3) and decrease negative emotion (Path 2). Additionally, because elevation is associated with positive affect, we propose that positive emotions and elevation will have a positive association (Path 4). Next, we propose that restorative narratives will have an indirect effect on the willingness to help through positive emotions (Path 5) and elevation (Path 7). Path 6 represents the effect of negative emotions on willingness to help; we propose that this path will be negative or non-significant.

Figure 1

Conceptual Path Model of Restorative Narrative Effects on Helping
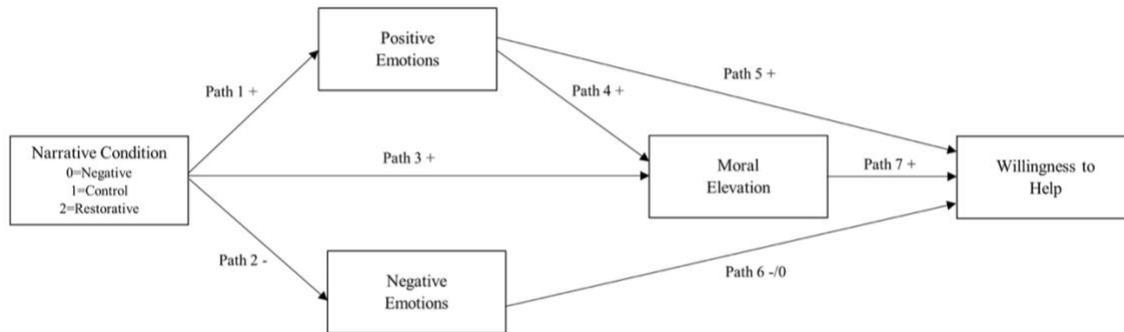
To test these hypotheses, in Study 1, we compare a traditional problem-focused version of a negative news story to a restorative narrative version of the same story. In Study 2, we conceptually replicate and extend the findings of Study 1 with a new story to examine the unique role of narrative ending.

Study 1

Method

We recruited participants from undergraduate communication courses in the northeastern United States and through Amazon's Mechanical Turk (MTurk). A total of 372 participants (202 MTurk, 170 students) completed the survey. However, 57 participants failed a set of attention checks, leaving a final sample of 315 participants (186 MTurk, 129 students).[1] Of those, 157 were male and 158 were female; 204 (64.8%) were White, 50 (15.9%) were Asian/Pacific Islander, 30 (9.5%) were Black/African American, 19 (6.0%) were Hispanic/Latino(a), and 12 (3.8%) Other/Unknown. The mean age was 30.44 years ($SD = 13.39$; min = 18, max = 77). We conducted the study online using the survey platform Qualtrics. We randomly assigned participants to view one of three video news reports: restorative ($n = 103$), negative ($n = 107$), or a control narrative ($n = 105$).

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[1] We chose to combine the samples in both Study 1 and Study 2. The stimuli and measures were identical and there is no theoretical reason to expect the results would differ across student and non-student populations (or younger vs. older populations). Previous research shows relatively little difference between MTurk and student samples in general (e.g., Ramsey et al., 2016).

Story stimuli

The stimulus material was adapted from the CBS Sunday Morning News. The video features Ruben, a man who survived a devastating tornado in Joplin, MO, and saved several other people. Because we were particularly interested in examining the meaningful progression feature, we created three versions of the story by manipulating Ruben's progression. All versions contained character strengths (Ruben's courage). The restorative condition specifically demonstrated a meaningful progression (upward trajectory) for Ruben as he continued to improve his situation in the time since the disaster. The restorative video ends with Ruben being offered his dream job and the statement, "I'm going to keep going and do the best I can." The negative condition did not demonstrate a meaningful progression for Ruben; rather, this video focused on Ruben's description of the tornado and the devastation it caused. In this version, Ruben loses his dream job as a result of ongoing anxiety. The video ends with the statement, "It was horribly debilitating…what am I going to do?" The control condition provided no real progression or outcome for Ruben: viewers did not know what happened to Ruben and his feelings are unknown, with statements about the tornado only. We held all other characteristics of the videos constant. All conditions were 3 minutes and 30 seconds long.[2]

Measures

Emotional response

First, participants rated the degree to which they experienced a series of emotions in response to the video. We adopted the 20 emotion items from previous research (Dillard & Shen, 2006; Myrick & Oliver, 2015), which participants rated on a scale from 1 (not at all) to 7 (very much). We created four affect scales; *happy* (cheerful, happy, humorous, amused; α = .71), *meaningful* (touched, moved, compassion, awe, admiration, inspired; α = .88), *sad* (tearful, depressed, sad; α = .75), and *fear* (fearful, afraid, anxious; α = .87).[3]

Moral elevation

Participants completed two subscales from previous research to assess their moral elevation (Aquino et al., 2011): views of humanity, which consisted of five items, such as "The world is full of kindness and generosity," (responding on a scale from 1 *strongly disagree* to 5 *strongly agree*), and the desire to be a better person, which consisted of six items, including "Ruben has

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[2] We included a series of attention and manipulation checks for Study 1 and Study 2 (see Appendix). Details on these items can be found in the supplement on Open Science Framework: https://bit.ly/3iFpkcg. The videos are also available on OSF.

[3] We conducted a principal component analysis (PCA) to determine our emotion composite scales. For details on the PCA results, see Appendix or OSF supplement: https://bit.ly/3iFpkcg

shown me how to be a better person." Participants rated how often they were having those thoughts while viewing the news clip on a scale from 1 (never) to 5 (always; combined α = .92).

Willingness to help

Participants responded to the items, "How likely are you to donate to disaster relief organizations?" and "How likely are you to volunteer at disaster relief organizations in your area?" on a scale from 1 (extremely unlikely) to 5 (extremely likely).

Continued engagement

To assess the desire to continue to engage with the media content in the future, we asked participants how much they would like to watch more stories like the one in the study and how likely they would be to share the story with others on a scale from 1 (extremely unlikely) to 5 (extremely likely).[4]

Results

To test our hypothesized main effects, we conducted analyses of variance (ANOVAs) with Tukey post hoc tests.

Emotional response

Consistent with H1a, the restorative narrative elicited more happy emotions than the negative and control narratives (both Tukey's $p < .001$; see Table 1 for means and ANOVA results). For meaningful affect, the difference between the restorative narrative and the negative narrative was approaching significance, where the restorative narrative elicited more meaningful affect than the negative ($p = .050$). Meaningful affect did not differ between the restorative and the control narrative ($p = .457$), or between the negative and control narrative ($p = .478$).

Consistent with H1b, results revealed a significant effect of narrative condition on both sad and fear emotions. The restorative narrative elicited less sadness than the negative ($p = .005$) and the control ($p = .005$). Sadness did not significantly differ between the negative and control ($p = 1.00$). Fear showed a slightly different pattern: although the restorative narrative elicited less fear than the control ($p = .005$), fear did not differ between the restorative and negative ($p = .314$). Similarly, fear did not differ between the negative and control narratives ($p = .204$).

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[4] We included other exploratory measures that we do not present here, including narrative transportation (Green & Brock, 2000), identification with the character (Cohen, 2001), anger, and attribution of responsibility for the individuals' situation. Results are available from the researchers upon request.

Table 1

Means and ANOVA Results Across Studies

	Negative	Control$_{S1}$; RNE$_{S2}$	Restorative	Univariate ANOVA Results	
	M (SD)	*M (SD)*	*M (SD)*	*F(df), p*-value	η^2_p
Happy Emotions					
Study 1	1.86 (1.05)	1.83 (1.03)	2.57 (1.12)	$F(2, 311) = 16.22, p < .001$	.09
Study 2	1.47 (0.81)	1.72 (.98)	2.49 (1.13)	$F(2, 406) = 40.22, p < .001$	.16
Meaningful Emotions					
Study 1	4.31 (1.36)	4.54 (1.46)	4.78 (1.46)	$F(2, 311) = 2.77, p = .064$	.02
Study 2	3.37 (1.40)	3.35 (1.39)	4.65 (1.57)	$F(2, 406) = 36.68, p < .001$	.15
Sad Emotions					
Study 1	3.40 (1.45)	3.40 (1.46)	2.77 (1.40)	$F(2, 312) = 6.62, p = .002$	.04
Study 2	4.13 (1.62)	3.91 (1.64)	3.40 (1.39)	$F(2, 406) = 8.23, p < .001$	.04
Fear Emotion					
Study 1	2.68 (1.38)	3.03 (1.61)	2.37 (1.59)	$F(2, 311) = 4.96, p = .008$	.03
Study 2	2.63 (1.61)	2.68 (1.63)	2.19 (1.40)	$F(2, 406) = 4.23, p = .015$	.02
Moral Elevation					
Study 1	3.40 (0.76)	3.68 (.77)	3.64 (0.77)	$F(2, 312) = 3.97, p = .020$	.02
Study 2	3.54 (0.93)	3.66 (.75)	3.82 (0.70)	$F(2, 406) = 4.13, p = .017$	.02
Willingness to Volunteer					
Study 1	3.11 (1.07)	3.05 (1.09)	3.43 (1.02)	$F(2, 312) = 3.79, p = .020$	.02
Study 2	51.40 (32.50)	51.93 (31.57)	52.83 (32.32)	$F(2, 404) = 0.07, p = .933$	.00
Willingness to Donate					
Study 1	3.24 (1.05)	3.14 (1.09)	3.43 (0.95)	$F(2, 310) = 1.09, p = .337$	.01
Study 2	42.27 (32.43)	41.70 (33.40)	41.89 (31.01)	$F(2, 404) = 0.01, p = .990$	.00
Hypothetical Donate	4.96 (4.09)	4.03 (3.17)	5.59 (4.27)	$F(2, 406) = 5.77, p = .003$	.03
Read Similar Stories					
Study 1	3.24 (1.12)	3.26 (1.10)	3.33 (1.16)	$F(2, 308) = 0.18, p = .835$	.00
Study 2	3.54 (2.02)	3.65 (1.95)	4.50 (1.85)	$F(2, 406) = 10.30, p < .001$	.05
Share the Story					
Study 1	2.84 (1.02)	2.90 (1.16)	2.84 (1.23)	$F(2, 311) = 0.08, p = .927$	.00
Study 2	3.58 (2.02)	3.68 (1.99)	4.24 (1.95)	$F(2, 406) = 4.47, p = .012$	.02

Note: Hypothetical Donate only measured in Study 2.

Moral elevation

Although viewing the restorative narrative did not induce significantly more elevation than the negative narrative, the difference was again approaching significance ($p = .073$). However, the restorative did not differ from the control in terms of moral elevation ($p = .915$). Thus, although H4 was not fully supported, we found evidence in line with our hypothesizing.

Willingness to help

We found that viewing a restorative narrative led to significantly more willingness to volunteer than the control ($p = .028$) and more than the negative narrative at a level that approached significance ($p = .082$). However, narrative condition did not affect willingness to donate.

Continued engagement

Narrative condition did not affect the likelihood to watch similar stories (*RQ1a*) or the likelihood to share the story with others (*RQ1b*).

Model testing

We tested the hypothesized path model using maximum likelihood estimation in IBM Amos (Version 26; Hayes, 2013). We split Path 1 and Path 2 into separate paths to represent *happy* (Path1a) and *meaningful* (Path 1b) positive emotional responses and *sad* (Path 2a) and *fear* (Path 2b) negative emotional responses. We tested the model separately for willingness to donate and willingness to volunteer.

Willingness to donate

The model fit the data adequately for willingness to donate, $\chi^2(df = 4) = 27.02$, $p < .001$, $\chi^2/df = 6.75$, comparative fit index (CFI) = .95, root mean square error of approximation (RMSEA) = .14, standardized root mean square residual (SRMR) = .021. Although RMSEA was slightly high ($> .10$), this model fit estimate is often inflated in models with a small degree of freedom (see Kenny et al., 2015). Considering the other fit indices exceeded the typical cutoff criteria, the results suggest that the model fit the data reasonably well. The path coefficients were generally in line with our predictions (See Figure 2). In particular, we proposed that narrative condition would indirectly affect the willingness to help through emotional responses (H3) and moral elevation (H5). The results showed this pattern: there was a positive effect of narrative condition on happy emotions (Path 1a) and meaningful emotions (Path 1b), and a negative effect of narrative condition on sad emotions (Path 2a). Meaningful emotions had a significant effect on elevation (Path 4b), and subsequently, the effect of moral elevation on willingness to donate was significant and positive (Path 7). No other paths were significant. Thus, overall, it seems that moral elevation was indirectly affected by the narrative condition through the meaningful emotional responses, and moral elevation then affected the willingness to donate.

Willingness to volunteer

The model fit was acceptable for willingness to volunteer, $\chi^2(df = 4) = 29.42$, $p < .001$, $\chi^2/df = 7.35$, CFI = 0.95, RMSEA = .14, SRMR = .03. Again, the path coefficients in general supported our predictions for narrative condition indirectly affecting helping (see Figure 2). All direct and indirect paths from narrative condition to emotional responses and moral elevation replicated those for the willingness to donate. Two differences emerged for willingness to volunteer: the path from happy to volunteer was significant (Path 6a), and the path from moral elevation to willingness to volunteer was approaching significance (Path 8). Thus, the willingness to volunteer appeared to be influenced by both moral elevation and happy emotions.

Figure 2

Path Model Results from Study 1
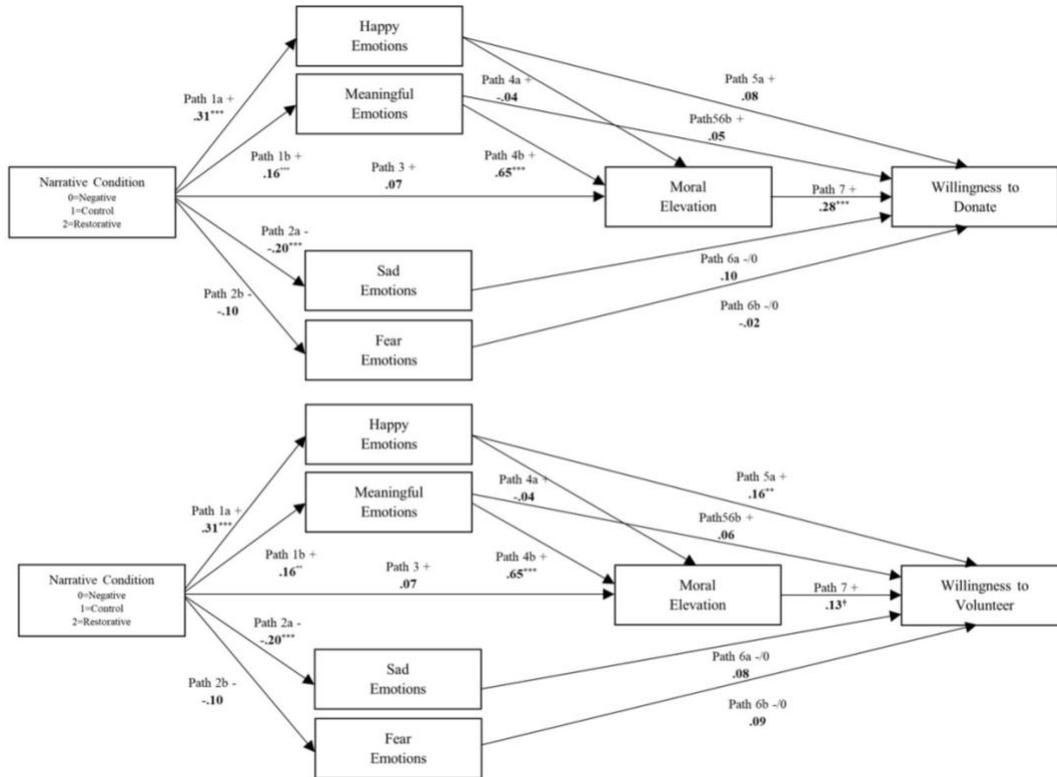
Note. All endogenous variables included error terms not shown here. Error terms of emotion items were correlated for all model tests. ***$p < .001$. **$p < .01$. *$p < .05$. †$p < .07$.

Discussion

Study 1 provided initial evidence for both the mechanisms as well as the proposed outcomes of restorative narratives. The restorative narrative elicited more positive emotions and a greater willingness to volunteer than the other story versions, and meaningful emotions and moral elevation appeared to play a key indirect role for the effects on helping. In a second study, we seek to provide a further test of the main restorative narrative effects; in particular, we seek to extend our Study 1 to test written narrative stimuli. Furthermore, Study 2 will also examine the role of narrative ending—an additional aspect of the meaningful progression feature.

We propose that meaningful progression is two-fold: the narrative trajectory should be positive, and the narrative ending should indicate a continuation of this trajectory. First, the story should focus on the progress of the individual(s) to reach a more positive end state (e.g., rebuilding their life, reestablishing normalcy). Second, viewers should perceive that this positive course will continue beyond where the story ends. In other words, the story ending should also

be positive; however, this assertion lacks experimental evidence. Thus, in Study 2, we sought to examine whether the positive trajectory in the body of restorative narratives is sufficient for the narrative to be effective, or if a positive ending is also necessary. We draw on peak-end rule of emotion to inform our predictions (Kahneman, 2000). Research on the peak-end rule states that people's overall emotional evaluation of an experience can be predicted by the emotions they experience at the moment of peak affect intensity (e.g., the strongest or most intense emotion) and the ending (Kahneman, 2000). Thus, a positive ending may be a necessary component to maintain positive evaluations of the full story as well as one's emotional reactions to it.

Study 2

To test the role of narrative ending, we compared three versions of a story about a man's experience with homelessness and drug addiction. These versions varied both trajectory and ending. The first story version was restorative. This condition contained both a positive trajectory—such that it involved a shift from negative to positive events—and a positive ending. Similar to Study 1, the positive ending demonstrated an optimistic point of view. The second version, negative, did not contain a restorative trajectory or a positive ending. The third version we called restorative with negative ending (RNE): it contained a positive trajectory like that of the restorative condition, paired with the same negative ending as in the negative condition. This design allowed us to isolate the role of narrative ending within restorative narratives.[5]

For Study 2, we used a written text rather than a video. We expect that restorative narratives should work in similar ways across different media, because the restorative content is the key mechanism of the effects. Testing restorative narrative effects in a different medium allows us to increase the generalizability of our theory. We proposed the same hypotheses and path model as in Study 1. Additionally, we examined whether the restorative narrative would differ from the RNE narrative on our variables.

Method

Participants were recruited from undergraduate communication courses in the northeastern United States and through Amazon's Mechanical Turk (MTurk). A total of 521 participants (309 MTurk, 212 students) completed the survey online. However, 112 participants failed a set of reading checks (58 from MTurk, 54 from student sample), leaving a final sample of 409 participants (251 MTurk, 158 students).[6] Of those, 197 were male, 209 were female, and 2 were Transgender/Other; 280 (68.5%) were White, 62 (15.2%) were Asian/Pacific Islander, 32 (7.8%) were Black/African American, 21 (5.1%) were Hispanic/Latino(a), and 11 (2.7%) identified as

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[5] We did not conduct a full 2x2 because the fourth condition—no restorative trajectory with a positive ending—did not make sense with our stimuli, as a sudden recovery from addiction may be implausible.
[6] Details on inclusion criteria can be found in the Appendix and on OSF: https://bit.ly/3iFpkcg

Other/Unknown. The mean age for the total sample was 31.40 (SD = 13.25; min = 18, max = 77). The narrative conditions included n = 146 in negative, n = 127 in RNE, and n = 136 in restorative.

Story stimuli

The narrative was adapted from a story series titled "Stories from Skid Row," published by the Union Rescue Mission (URM). The story is of Brian, a man who struggled with homelessness and drug addiction before finding a better life at the URM. The original video was transcribed to a written narrative. We also included screenshots from the video in the narrative. We edited the narrative into the three conditions by altering some paragraphs in the story and presenting different endings in each version. All conditions begin with Brian experiencing tragedy (the loss of his son; his wife leaving him) and falling into drug addiction and homelessness. The restorative and RNE conditions follow the process of Brian's recovering from addiction through the help of the rescue mission and his own hard work, whereas in the negative condition, Brian goes to the URM but is unable to overcome his addiction. The restorative condition ends with Brian preparing to start a new life with his girlfriend, while the RNE and negative conditions both end with Brian falling back into his drug addiction. We held the length constant between conditions (937 words in negative; 931 in RNE; 927 in restorative).

Measures

We used the same measures in Study 2 as in Study 1, with minor exceptions: we expanded the scale for the willingness to help items from a 1-7 scale to a 0-100 scale as an attempt to find more nuanced differences between conditions. Donation willingness assessed the likelihood to donate to the URM specifically. We also included an additional item to assess donation willingness related to the narrative (helping the homeless): we added a hypothetical scenario in which participants imagined they were given $20 to donate to a charity. We provided them with a list of charities for different causes (e.g., endangered animals, children, homeless individuals) and asked them to indicate in dollars how much they would donate to each charity. All other measures were the same as in Study 1: Emotional responses (happy, α = .74; meaningful, α = .88; sad, α = .74; fear, α = .86), willingness to help, moral elevation (α = .90), and continued engagement (α = .89).

Results

Emotional response

Consistent with H1a and Study 1, our ANOVA results suggested that the restorative narrative elicited the most happy emotions (both ps < .001; see Table 1). The RNE and negative narrative did not differ on happy emotions (p = .10). This pattern was the same for meaningful emotions:

the restorative narrative elicited the most meaningful emotions (both ps < .001), but meaningful emotion did not differ between the negative and RNE narratives (p = .99).

A similar pattern emerged for negative affect. The restorative narrative elicited the least sad emotions overall (both ps < .05) as well as less fear than the RNE (p = .02). The difference between the restorative narrative and the negative narrative also was approaching significance, where the restorative narrative induced less fear than the negative narrative (p = .05). Neither sadness nor fear differed between the negative and RNE conditions. Taken together, these findings suggest that the story ending is important in eliciting positive emotions and minimizing negative emotions.

Moral elevation

We found a significant effect of narrative condition on moral elevation, such that the restorative narrative led to significantly more elevation than the negative narrative (p < .05). However, elevation did not differ between the RNE and negative conditions (p = .44) or the RNE and restorative conditions (p = .23). We would expect this finding, given the restorative and negative ending components of the RNE narrative.

Willingness to help

We found no significant direct effects for narrative condition on the willingness to donate or willingness to volunteer (H2; see Table 1). This lack of difference may relate the use of a 100-point scale for this item, which may have washed out potential effects of condition on willingness to help. However, for the hypothetical donation, participants in the restorative condition donated significantly more to a charity to help the homeless than those in the RNE condition. There were no other significant differences for this outcome variable.

Continued engagement

Those in the restorative condition reported the greatest desire to engage more with the story (read, share; both ps < .01). Engagement did not differ between the negative and RNE conditions (p = .841).

Model testing

We again tested the hypothesized model separately for willingness to donate and volunteer, with positive emotion paths split into *happy* and *meaningful* emotions and negative emotion paths split into *sad* and *fear* emotions.

Willingness to donate

The model fit the data well for willingness to donate, $\chi^2(df = 4) = 53.26$, $p < .001$, $\chi^2/df = 13.31$, CFI = .95, RMSEA = .15, SRMR = .04 (see Figure 3). The same pattern emerged as in Study 1: narrative condition appeared to indirectly affect helping through emotional responses and moral elevation. We found significant effects of narrative condition on all four emotional responses in the predicted directions. Meaningful emotions again significantly affected elevation, and elevation subsequently affected the willingness to donate. We also observed slight differences from Study 1: the path from happy emotions to moral elevation was significant and negative. We did not predict this negative path; however, this finding could have emerged because the happy subscale included the items humorous and amused, which we would not expect to positively correlate with meaningful emotion items. In addition to the path from happy emotions to moral elevation, we also found that the path from meaningful emotions to willingness to donate and the path from fear to willingness to donate were significant and positive as well.

Willingness to volunteer

The model again fit the data adequately for willingness to volunteer, $\chi^2(df = 4) = 46.56$, $p < .001$, $\chi^2/df = 11.64$, CFI = .95, RMSEA = .14, SRMR = .03. The paths from narrative condition to emotional response and moral elevation replicated those for willingness to donate. Again, the paths from moral elevation and meaningful emotions to willingness to volunteer were significant and positive. Interestingly, the path from fear emotions to volunteer was not significant, but the path from sadness to volunteer was significant and positive. Thus, willingness to volunteer differed from the willingness to donate only in terms of the effect of fear and sadness emotions in which the significance of the paths was reversed.

Figure 3

Path Model Results from Study 2
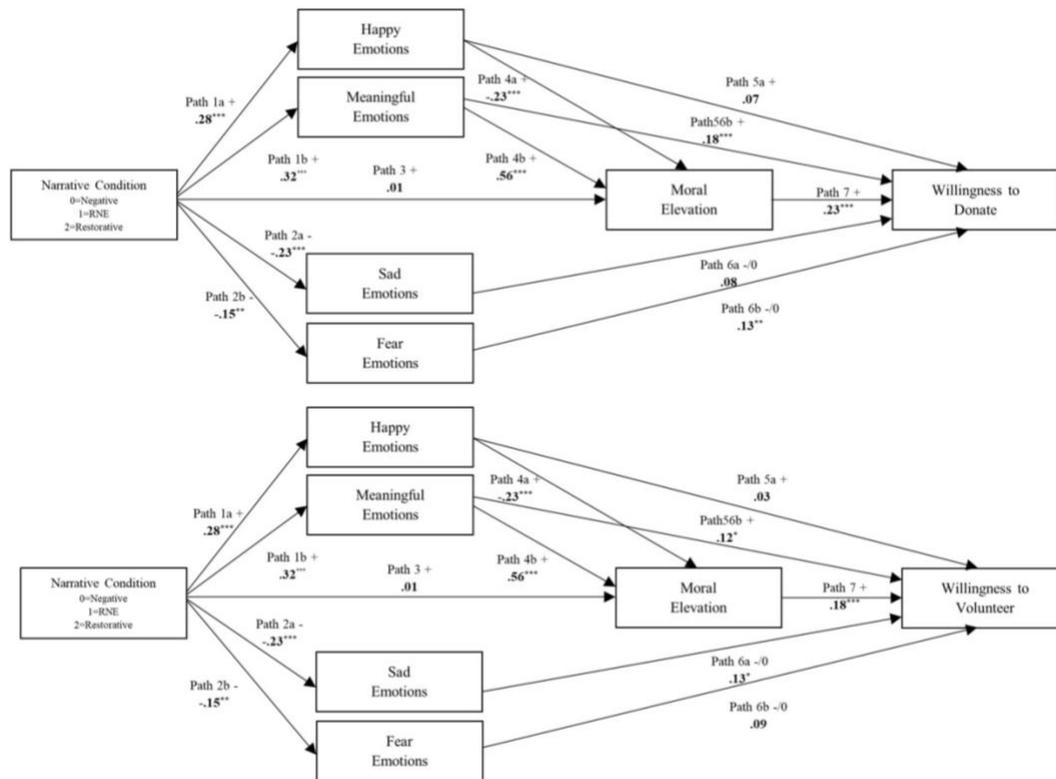
Note. RNE = Restorative with Negative Ending. $^{***}p < .001.$ $^{**}p < .01.$ $^{*}p < .05.$ $^{†}p < .07.$

Discussion

The goal of Study 2 was to provide a further test of the restorative narrative effects from Study 1 and examine the story ending aspect of meaningful progression. Our findings conceptually replicated Study 1 such that the restorative narrative elicited the most positive emotions of all conditions and more moral elevation than the negative condition. Moreover, those in the restorative narrative condition donated significantly more to a relevant charity in a hypothetical donation scenario. This study also supported the importance of a positive story ending. The story with the positive trajectory and negative ending (RNE) influenced participants in a manner more similar to the totally negative story than the restorative narrative. A limitation of Study 2 was that we did not compare a version of the narrative that consisted of only a positive ending with no progression. Future research should examine the extent to which positive outcome alone is predictive of restorative narrative effects.

General discussion

The current studies provided an initial test of a model of restorative narrative effects with a focus on the narrative trajectory. Individuals were more willing to help when exposed to a restorative narrative rather than a negative one, which was especially striking given that characters in negative narratives are arguably more in need of help. A character's meaningful progression toward recovery is an important element of restorative narratives. Furthermore, results suggested that the narrative ending was a key element of maintaining this trajectory. Across both studies, we found adequate fit of our model for both the willingness to donate and the willingness to volunteer. The indirect effects demonstrated by these models help us to better understand the nuanced effects of restorative narratives.

The role of emotion

In general, we proposed that restorative narratives would induce an emotional state that would drive prosocial motivations. Specifically, we hypothesized that restorative narratives would increase positive emotions (including those that are generally positive and those that are more meaningful) and decrease negative emotions (sadness and fear). This process should contribute to a state of moral elevation and greater willingness to help those affected. Consistent with this theoretical perspective, we found that restorative narratives led to more positive affect and less negative affect overall, and in some cases these emotions indirectly affected the willingness to help. Furthermore, we found a consistent pattern in which narrative condition contributed significantly to meaningful emotions. Meaningful emotions then affected moral elevation and subsequently the willingness to help. These results further suggest that meaningful emotions drive moral elevation and helping effects.

Notably, the findings for negative emotions differed between studies and between helping types. We hypothesized that the effect of negative emotions on helping would be nonsignificant or negative, regardless of helping type (Path 6a and 6b for all models). In Study 1, negative emotions did not influence helping. In Study 2, fear influenced the willingness to donate and sadness influenced the willingness to volunteer. Taken together, these findings may suggest that differences in the restorative stories might lead negative emotions to function differently and affect helping in slightly different ways. Future studies should test our model using a variety of restorative narrative stimuli to better understand the role of negative emotions.

The role of ending

In relation to narrative ending, our findings in Study 2 suggest that the effects of restorative narratives may be thwarted without a positive narrative conclusion. The story with the positive trajectory and negative ending (RNE) influenced participants in a manner more similar to the totally negative story than to the restorative narrative. Even when a story highlights the

meaningful progression of a victim, if that victim fails to encounter a positive outcome at the end of the story, the positive trajectory suggested by the narrative is broken. Moreover, the RNE story produced significantly less positive emotions, less moral elevation, and more negative emotions than the restorative narrative, despite being almost completely identical until the end of the story. This finding is indicative of the importance of narrative endings in fostering such effects. In line with the peak-end rule (Kahneman, 2000), the final emotions seemed to direct the readers' overall emotional response. Although we did not examine the peak part of this theory, our findings suggest that, even when the emotions at other points of the story are positive, the negative ending emotions outweigh them.

These findings suggest that restorative narratives may be an effective way of countering the collapse of compassion and increasing helping during times of crisis. Although journalists have a responsibility to report on negative events, our studies suggest that finding ways to highlight positive progress even in the midst of challenging situations can have important societal benefits by encouraging prosocial action.

Yet, while restorative narratives may have practical potential, there may be ethical considerations when using a restorative narrative format. The restorative narrative in Study 1 left viewers with a sense that Ruben had landed his dream job and was feeling optimistic about his future. This was not necessarily the most current portrayal of Ruben (Ruben did land his dream job, but he lost it due to PTSD). Nonetheless, our results found that ending the report with Ruben on a positive trajectory fostered more positive social and psychological outcomes than by showing Ruben as struggling.

Of course, not all stories can be presented in a positive or restorative way. Journalists must follow the ethical principles of accurate reporting. Our intent is not to suggest that restorative narratives should ignore setbacks or inaccurately present situations. Rather, highlighting strength and positive trajectory seems to be a beneficial strategy for increasing prosocial attitudes, and therefore journalists may want to consider these components when crafting their stories. For example, journalists might highlight a positive trajectory, if applicable and genuine, along with the details of a crisis rather than focusing on the crisis alone. If a news team interviews multiple people for a story, they might choose to highlight a person who demonstrates strength or is on the road to recovery. Alternatively, a restorative narrative might be presented as a sidebar or follow-up story along with a report about a tragedy. What information to present for what purpose is a judgment that journalists using restorative narratives will need to consider.

ivoh offers several types of narratives that are similar to restorative narratives on the surface but lack the particular characteristics that make them effective. For example, stories that provide a false sense of hope, or focus too much on tragedy, are not restorative (Tenore, 2015). The subtle variations in these restorative narrative imposters may provide useful comparisons beyond the wholly negative versions we used in the current studies. Similarly, comparing how and when restorative narratives differ from conceptually similar storytelling approaches may be a useful avenue for future research. For instance, research on underdog narratives (see Prestin, 2013) examines stories that begin with an individual facing some adversity and shift to how that

individual overcomes their challenges to achieve success. Such stories induce hope and therefore may have similar benefits to viewers as restorative narratives.

A limitation of the current study is that we provided a working definition of restorative narratives that did not include all of the features initially suggested by ivoh. Some of these features may play an important role in the effectiveness of restorative narratives (for example, a narrative that is perceived as inauthentic may have negative rather than positive effects on viewers). Future work might consider whether other features should be included in empirical studies and how they might be operationalized.

Implications for journalism and public interest communications

Our results suggest practical implications for journalists, journalism educators, and public interest communicators. For instance, public interest communicators could apply the knowledge gained in this research to create more actionable, empirically-based narrative campaigns that create positive social change by focusing on stories that include character strengths and positive trajectories. Furthermore, our findings provide an approach to journalism that could be integrated into an educational setting: journalism and communication educators could include curriculum related to the emotional mechanisms and outcomes of restorative narratives as a new type of journalism and public interest communications.

Implications beyond journalism

The effects observed here emerged across both text and video stories. This implies the utility of restorative narratives across a variety of media. As noted in the introduction, this format of storytelling could be applied to a wide range of media communications, rather than simply a journalistic context. For example, restorative narratives could be integrated into film, podcasts, music, fictional works, and goal-oriented campaign materials (e.g., public relations or health campaigns; see Fitzgerald et al., 2020). It seems likely that using a restorative narrative format would lead to beneficial outcomes, such as evoking positive emotions and motivating reader engagement and prosocial action, across a variety of media. Future work might more directly compare the efficacy of these narratives in different contexts or formats. Such work would have implications for instances such as crises or major events where media organizations might cover the same story using a variety of different formats (e.g., television broadcasting, radio, newspapers) and maintaining public engagement is important.

Limitations and future directions

Future studies should examine the characteristics that make restorative narratives more or less effective. For example, studies might vary the relative composition of tragedy statements versus restorative statements. Other work could compare narratives with a mainly positive trajectory to

narratives with a more turbulent progression pattern and determine if restorative narratives are viewed differently based on the overall trajectory of the individual. Though these different patterns may both fit the current conceptual definition of restorative narratives as demonstrating a meaningful progression (and not necessarily excluding progressions that include setbacks), the number or type of setbacks chronicled in these stories may affect readers' judgments.

Conclusion

Restorative narratives provide a way to share negative news while increasing the willingness for viewers to help those affected. Our current studies offer evidence of the mechanisms that foster restorative narrative effects above and beyond other versions of the same stories. Specifically, restorative narratives evoked a state of moral elevation through meaningful emotions, and this elevation influenced helping, regardless of story or helping type. These results suggest that a restorative approach to storytelling may be advantageous in situations where helping is needed but emotion regulation is likely to occur, including ongoing social issues or during times of crisis. As Mallary Tenore, executive director of ivoh, stated: "We're not saying, 'Don't cover the trauma or the tragedy,'…We're saying the story doesn't end there. In many ways, it's just the beginning" (as cited in DeJarnette, 2016, para. 11).

References

Algoe, S. B., & Haidt, J. (2009). Witnessing excellence in action: The "other-praising" emotions of elevation, gratitude, and admiration. *Journal of Positive Psychology*, *4*(2), 105-127. https://doi.org/10.1080/17439760802650519

Aquino, K., McFerran, B., & Laven, M. (2011). Moral identity and the experience of moral elevation in response to acts of uncommon goodness. *Journal of Personality & Social Psychology*, *100*(4), 703-718. https://doi.org/10.1037/a0022540

Cameron, C. D., & Payne, B. K. (2011). Escaping affect: How motivated emotion regulation creates insensitivity to mass suffering. *Journal of Personality and Social Psychology*, *100*(1), 1-15. https://doi.org/10.1037/a0021643

Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication & Society*, *4*(3), 245-264. https://doi.org/10.1207/S15327825MCS0403_01

Dahmen, N. S. (2016). Images of Resilience: The case for visual restorative narrative. *Visual Communication Quarterly*, *23*(2), 93-107. https://doi.org/10.1080/15551393.2016.1190620

Dahmen, N. S. (2019). Restorative narrative as contextual journalistic reporting. *Newspaper Research Journal*, *40*(2), 211-221. https://doi.org/10.1177/0739532919849471

Dale, K. R., Raney, A. A., Janicke, S. H., Sanders, M. S., & Oliver, M. B. (2017). YouTube for good: A content analysis and examination of elicitors of self-transcendent media. *Journal of Communication*, *67*(6), 897-919. https://doi.org/10.1111/jcom.12333

DeJarnette, B. (2016, January 13). *How restorative narratives can engage communities after tragedies*. MediaShift. http://mediashift.org/2016/01/how-restorative-narratives-can-engage-communities-after-tragedies/

Dillard, J. P., & Shen, L. (2006). Self-report measures of discrete emotions. In R. A. Reynolds, R. Woods, & J. D. Baker (Eds.), *Handbook of research on electronic surveys and Measurements* (pp. 330-333). IGI Global.

Ellithorpe, M. E., Ewoldsen, D. R., & Oliver, M. B. (2015). Elevation (sometimes) increases altruism: Choice and number of outcomes in elevating media effects. *Psychology of Popular Media Culture, 4*(3), 236-250. https://doi.org/10.1037/ppm0000023

Fitzgerald, K., Paravati, E., Green, M. C., Moore, M. M., & Qian, J. L. (2020). Restorative narratives for health promotion. *Health Communication*, *35*(3), 356-363. https://doi.org/10.1080/10410236.2018.1563032

Green, M. C., & Brock, T. C. (2000). The role of transportation in the persuasiveness of public narratives. *Journal of Personality and Social Psychology*, *79*(5), 701-721. https://doi.org/10.1037/0022-3514.79.5.701

Haidt, J. (2003). Elevation and the positive psychology of morality. In C. L. Keyes & J. Haidt (Eds.), *Flourishing: Positive psychology and the life well-lived* (pp. 275-289). American Psychological Association.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.

Kahneman, D. (2000). Evaluation by moments: Past and future. In D. Kahneman & A. Tversky (Eds.), *Choices, values and frames* (pp. 699-708). Cambridge University Press and the Russell Sage Foundation.

Kenny, D. A., Kaniskan, B., & McCoach, D. B. (2015). The performance of RMSEA in models with small degrees of freedom. *Sociological Methods & Research*, *44*(3), 486-507. https://doi.org/10.1177/0049124114543236

McIntyre, K., & Gyldensted, C. (2018). Constructive journalism: An introduction and practical guide for applying positive psychology techniques to news production. *Journal of Media Innovations*, *4*(2), 20-34. https://doi.org/10.5617/jomi.v4i2.2403

McNaughton-Cassill, M. E., Novian, D. E., Holmes, T. L., & Smith, T. L. (2009). Emotional stress and coping in response to television news coverage of the 9/11 terrorist attacks. *Journal of Media Psychology*, *14*(1), 16-26.

Myrick, J. G., & Oliver, M. B. (2015). Laughing and crying: Mixed emotions, compassion, and the effectiveness of a YouTube PSA about skin cancer. *Health Communication, 30*(8), 820-829. https://doi.org/10.1080/10410236.2013.845729

Oliver, M. B., Hartmann, T., & Woolley, J. K. (2012). Elevation in response to entertainment portrayals of moral virtue. *Human Communication Research*, *38*(3), 360-378. https://doi.org/10.1111/j.1468-2958.2012.01427.x

Park, N., & Peterson, C. (2006). Moral competence and character strengths among adolescents: The development and validation of the Values in Action Inventory of Strengths for Youth. *Journal of Adolescence*, *29*(6), 891-909. https://doi.org/10.1016/j.adolescence.2006.04.011

Park, N., & Peterson, C. (2009). Character strengths: Research and practice. *Journal of College and Character*, *10*(4), 1-10. https://doi.org/10.2202/1940-1639.1042

Pfefferbaum, B., Newman, E., Nelson, S. D., Nitiéma, P., Pfefferbaum, R. L., & Rahman, A. (2014). Disaster media coverage and psychological outcomes: Descriptive findings in the extant research. *Current Psychiatry Reports*, *16*(9), 464. https://doi.org/10.1007/s11920-014-0464-x

Prestin, A. (2013). The pursuit of hopefulness: Operationalizing hope in entertainment media narratives. *Media Psychology*, *16*(3), 318-346. https://doi.org/10.1080/15213269.2013.773494

Ramsey, S. R., Thompson, K. L., McKenzie, M., & Rosenbaum, A. (2016). Psychological research in the internet age: The quality of web-based data. *Computers in Human Behavior*, *58*, 354-360. https://doi.org/10.1016/j.chb.2015.12.049

Schnall, S., Roper, J., & Fessler, D. M. T. (2010). Elevation leads to altruistic behavior. *Psychological Science, 21*(3)*,* 315-320. https://doi.org/10.1177/0956797609359882

Shaw, L. L., Batson, C. D., & Todd, R. M. (1994). Empathy avoidance: Forestalling feeling for another in order to escape the motivational consequences. *Journal of Personality and Social Psychology*, *67*(5), 879-887. https://doi.org/10.1037/0022-3514.67.5.879

Silver, R. C., Holman, E. A., Andersen, J. P., Poulin, M., McIntosh, D. N., & Gil-Rivas, V. (2013). Mental- and physical-health effects of acute exposure to media images of the September 11, 2001, attacks and the Iraq War. *Psychological Science*, *24*(9), 1623-1634. https://doi.org/10.1177/0956797612460406

Slovic, P. (2007). "If I look at the mass I will never act": Psychic numbing and genocide. *Judgment and Decision Making, 2*(2), 79-95. http://journal.sjdm.org/7303a/jdm7303a.htm

Small, D. A., Loewenstein, G., & Slovic, P. (2007). Sympathy and callousness: The impact of deliberative thought on donations to identifiable and statistical victims. *Organizational Behavior and Human Decision Processes, 102*(2), 143-153. https://doi.org/10.1016/j.obhdp.2006.01.005

Tenore, M. (2015). *The case for restorative narratives: A strengths-based storytelling genre that can improve media coverage*. Kosmos: Journal for Global Transformation. https://www.kosmosjournal.org/article/the-case-for-restorative-narratives/

Appendix

Manipulation and attention checks

Study 1 contained two multiple-choice attention checks which asked participants (a) where Ruben and the others hid from the tornado and (b) what happened to Ruben at the end of the video. Participants who responded incorrectly to either question were excluded from analyses. Participants also indicated by free response what natural disaster devastated Joplin. All responses that included "tornado" or related terms such as "storm" or "bad weather" were included in the final sample. Study 2 contained an attention check which asked participants to select from three options what tragedy Brian experienced. The correct answer (the loss of his son) would be clear to anyone who had read the story. The manipulation check asked which of three items best described how the story ended (Correct answers: "Brian is preparing to start a new life with his girlfriend" for restorative; "Brian fell back into his drug addiction" for negative and RNE). Participants who incorrectly answered either check were excluded from all analyses.

As an additional check to our manipulation in Study 2, we included a measure to assess whether participants felt that Brian was on a positive trajectory by the end of the story. Participants rated their prediction of his future on three 9-point semantic differentials (unpleasant/pleasant, negative/positive, and unhappy/happy; $\alpha = .98$). Those who read the restorative narrative predicted Brian's future to be more positive overall (both Tukey p's $< .001$), $F(2, 406) = 214.54$, $p < .001$, $\eta_p^2 = .51$. The negative and RNE narratives did not differ ($p = .16$).

Stimulus material in Study 1

The original full-length video (8 minutes, 51 seconds) included an interview with Ruben and an update on Ruben's life since the tornado. Ruben had acquired his dream job and was feeling optimistic about his future; however, immediately afterwards, Ruben notes that he has since lost this job due to PTSD. An additional large portion of the video is simply footage of the Joplin area and devastation from the tornado. Thus, we were able to use Adobe Premiere Pro video editing software to edit the available scenes into three separate conditions.

Principal component analyses (PCA) results for Study 1 and Study 2

We submitted our emotion items in Study 1 to a PCA with Promax rotation with Kaiser normalization (Kappa = 4). Results indicated that three factors best fit the data (63.68% total variance explained). Factor 1 included the items touched, moved, compassion, awe, admiration, and inspired; pattern matrix factor loadings of these items on the factor ranged from .61 to .87 and did not exceed ±.50 on any other factor. Factor 2 included the items tearful, depressed, sad, fearful, afraid, and anxious; pattern matrix loadings on this factor ranged from .60 to .87 and did not exceed ±.30 on any other factor. Factor 3 included the items cheerful, happy, humorous, and

amused; pattern matrix loading on this factor ranged from .64 to .74 and did not exceed ±.30 on any other factor. Notably, fear emotion items appeared to fit better (fearful, afraid, anxious; .87, .87, .82 respectively) than sad emotion items (tearful, depressed, sad; .60, .74, .61 respectively) for Factor 2. We would expect theoretical differences between these overall emotion factors. Thus, we chose not to collapse fear and sad emotion items together and conducted the same PCA again, restricting the number of factors to four. The results of this analysis indicated that four factors explained 68.32% total variance. We conducted the same PCA on the data from Study 2, restricting the number of factors to four for consistency with Study 1. Results from Study 2 indicated that four factors explained 71.67% of the total variance.