Two exploratory studies demonstrate, for the first time, that narrative persuasion can diminish the stigma attached to social groups featured in journalistic narratives. Study 1 shows narrative format improves stigma toward Syrian refugees indirectly through narrative engagement, perceived similarity, and meaningful affect. Decreases in stigma also improved attitudes toward refugees. Study 2 replicates these findings against a separate participant pool, an additional story topic, and compares changes in engagement, stigma, and attitude to a non-narrative fact sheet and a control condition. A preregistered third study seeks to validate the finding that narratives can elicit destigmatization and disentangle the roles of story exemplars from story structure.

Keywords: Narrative persuasion; refugees; stigma; attitude; journalism

Although refugees resettled in the United States have undergone the most stringent security and background checks of any traveler (Ardalan, 2017), federal legislative and executive bodies have attempted to bar refugees from entering the country on the grounds refugees pose a threat (Barnes, 2017; Collins et al., 2016). The Trump administration has been especially restrictive on immigration policy generally and refugee resettlement in particular despite the prior administration’s pledge to take in additional Syrian refugees as the Syrian Civil War escalated (Ostrand, 2015). In the first of several unilateral actions to bar refugees from entrance to the United States, the current administration first issued an executive order in January 2017 that temporarily suspended the refugee resettlement program, lowered the number of refugees admitted to the U.S. annually from 110,000 to 50,000, indefinitely suspended the entry of Syrian refugees, and banned citizens from several countries—including Syria—from entering the United States (Exec. Order No. 13769, 2017). The first order resulted in widespread protests in U.S. cities, e.g. New York City (Rosenberg, 2017), Atlanta (Gehlbach, 2017), Raleigh-Durham (Grinberg & Park, 2017), and Portland (Brosseau, 2017). The second executive order, issued in March 2017, replaced the first but removed the permanent ban on Syrian refugees and allowed citizens of the banned countries who also hold U.S. citizenship to enter the United States (Exec. Order No. 13780, 2017). In September 2017, Trump issued Presidential Proclamation 9645 (2017) that expanded the list of countries whose citizens were barred from entry and, importantly, made the travel bans permanent. Finally, a memorandum for the Secretary of State further lowered the number of refugees to be allowed entry for the 2018 fiscal year to 45,000 (Presid. Determination 2017–13, 2017), the lowest number of refugees admitted since 1980, the same year the U.S. passed the Refugee Act of 1980 (Cepla, 2018). As of this writing, Syrians are still barred from entering the United States despite overwhelming evidence that refugees pose little threat to natives. Independent, non-partisan analyses indicate that fatal terroristic attacks in the United States are almost universally the product of domestic radicalization (Bergen, Ford, Sims, & Sterman, n.d.) and that the odds of being killed by such an attack are exceedingly low—about 1 in 3.64 billion (Nowrasteh, 2016). The average American is several times more likely to be struck by lightning in a given year—a 1 in 8.98 million chance (Insurance Information Institute, 2018)—than to be killed by a refugee.

Using the state apparatus to curtail legal immigration has ramifications beyond merely denying entry to individuals since such institutional practices and policies more broadly implicate popular conceptions of immigrants and refugees. Kundnani (2001) examines how over the course of several years the asylum application screening mechanisms in the United Kingdom were made more stringent in an effort to ‘solve’ the refugee problem; this process cultivates popular racism by increasing the difficulty of completing a successful asylum application, which in turn results in an increase in asylum denials, which politicians can then
use as evidence that asylum seekers are merely illegal immigrants, a wound through which racism has healed and reinfected the body politic, combining with and reinforcing other forms of popular racism” (Kundnani, 2001, p. 43). This phenomenon is not limited to the U.K. and the U.S. but is evident in other parts of the world as well. For example, in the wake of the 2015 Paris terrorist attacks. In the months following the attacks, 36 state governors in the United States made public statements regarding refugee resettlement policy (see Aiken, 2002). According to Pepe’s analysis, these state governors stated they would either openly defy the Obama administration in resetting refugees or decline to participate in the resettlement program, constructing Syrian refugees as “perpetrators of terrorism as villains” (Petty & Brinberg, 1981, p. 518). Emotional engagement involves “feeling for and with the reader, to the extent that the reader is exclusively thinking of the narrative world.” Engaging narratives are more easily understood and readers define narrative understanding as the difficulty with which a narrative is perceived to be understood. Emotional engagement, and narrative presence. They define narrative understanding as the difficulty with which a narrative is perceived to be understood. Emotional engagement involves “feeling for and with the reader; they do not mean to argue that there is necessarily a unidirectional relationship between these two theoretical concepts and it is entirely possible that shifts in attitude would necessitate changes to constructs that specify the four dimensions: Narrative understanding, attentional focus, emotional engagement, and narrative presence. They argue that empathy is a mediator in narrative persuasion models because it explicitly measures both immersion into a story and relatedness to the stigmatized. This distinction between attitude and stigma is also practically important since stigma is particularly pernicious: Stigmatized individuals will be seen as socially deviant and therefore deserving prejudicial judgement (Dovidio, Gaertner, & Kawakami, 2003). Insofar as stigma reduction is of interest to a stigmatized group or increase positive reactions (see Pettigrew & Tropp, 2000). By drawing on stigma reduction theory, we also contend that empathic reactions with story characters can reduce stigma directly and through empathic affect (Devine, Plant, & Hewstone, 2000). Such empathically-derived affective states, we can reduce stigma indirectly through change in others’ attitudes (see Busselle & Bilandzic, 2009; Green & Brock, 2002). 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toward the broader social group. We also expect that stories portraying characters of a stigmatized group will directly improve attitudes (Batson et al., 1997; Clore, K. M. Jeffery, Finlay & Stephano, 2000).

Stigma reduction and perceived similarity

Given that stigmatization involves perceptions of intergroup differences and avoidance of stigmatized groups, heightening perceived similarity plays an important intergroup influence process (Brewer & Miller, 1984; Miller & Brewer, 1986; R. A. Smith, 2007). We argue that narratives may offer a form of mediated contact and are thus promising venues for narrative persuasion as they allow the audience to vicariously experience the character's world in a way that might promote greater understanding of the character (Busselle & Bilandzic, 2008).

In addition to increased perceived similarity indirectly affecting attitude through stigma, extant work also shows that such perceptions can increase interpersonal attraction directly (as argued by Chen & Hui, 2001) and can still serve as ‘means to encourage social acceptance by increasing perceptions of similarity, increasing social attraction, and decreasing social distance for highly stigmatized proxys’ (Chung & Brock, 2004). An author may thus provide these Goftman (1974) terms ‘normal’s an opportunity to engage in the perspective taking afforded in the narrative persuasion process via narrative engagement (see Busselle & Bilandzic, 2009). Mere perspective taking into a black box outside of a narrative context can reduce bias toward minorities (Maister, Sebanz, Knoblich, & Tsakiris, 2012; Peck, Senfeld, Aglioti, & Slater, 2013). We propose narratives offer similar—if not greater—advantages for perspective taking via narrative engagement and may serve as an untapped and unexamined method of destigmatization.

As such, media messages—particularly narrative messages—should be particularly well suited to heighten perceived similarity via the process of narrative engagement within a narrative frame. To summarize, our overall goal is to examine how specific textual features impact the degree to which narratives elicit persuasive outcomes. Not all texts are narratives and narrative and narrative is not equivalent to story or plot. Many narrative persuasion scholars treat narrative, story, and plot interchangeably, but this has created some muddling of what characteristics of a narrative elicit a narrative persuasion effect. Here, we provide a brief overview of the definitions of these terms, the distinction model (E LLM, M. D. Slater, & Ronner, 2002), and narratology, which is the study of narratives and how the text constitutes a narrative as well as a means to describe a narrative. Important to note is that while there is a distinction between narrative and story, the two are interrelated. The distinction between the two is that narrative is a process, and story is the end product. In the present work, we aim to examine the relationship between the two and how they interact within a narrative.

Narrative, Story, and Plot

A secondary goal of our work is to understand how narrative elements that are described in such a way as to show their relation to other having narrative since in order for Frank to go to bed early he must have returned from work. However, Frank coming home from work and going to bed early because he felt he could not stand the pressure (J. Cohen, 2001) introduces a greater understanding of the character in a complex narrative world (Mar & Oatley, 2008). Encouragingly, featuring stigmatized protagonists in stimulus materials increases the degree of perceived similarity (Chung & Brock, 2004), defined as a “distinct mental structure, an integrative melding of attention, imagery, and process, an integrative melding of attention, imagery, and process, a distinct mental structure, an integrative melding of attention, imagery, and process” and “transportation” (Green & Brock, 2000, 2002; Green, Brock, & Kaufman, 2004), defined as a “distinct mental structure, an integrative melding of attention, imagery, and process” and “transportation” (Green & Brock, 2000) drew from work on flow experiences or absorbing narratives. For example, McGonigal (2011) and Baiker et al. (2007) have argued that narrative, story, and plot have largely gone unaddressed in the narrative persuasion literature.

Narrative, Story, and Plot

As we have argued, we then expect such engagement to indirectly alter stigma through perceptions of perceived similarity and empathetic affect.

The Difficulty of Establishing Mediational View; while stated earlier, our purpose in this study is to provide evidence that the narrative persuasion process can indeed influence perceptions of stigma and not just increase social acceptance. We argue that interactivity in narratives is critical for integrating both the bodies of stigma and narrative persuasion research, but our present work can only lay the groundwork for future scholarship to determine whether the effects of interactivity (e.g., Bullock, Green, & Ha (2010) provide a comprehensive overview of the challenges of mediation as it is presently understood, but in summary, building a strong case for mediates necessitates first creating manipulations that can affect solely mediators and nothing else in an effort to

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rule out alternative explanations for the observed indirect effect. As Bullock et al. (2010) points out, this requires painstaking piloting and validation. We only aim for our efforts here to lay the groundwork for future scholarship to more definitively build the case for similarity, affect, and stigma to serve as mediators within a narrative persuasion framework.

Pilot Work
This registered report contains two pilot studies that, while theoretically driven, deviated from the planned analysis as our original screening criteria were too strict and we opted to use unidimensional scales for two key concepts (narrative engagement and stigma) that we originally planned to use them as multidimensional constructs, thus necessitating a respecification of our original path model. Therefore, study 1 and study 2 should be treated as exploratory and drawn upon with caution until the findings are validated.

Study 1
In our initial examination of the role of stigma in the narrative persuasion process, we expected the narrative story format to elicit higher levels of narrative engagement, but specified the structure of the model among perceived similarity, stigma, and meaningful affect. We report on our exploratory analysis here.

All stimuli, measures, participant data, SPSS syntax, and expanded details can be found on the Open Science Framework (osf.io/6yo2).

Method
Procedure
In the fall of 2016 we recruited participants from Amazon’s Mechanical Turk. We employed a two condition between-subjects experimental design with random assignment to conditions. Participants were assigned to either a narrative or non-narrative condition similar to Oliver et al. (2012). After accessing the study from their MTurk accounts, participants indicated their acceptance of the consent form and then filled out several basic demographic and background items (age, sex, race, empathic tendencies, and political ideology). Participants were then exposed to one of two versions of the news story (narrative or non-narrative). Then, they filled out measures for affect, narrative understanding items were reverse coded so that higher scores indicate higher degrees of stigma. Like the narrative engagement scale, we were interested in measuring the overall stigma attached to social groups in this study. As such, we first created subscales identically to Corrigan et al.’s (2003) operationalization of stigma, which are sufficiently reliable when treated as individual items (α = .89). Then these subscales were averaged together to create the overall stigma measure.

Perceived similarity
The scale we employed was adapted from McCroskey, Richmond, and Daly (1975) and consisted of five Likert-type items averaged together (α = .97) adapted from Batson et al. (1997). Items included “I care a great deal about helping refugees,” “In general, I feel positively toward refugees,” and “Our society should do more to protect the welfare of refugees.”

Results
We used multiple analysis of variance tests to examine the main effect of narrative format on the dependent variables (narrative engagement, stigma, perceived similarity, meaningful affect, and attitude). None of these individual tests resulted in a direct main effect on any outcomes (see Table 2).

To examine the relationship between narrative format, narrative engagement, and the second order outcomes, we built a path analysis using the narrative condition as the exogenous variable, which was coded such that 0 = non-narrative format and 1 = Narrative format. Attitude toward refugees was used as the outcome variable. We

Table 1a: Descriptives and Correlations, Study 1.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>159</td>
<td>159</td>
<td>159</td>
<td>159</td>
<td>159</td>
<td>159</td>
</tr>
<tr>
<td>M</td>
<td>4.92</td>
<td>4.56</td>
<td>3.86</td>
<td>2.41</td>
<td>4.39</td>
<td>126.9</td>
</tr>
<tr>
<td>SD</td>
<td>0.87</td>
<td>1.57</td>
<td>1.8</td>
<td>1.08</td>
<td>1.72</td>
<td>49.89</td>
</tr>
</tbody>
</table>

Note: * p < .001.

Table 1b: Descriptives by Condition, Study 1.

<table>
<thead>
<tr>
<th></th>
<th>Narrative n = 83</th>
<th>Non-Narr. n = 76</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nar. Engagement</td>
<td>5.05(0.92)</td>
<td>4.78(0.78)</td>
</tr>
<tr>
<td>M</td>
<td>4.61(1.58)</td>
<td>4.47(1.56)</td>
</tr>
<tr>
<td>SD</td>
<td>3.91(1.76)</td>
<td>3.81(1.85)</td>
</tr>
<tr>
<td>Stigma</td>
<td>2.38(1.03)</td>
<td>2.44(1.13)</td>
</tr>
<tr>
<td>Time</td>
<td>4.36(1.82)</td>
<td>4.42(1.61)</td>
</tr>
</tbody>
</table>

Note: Times are displayed as seconds.

At the beginning and end of the story in the narrative format condition, the non-narrative format condition, the text for both conditions, both of which were about the same length between 520 and 512 words, the story features a Syrian pharmacist who had fled violence in his home country after one of his children was killed in a bombing.
specified that narrative engagement would predict perceived similarity, meaningful affect, and stigma. Error terms between the meaningful affect and perceived similarity variables were allowed to covary. Stigma was also predicted by meaningful affect and perceived similarity. We also estimated the standardized indirect effect of narrative engagement on attitude through narrative engagement. We also conducted an indirect effects test using tracing rules to calculate standardized effects and 5,000 bootstrapped samples to construct bias corrected 95% confidence intervals for standard errors to estimate significance levels. We found a significant indirect total effect of narrative on attitude (β = .08, p = .042). We also estimated the standardized indirect effect of condition on attitude through narrative engagement and then individually through each of the second order effect variables using tracing rules and found that there is a significant indirect effect through meaningful affect (β = .03, p = .025), perceived similarity (β = .02, p = .025), and stigma (β = .03, p = .035). Both indirect effects tests are marginally significant and given that if the effect were real, both of these levels of stigma should be rare (see Lakens, 2014; Selke, Bayarri, & Berger, 2001). Therefore, these findings should be, at best, drawn upon cautiously as the null hypothesis may very well be true.

**Discussion**

Our first study provides preliminary evidence that narrative engagement is indirectly related to attitude via meaningful affect, stigma, and perceived similarity. Our exploratory path analysis also indicated that perceived stigma is driven by narrative engagement, meaningful affect, and perceived similarity. Most importantly, this analysis indicates support for the notion that not only can narrative persuasion elicit attitude change, but that this change is driven in part by stigma reduction.

The first study leaves several questions unanswered that we address in study 2. First, because all subjects were presented with stories about Syrian refugees, we cannot assess whether levels of stigma were changed in a meaningful way, which would have required an additional condition where participants were exposed to a separate topic. Second, our narrative format manipulation altered both story structure and character emphasis in our attempt to create a news account that was more narratively engaging, conflating story and discourse. By doing so, it is unclear which of the two may be driving levels of narrative engagement. Past work has contended emphasizing story structure at the beginning and end of a story—compared to being described in the middle of a story and with fewer words—affords audiences the opportunity to emotionally engage with a character and perspective take into a character’s lived experience, resulting in greater persuasive outcomes (e.g., Oliver et al., 2012). However, character emphasis is a discourse element for narratology scholars while story structure could be defined as an element of plot (Cohley, 2014), which from a structuralist perspective, muddles whether one or both are integral to narrative persuasion. Media practitioners and advocates would both benefit from a more precise understanding of whether plot (the order of story elements) or character emphasis are really at play here.

Thus our second study will investigate whether merely altering narrative structure can elicit similar effects on outcome variables to establish that story structure or plot is not inconsequential. Finally, while past research has provided ample evidence to indicate that narratives are more influential on attitudes than non-narrative formats (e.g., Oliver et al., 2012), we do not know if our narrative manipulation is a marked improvement over more factually oriented materials such as a fact sheet.

**Study 2**

As indicated from our discussion of study 1, here we present a study that provides additional evidence that attitude change derived from exposure to narratives about stigmatized groups is driven—at least in part—in through increased perceptions of perceived similarity, diminished assessments of stigma, and meaningful affect. To isolate the effect of story structure (plot) from character emphasis (discourse), we employ a similar narrative format to our initial study against identical content presented in a tutorial that had no bearing on the dependent variables. Being able to compare the effect of two story topic conditions and filling out the respective outcomes were participants presented with the altruistic behavior measure where they were given an opportunity to indirectly help both foreign agricultural workers and locally resettled refugees. Demographics, MRS, and behavioral intent were not used in analyses. The first author’s home instructional review board approved the study (VT IRB #17-304) and subjects were compensated with course credit.

**Stimulus materials**

In addition to the Syrian refugee stimulus used in study 1, we also employed a second stimulus about a foreign aid recipient. The foreign aid story features a Mexican farmer who has benefited from a locally administered aid program funded by the United States. The farmer was provided with assistance in the form of livestock, farm equipment, and education. As a result, his family broke out of its hand-to-mouth existence.

The manipulation employed in our first study conflated a focus on character with a narrative story structure. Here, we aim to disentangle these two concepts from one another and to test effects across more than one stimulus topic. We assigned participants to read one of the following for each of the topics (refugee and foreign aid): a story that is well-structured that also focuses on a specific individual’s lived experiences (the narrative condition), a more factually-oriented account and a condition that show changes in outcomes from baseline levels. Finally, in addition to testing variants on our original stimulus materials about Syrian refugees resettled in the United States, we included a second story topic to determine whether the relationships observed in study 1 were idiosyncratic to the stimulus employed there. We also use a control condition to establish baseline levels of outcome variables for comparison to the narrative conditions.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>F</th>
<th>p</th>
<th>Condition</th>
<th>M</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrative engagement</td>
<td>3.85</td>
<td>.051</td>
<td>Non-narrative</td>
<td>4.78</td>
<td>.078</td>
</tr>
<tr>
<td>Meaningful affect</td>
<td>0.41</td>
<td>0.523</td>
<td>Non-narrative</td>
<td>4.47</td>
<td>0.18</td>
</tr>
<tr>
<td>Homophily</td>
<td>0.14</td>
<td>0.713</td>
<td>Non-narrative</td>
<td>3.81</td>
<td>0.21</td>
</tr>
<tr>
<td>Stigma</td>
<td>0.13</td>
<td>0.718</td>
<td>Non-narrative</td>
<td>3.91</td>
<td>0.19</td>
</tr>
<tr>
<td>Attitude</td>
<td>0.04</td>
<td>0.843</td>
<td>Non-narrative</td>
<td>4.42</td>
<td>0.18</td>
</tr>
</tbody>
</table>

Note: df = 1, df = 157.

![](image.png)
comparison between the two stories that focus on a character but vary on story structure can show us whether plot elements like story structure are consequential in narrative persuasion. While narratologists would contend that a better or more coherent plot would possess greater levels of narrativity (Prince, 1987, 2008), it is as of yet unclear whether this directly translates into greater persuasive effects. Furthermore, comparisons between the structured narrative condition and the fact sheet can demonstrate that a narrative emphasizing a character's lived experience is a superior persuasive tool compared to a raw information devoid of narrative qualities. Practically this is also important for communication professionals who may be faced with a choice between investing resources in either narrative or informational appeals. Finally, comparisons between the control group and any other condition will allow us to assess changes from baseline levels.

The first author on this manuscript wrote the stimulus materials for each of the conditions. The randomized narrative is identical in content to the narrative condition, however, the story's paragraphs were presented in a randomized order. The story appeared to be an authentic news account, although it was never explicitly identified as such. The fact sheet condition featured broad information about the topic but was not illustrated through a specific individual. For example, while the refugee narrative condition shows how the mediated character cannot find a job because his credentials from Syria did not transfer to the United States, the fact sheet condition states that many Syrian professionals take entry-level jobs for the same reason. In both the randomized narrative and randomized fact condition, all participants were presented with the information in a random order. The control condition presented participants with a coherent structure but a separate topic (how to make a French press cup of coffee or variants on how to tie running shoes).

Participants

The initial sample consisted of 1,034 participants, but one participant dropped out of the study before reaching the stimuli and was removed from the data. Similar to study 1, participants who spent between 45 and 300 seconds with the stimulus material either in their initial viewing or upon review were retained. The screening procedure was conducted independently for the refugee and foreign aid conditions of the data as participants might have spent an acceptable amount of time with one stimulus but not the other. The screening procedure left a total of 1,393 cases across both topic conditions. The refugee condition had 713 cases with 180 in the narrative condition, 190 in the randomized narrative condition, 166 in the fact sheet condition, and 178 in the control condition. One person declined to provide information on sex (57.4% female). Participant age ranged between 18 and 46 (M = 20.75, SD = 1.88). A chi-square test of independence examining the relationship between experimental condition for the refugee condition did not find a significant relationship between experimental condition and screening and χ²(3, N = 1,033) = 3.99, p = .262. A total of 680 participants (58.2% female) were retained for the foreign aid data with an age range between 18 and 46 (M = 20.75, SD = 1.94) 168 participants were retained for the narrative condition, 177 for the randomized narrative condition, 157 for the fact sheet condition, and 178 for the control condition. There was also no relationship between screening and the foreign aid experimental condition χ²(3, N = 1,033) = 5.50, p = .139.

Measures

All measures except behavior, attitude, and meaningful affect are identical to those in study 1 and can be found in the supplemental materials (see osf.io/y6v02). The attitude scale with a choice between investing resources in either narrative or informational appeals. The analysis resulted in a two factor solution accounting for 75.54% of the variance in the items. The first factor, positive affect, consisted of happy, joyful, and warm but was not used in subsequent analyses. The second factor, meaningful affect, consisted of sympathetic, compassionate, moved, and sad (α = .91). The altruistic behavior measure was presented to participants as a question unrelated to the study in which they had just participated. They were told a campus organization that had raised $3,000 to donate to a charity and was seeking advice for where the money should be donated so the funds would have the largest positive impact on people. Participants were directed to indicate the proportion of the funds that should go to each organization. The participants were presented with descriptions for six local organizations. Two organizations, HireMe and Football Injury Legacy Foundation, were designed to allow participants to draw on self-serving motivations. Two other organizations, Welcome Home-VA and Virginians for Redistricting were described to allow participants to engage in altruistic behavior unrelated to the story topics. Finally, two organizations, Virginia Refugee Assistance and International Agricultural Outreach Council (IAOC) were described to allow participants to engage in altruistic behavior toward one or both of the story subjects to which they may have been assigned; the proportion of the funds the students indicated should be donated to these organizations was used as the behavioral measure. Descriptive measures for measures can be found in Table 3a and by condition in Table 3b. Because participants were given two opportunities to view the stimuli to which they had been assigned, we report descriptive for their minimum and maximum times spent with the stimuli.

Results

Like the first study, we conducted several ANOVAs to examine the main effect of the narrative manipulation on the outcome variables by topic condition. Main effects for the refugee stimuli are presented in Table 4a and main
effects on outcomes for the foreign aid condition are presented in Table 4b.

We built a path analysis testing the fit of the data in similar to study 1 with the primary difference being the addition of a behavioral measure. The exogenous variable, narrative format, is coded such that zero corresponds to our randomized narrative condition and 1 is the (structured) narrative. The models show how the presence of structure influences narrative engagement, which in turn elicits varying levels of perceived similarity, stigma, and meaningful affect. We pooled participants from both the refugee and foreign aid conditions and found the model was an acceptable fit to the data $\chi^2(10) = 18.18$, $p = .052$, $CFI = .99$, $RMSEA = .034$, $90\% CI [.000, .058]$, $p_{close} = .848$. Additionally, we constructed 95% bias corrected confidence intervals using 5,000 bootstrapped samples found a significant indirect effect of narrative condition on behavior ($β = .026$, $p < .001$). The same analysis also indicated that a significant indirect relationship via perceived similarity ($β = .005$, $p < .001$), affect ($β = .011$, $p < .001$), and stigma ($β = .009$, $p < .001$).²

To assess whether the path weights were invariant between the two sets of stimuli, we conducted a multiple group analysis in AMOS by constraining the regression paths between variables to be invariant between conditions. This procedure indicated that the model fit was significantly worse by constraining the weights $χ^2(10) = 78.37$, $p < .001$. We examined pairwise parameter comparisons and found the paths between narrative engagement and affect, perceived similarity and stigma, stigma and attitude, and attitude and behavior to be significantly different at $p < .05$. Therefore, we also constructed separate models for each of the story topics in AMOS and while both the refugee model $χ^2(10) = 7.93$, $p = .636$, $CFI = 1.00$, $RMSEA < .001$, $90\% CI [.000, .073]$, $p_{close} = .962$ and the foreign aid model $χ^2(10) = 14.03$, $p = .372$, $CFI = .984$, $RMSEA = .034$, $90\% CI [.000, .066]$, $p_{close} = .708$ are a good fit to the data, there are some notable differences between the two indicated in Figure 2 alongside path weights for each model.²

We examined the indirect effect of narrative format on behavior in each of the individual story topic models and

<table>
<thead>
<tr>
<th>Table 4a: Univariate Effects of Refugee Narrative on Dependent Variables by Condition, Study 2.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variable</strong></td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>Narrative engagement</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Meaningful affect</td>
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<tr>
<td></td>
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<td></td>
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<td></td>
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<tr>
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<tr>
<td>Stigma</td>
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<td></td>
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<tr>
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</tr>
</tbody>
</table>

Note: $df_l = 3$, $df_u = 709$. Starred significance values survive a Bonferroni correction of $α/6$ or $p < .0083$. Means that do not share a common subscript are significantly different at $p < .05$ or lower using Tukey’s HSD.

Table 4b: Univariate Effects of Foreign Aid Narrative on Dependent Variables by Condition, Study 2.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th><strong>F</strong></th>
<th><strong>p</strong></th>
<th><strong>Condition</strong></th>
<th><strong>M</strong></th>
<th><strong>SE</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Narrative engagement</td>
<td>60.17</td>
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<td>Narrative</td>
<td>3.79</td>
<td>0.08</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Random narrative</td>
<td>3.45</td>
<td>0.07</td>
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<td></td>
<td></td>
<td></td>
<td>Random fact sheet</td>
<td>2.73</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Control</td>
<td>2.59</td>
<td>0.07</td>
</tr>
<tr>
<td>Meaningful affect†</td>
<td>16.27</td>
<td>&lt;.001</td>
<td>Narrative</td>
<td>3.99</td>
<td>0.09</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>Random narrative</td>
<td>4.11</td>
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<td></td>
<td></td>
<td></td>
<td>Random fact sheet</td>
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<td></td>
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<td>Similarity†</td>
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<td></td>
<td></td>
<td>Random fact sheet</td>
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<td>Control</td>
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<tr>
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<td>&lt;.001</td>
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<td>0.06</td>
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<td></td>
<td></td>
<td>Random fact sheet</td>
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<td></td>
<td></td>
<td>Control</td>
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<td>0.06</td>
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<td>Random narrative</td>
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<td>0.09</td>
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<tr>
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<td>Random fact sheet</td>
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<td>0.09</td>
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<td>Control</td>
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<td>Random fact sheet</td>
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<td></td>
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<td></td>
<td>Control</td>
<td>12.52</td>
<td>0.61</td>
</tr>
</tbody>
</table>

Note: $df_l = 3$, $df_u = 676$. Starred significance values survive a Bonferroni correction of $α/6$ or $p < .0083$. Means that do not share a common subscript are significantly different at $p < .05$ or lower using Tukey’s HSD.† Equal variances are not assumed and post hoc tests are conducted with Dunnet’s T3.

Figure 2: The effect of narrative story format on the dependent variables, study 2. News narrative structure is coded such that 1 = Structured narrative and 0 = Randomized narrative. Dashed lines indicate path weights are critically different at $p < .05$ between the refugee and foreign aid groups. Fact sheet and control conditions are excluded from this analysis.
found that in the refugee condition there is a significant overlap, p < .002 through perceived similarity (p = .001), affect (p = .001), and stigma (p = .001). The foreign aid data also indicated an overall indirect effect (p < .008, p = .001) via perceived similarity (p = .003, p = .001), affect (p = .003, p = .001), and stigma (p = .002, p = .001). Importantly, the effect of a structured narrative on engagement, the second order outcomes, and finally on behavior is in the theoretically predicted direction, and consistent between the refugee and foreign aid stimuli. That said, the effect is a small one and should be drawn upon cautiously due to the exploratory nature of this study.

Discussion for Study 2

Our goal in the second study was to show first that narrative structure is not inconsequential, which we accomplished in part by showing that the structured narrative elicited significantly higher levels of narrative engagement, than the randomized narrative, a fact sheet, or a control condition. Importantly, our examination of main effects also shows that a well-structured narrative, that is to say one with a coherent plot, is superior to a fact sheet at reducing stigma, but we found mixed results in panning out the importance of plot in reducing stigma. In the refugee condition the randomized narrative did not significantly lower perceptions of stigma attached to refugees but in the foreign aid condition the randomized narrative evoked notably lower perceptions of stigma for impoverished farmers.

The path model also indicated that narrative structure was positively related to narrative engagement and indirectly related to altruistic behavior. However, we should caution researchers from interpreting the findings here as evidence for mediation of the effect of narrative on outcomes. We did not directly manipulate our mediators and as such the effects we observed here may be spurious (see Bullock et al., 2010).

Second, we were able to show that the narrative format in both the foreign aid and refugee stimuli was able to elicit higher levels in the control condition and was more effective at reducing perceived stigma than an issue-relevant fact sheet. This finding provides preliminary support for concluding that narrative structure plays a role in eliciting narrative engagement. However, the small indirect effect sizes provide only cursory support for structure’s role in altering stigma and attitude.

To our knowledge, this is the first time empirical work within the context of narrative persuasion has shown that narrative format decreases perceived stigma attached to a social group. The extension of the work of Oliver et al. (2012), which found that narrative format can improve participants’ attitude toward stigmatized groups but could not conclude that the same process described in the current study. More broadly this work highlights the value of narrative persuasion work as an avenue for understanding how journalism can have prosocial ends beyond its watchdog and informational as an avenue for understanding how journalism can have destigmatized the story characters. More broadly this groups but could not conclude that the same process described in the current study. More broadly this.

In addition to the direct effects we propose above, we also hypothesized that the interrelationships identified in the first two studies will be reproduced here. Thus, we hypothesize the following:

H1a: Narrative engagement will be positively related to perceived similarity.
H1b: Perceived similarity will be positively related to stigma.
H1c: Perceived similarity will be positively related to attitude.
H2a: Narrative engagement will be positively related to affect.
H2b: Meaningful affect will be negatively related to stigma.
H2c: Meaningful affect will be positively related to attitude.
H3a: Narrative engagement will be negatively related to stigma.

In addition to the proposed relationships listed above, we will also validate the path model from the previous two studies and the indirect effect of the manipulations on attitude. We also therefore propose:

H6a: The story structure condition will have a significant overall (indirect and direct), positive relationship on attitude.
H6b: The story exemplar condition will have a significant overall (indirect and direct), positive relationship on attitude.
H7: The model will be a good fit to the data.

All hypotheses, the analysis plan, and the preregistered manuscript are on the OSF (https://osf.io/da3nw). The preregistered manuscript can be accessed directly through this link.

Method

The questionnaire for this preregistered report and stimulus can be found on the OSF (osf.io/y6v2). The study was approved by the authors’ home institution IRB (VT IRB# 18-450). The pre-registered manuscript can be accessed directly through this link.

Procedure

Although some of the path weights were significantly different between the foreign aid and refugee stimuli from study 2, the exploratory model was structurally identical between the conditions and we thus we opted to employ only the refugee topic in study 3. We used a 2 × 2 between-subjects experimental design where participants were randomly assigned to read a story that varies on the character emphasis (exemplar vs. expert) and the story structure (structured vs. randomized). Character emphasis was manipulated by having the story from the perspective of the referee–as was the case in study 1—or from the perspective of an expert that uses generalized descriptions of similar situations that refugees have experienced.

Participants received the study through their MTurk account and filled out basic demographic information (age, sex, race, and political ideology). Then participants were randomly assigned to one of the four experimental conditions. After reading the story, participants filled out measures for knowledge, similarity, perceived stigma, and attitude toward Syrian refugees.

Participants over 18 years of age that reside in the United States were recruited through MTurk. Participants needed to have a 90% HIT approval rate to participate. A power analysis for the randomized narrative condition indicated we would collect 925 participants (df = 10, power = .90, α = .05, null RMSEA = .05, alternative RMSEA = .01) (see Preacher & Coffman, 2006). Participants were compensated with $0.50 for each survey and $5.00 for their participation in the study from 1 in addition to several additional methods. We removed participants who failed one or both attention check items that ask for specific responses, e.g., “Mark ‘Strongly agree’,“ participants that straight lined more than one scale, left a scale completely empty, or failed two or more of the three story knowledge checks. Assuming similar attrition to study 1, we initially collected 31% more participants than we needed (N = 1,212). After screening, we were left with 925 participants. We planned to collect data from more participants if the screening procedures left us with fewer than the required number of participants. In data collection we left with the requisite number of participants. The final sampled sample was 52.5% female (n = 486) with three participants declining to indicate their sex. The age of the participants ranged from 18 to over 80 (M = 42.65, SD = 13.71). As a contingency against being unable to recruit a sufficient number of participants from MTurk, we planned to gather the difference required from a department participant pool, identical to study 2. This turned out not to be necessary, but because of the timing of the study, we were not able to run these data collections consecutively but instead had to run them concurrently. The participants collected through the department pool are not included in the results reported as part of the planned analyses here. Measures With the exception of story knowledge and meaningful affect, all measures employed were identical to study 2. The knowledge questions, like items used in the previous studies, are listed on the OSF (osf.io/y6v2).

To determine the content of the meaningful affect scale, we built a confirmatory factor analysis in AMOS that had the meaningful affect items from study 1 as indicators on a latent factor. We planned to conduct an EFA using principal axis factoring and promax rotation if we found unacceptable fit statistics for the CFA (CFI < .90 and RMSEA > .05), which was the case for all factors.

We then examined the factor structure of all the affect items including those that did not previously load on meaningful affect. Items with communalities less than .3 or that fail the 60/40 rule were eliminated individually

Study 3 Registered Report

Research Questions and Hypotheses

While we carried out our previous finding that narrative influence, we recognize the importance of validating the findings of the first two studies as our work thus far has been exploratory and the need to examine separately the effect of story structure and the presence of a story exemplar.
and then the factor analysis was run again. Items with low communalities were dropped first, then poorly loading items, then cross loading items. We planned to use the factor with the greatest number of items from the meaningful affect scale in study 1 as the scale for study 3. As a contingency in the case that meaningful affect items were distributed equally among multiple factors, we planned to use each scale in subsequent analyses as long as they were sufficiently reliable (i.e., α > .70). If Cronbach’s alpha was not sufficiently high, items would have then been dropped if they improve alpha one at a time until α > .70 or until two items remained, at which point the measure would be dropped from the analysis. The EFA resulted initially in a three-factor solution that accounted for 69.21% of the variance in the items. One item (mellow) was dropped because of a low communality. A subsequent analysis resulted in several items being dropped because of poor loading or sufficiently high, items would have then been dropped if they improve alpha one at a time until α > .70 or until two items remained, at which point the measure would be dropped from the analysis. The EFA resulted initially in a three-factor solution that accounted for 69.21% of the variance in the items. The first factor was identical to the meaningful scale from study 1 and consisted of sympathetic, moved, compassionate, tender, soft-hearted, and touched. The second factor consisted of happy and joyful, which was not used in subsequent analyses. Although not listed as part of our pre-registered analysis for the third study, the items for the affect scale were summed and averaged. Descriptives and interitem correlations are reported in Table 5. All scales were found to be sufficiently reliable.

Analysis Plan
Like study 1 and study 2 we employed multiple ANOVAs to examine the main effects of the independent variables (exemplar and story structure) on outcomes (H1a-e and H2a-e). If the main effect on the outcome variable was statistically significant, we would conclude that our manipulations on the independent variables had an impact on the dependent variable. If the main effect was not statistically significant, we would conclude that our manipulations failed to have an impact on the dependent variable.

The study protocol was approved by the authors’ home institution (protocol number 18-450).

Results
Our anonymized data reported here are available on the OSF along with the SPSS syntax used to conduct the analyses and the AMOS file used to construct the path analysis (osf.io/6vl2).

Table 6a: Main Effects of Structure Condition on Dependent Variables.

Table 6b: Main Effects of Exemplar Condition on Dependent Variables.
To test H6a, we conducted an indirect effects test of story structure on attitude. Using 5,000 bootstrapped samples to construct bias corrected 95% confidence intervals for standard errors to estimate significance levels, we found partial support for the hypothesis in that there was a significant total indirect effect of structure (β = 1.5, p < .001). Using the same approach, we also found support for H6b in that the total indirect effect of exemplar on attitude was significant (β = .20, p < .001). Both hypotheses were only partially supported because the ANOVA tests for direct effects did not produce significant results for a main effect of story structure or exemplar on attitudes toward refugees.

**Study discussion**

This study is important because, to date, no work has demonstrated empirically that the narrative persuasion process can lead to decreases in perceived stigma attached to a social group. In our final, registered report, we were also able to show a direct effect of narrative exemplar on stigma. Both story exemplar and story structure were indirectly related to changes in attitude via stigma. This is an important extension of the work of Oliver et al. (2012), which found that narrative format can improve participants’ attitude toward stigmatized groups but could not conclude that the same process designated narrative story characters. We do not mean to imply that past works may not have similarly accomplished a reduction in stigma. Rather this is, to our knowledge, the first empirical study that has integrated stigma into a narrative persuasion framework. As we outlined in our review of extant work, stigma is a pernicious combination of beliefs and stereotypes that, for example, can result in prejudicial behavior toward the stigmatized individual (Dovidio et al., 2000) become an internalized and manifest as result in low self-esteem (Murakami & Latner, 2015). Because the ANOVA tests for direct effects did not produce significant results for a main effect of story structure or exemplar on attitudes toward refugees, we instead found that a well-structured narrative was shown to elicit greater levels of narrative engagement and was indirectly related to changes in attitude. Notably, we did not find a main effect of story structure on attitude or on several of the other key outcomes. Like story structure, we also did not find a main effect of exemplar on attitudes although we did find a main effect of exemplar on stigma. Perhaps this is because attitude is a “convenient summary of a wide variety of beliefs” (Pett & Cacioppo, 1981, p. 8) with stigma serving as just one input into more general attitudes toward a stigmatized individual. Alternatively, participants were exposed to the news narrative with a coherent plot perceived Syrian refugees as less stigmatized than the fact sheet condition, indicating that a poor plot does not preclude the destigmatizing effect of a narrative from occurring. For the foreign aid recipient news narratives, we instead found that the narrative conditions, regardless of plot coherence, reduced stigma to a greater degree compared to baseline. Indeed, the fact sheet condition was no different from baseline levels. We took this to mean that there is something other than a plot alone that drives the narrative persuasion process. In our final study we focused on parsing out the influence of plot coherence and character emphasis individually. We manipulated plot coherence and character emphasis similarly for audiences in that we randomly varied the order of observed content to conflict with their current beliefs or attitudes (see S. M. Smith, Fabrigar, & Norris, 2008). Although this study was conducted within the theoretical framework of narrative persuasion, journalists may be
concerned that actively drawing from these findings may put into question objectivity in their role in arbitrating the truth and informing the public of newsworthy happenings (McChesney, 2004; Schudson, 2011). However, journalists should remember that by choosing to cover controversial issues or social groups they are inherently also shifting attitudes (see Allaraccin, Johnson, Fishbein, & Muellerleile, 2001). Journalists concerned with creating accurate views should therefore be in the business of shifting accurate reporting, but also storytelling that is well-written, coherently organized, and emotionally engaging in service of their informational duties. Therefore, integrating the findings of this study into professional practice is not necessarily antagonistic to the function of journalism within a deliberative democracy. Journalists who are of the opinion that the professional field needs to return to its roots and more actively engage in advocacy are more likely to be comfortable with the notion of deliberately crafting news accounts to be more narratively engaging and therefore have greater indirect bearing on attitudes (see García-Martínez, 2019).

The findings of this study are especially timely especially in light of the xenophobic rhetoric employed by the Trump administration and its ongoing efforts to curb refugee admissions into the United States. As of this writing, the Trump administration has effectively stymied the flow of refugees fleeing violence in Syria, El Salvador, and other threatened states in the United States (Hernández & Miroff, 2019; Zezima, 2019). While these xenophobic attacks and policies might be politically calculated, the findings of this study seem to indicate that they may undermine the public opinion on the matter and, perhaps, the political calculus might also be altered as public policy is drafted in response to changes in public opinion (Page & Shapiro, 1983). This is also not a uniquely American phenomenon. For instance, in South Africa immigrants recently came under fire in response to high unemployment, corruption, and economic recession (Chutel, 2019).

To both journalists and researchers should not take the findings of this study to mean that narrative persuasion is the best or only way to shift attitudes toward stigma. Indeed, there is ample evidence to indicate that other persuasion strategies aimed at providing new or corrective information are effective such as the Elaboration Likelihood Model (Petty & Cacioppo, 1986b; Petty & Wegner, 1999), social norms approach (Campos et al., 2003), Mindful cognitive distancing (Cao & Latner, 2012; Elliott & Devine, 1994). Instead we would recommend that journalists, advocates, and researchers recognize that narrative storytelling is just one of several avenues for shifting prejudicial attitudes and stigma.

Limitations

The results of this study need to be considered in light of several limitations. Most notably, while employing manipulations for similarity, affect, and stigma would allow us to make claims about their mediating role in improving attitudes toward stigmatized groups (see Bullock et al., 2010), the work that we did extends beyond the scope of content manipulation, because we did not find evidence of a main effect of the experimental manipulations on several outcomes over the course of our studies could indicate a moderating condition that must be taken into account in order for the narrative persuasion, at least in the way it was theorized here, to function. For example, xenophobia could ostensibly depress levels of engagement into a narrative with stigmatized individuals and therefore have negative affective reactions to the story, and subsequently also account for high degrees of stigma and negative attitudes toward refugees. Yet, for participants who were narratively engaged—perhaps because of a lack of xenophobia in this example—theoretical model functions as predicted. For this reason, we cannot stress enough the need to only cautiously draw on the findings without additional confirmatory work. This subsequent work may be of special importance for narrative persuasion scholars because if it is the case that only some participants can be influenced within the narrative persuasion model—such as participants who do not harbor xenophobic beliefs or attitudes when the messaging deals with refugees or immigrants—then the utility of narratives as persuasive tools will need to be reevaluated or redefined to fill the roles of these variables in the narrative persuasion process.

Another limitation of our final study is that we cannot be sure that we changed attitudes or stigma from baseline levels since we did not include a control group. Although the participants in our final study did not report belief change on the Inflated Belief questionnaire, the would not have been difficult given the constraints of time and the available participant pool. Even gathering just the requisite participants to satisfy our prior power analysis required numerous rounds of data collection from MFturb. However, as we were able to show stigma reduction to be present in people live in in a laboratory setting, we are reasonably confident that this change from baseline would be replicable.

The effects we identified here also need to be tested in more natural settings both over time and in an ecologically valid environment to determine the degree to which they degrade or are susceptible to counter messaging. It is entirely possible that without reinforcement the changes we found could revert back to baseline levels in several hours, days, or weeks. We should also stipulate that our findings here do not indicate that news media campaigns involving richly showing stories can be effectively used or other social groups “in the wild.” Research on media selection indicates that individuals make motivated media selections (see Rubin, 2009 for a review). Ostensibly, the effects of the media that individuals choose to stigmatize will avoid media channels or sources that they believe will expose them to counter-attitudinal media fare.

Future work

The highest priority for future research should be to probe the mediators we employed in our analysis here as being causally related to stigma and attitude. We have the groundwork for future research to more closely examine the potential mediators or the relationships we observed here. We also need to more closely examine changes we found in stigma could reset to baseline levels since we did not include a control group. Although we be sure that we changed attitudes or stigma from baseline, control group. Then, again, we did not measure changes to beliefs or the ability for such tests to correct misperceptions. Recently related recent that work has been to present corrective texts. These effects are influential in adjusting belief systems (Gottfried, Hardy, Winneg, & Jamieson, 2013; Walter & Murphy, 2018). We therefore recommend putting the fact-checking literature to work, which would help us to determine how and if fact checking can be enhanced by integrating compelling narratives into such texts.

As we stated earlier, future work also needs to be done to examine how exposure to destigmatizing narratives functions when it is not clinically isolated from other content as part of a study. People are exposed to numerous media and interpersonal messages on a daily basis, and external to a research setting, this would be the case for anybody exposed to news stories or messaging distributed through an advocate. Researchers might identify typical or problematic media portrayals specific to the stigmatized population at hand, drawing from extant literature, and expose participants to those accounts in conjunction with a narratively engaging and destigmatizing one. Doing so would allow us to better examine how and if fact checking can be enhanced by integrating compelling narratives into such texts.

While we believe that our findings show promise regarding the roles of these concepts in reducing stigma, we this study should serve as a foundation for future work. However, we can only cautiously draw on the findings without additional confirmatory work. This subsequent work may be of special importance for narrative persuasion scholars because if it is the case that only some participants can be influenced within the narrative persuasion model—such as participants who do not harbor xenophobic beliefs or attitudes when the messaging deals with refugees or immigrants—then the utility of narratives as persuasive tools may be reevaluated or redefined to fill the roles of these variables in the narrative persuasion process.

We also focused on just two stigmatized groups and a narrow range of potential stories. All of the news accounts were also written in a journalistic style and vary the individuals who are stereotyped. Future work should examine a wider range of subject material and storytelling style.
Just as the breadth of the subjects featured in our news narratives varies, our participants across all four rounds of data collection were also carefully designed to elicit a specific affective response. Obviously, journalists and public advocates are going to face constraints when depicting or interpreting their own texts, which may elicit partially or wholly different affective reactions from their audiences. Although we drew from extant theory in forming our hypotheses that meaningful affect would be more persuasive and elusively understandable in practice, our focus on understanding affective responses from participants (e.g. Bailey & Wojdynski, 2015; E. L. Cohen, 2016; Oliver & Raney, 2011; Wirth et al., 2012), we do not yet know whether meaningful affect is elicited through the same narrative procedures that might elicit a reduction to stigma. It is entirely possible that given a particular context affective reactions such as outrage, anger, or other negatively valenced affective states may perform a similar role in the persuasion process. Additional work is also needed to tease out what is about plot that matters. We only know that a poorly structured plot, which we operationalized by randomizing the order of paragraphs in our second and third studies, can interfere in eliciting narrative engagement or a similar concept like transportation, which according to extant theory are of great importance in driving persuasion (Busselle & Blandizzi, 2009; Dill & Burgess, 2012; Green, 2004; Green & Brock, 2000, 2002; Green et al., 2004). We can hypothesize that an unstructured plot may impede an effortful encoding process since cognitive resources for processing media messages are limited and may only be dedicated when users are motivated and able to expend them (Petry & Cacioppo, 1986a), but research is needed to test this hypothesis. More broadly, researchers should examine other formal features of narrative such as medium in eliciting attitude responses. Although a meta-analysis of this particular formal feature (text’s video) found that there is no meaningful difference between the two in narrative persuasion work (Bradock & Dillard, 2016), it may be worth exploring whether video or text may be more effective at eliciting changes in negative stigma since no studies to our knowledge have done so.

Although we set out to reduce stigma toward our target population, it is possible that the psychological processes detailed here could be used to increase stigma for prosocial ends. Public problems such as texting while driving (TWD) have been shown to be difficult to address (Harrison, 2011; Hasanh, Rivero, Medico, Foreman, & Wirth, 2017; Over, Russo, & Wirth, 2015; Prat, Gran, Planes, González-Iglesias, & Sullman, 2015; Seiler, 2015) and researchers have proposed using a social norms approach to easing this problem by driving TWD (H. Kim, 2018). Our work here suggests a novel opportunity to address the problem much in the same way that stigma was leveraged against smoking to decrease smoking rates at a population level (Bell, Salmon, Bowers, Bell, & McCullough, 2010; Evans-Polce, Castaldelli-Maia, Schomerus, & Evans-Lacko, 2015; Riley, Ulrich, Hamann, & Ostrov, 2017; Stuber, Galea, & Link, 2009). Since we proposed that stigma can be reduced by eliciting affective reactions and increasing perceived similarity, having audiences become interested in, identifying with, and helping others who do the same for victims of TWD crashes or inversely decreases similarity or elicits negative affective reactions may each increase perceptions of stigma.

Finally, we wish to note that the narrative persuasion scholars have studied stigmatized groups in the past, but to date has tested whether stigma can be reduced through exposure to a narratively engaging news account. Our research provides initial support that narrative persuasion can indeed influence stigma and we provide a plausible theoretical model. Specifically, emphasizing protagonists’ lived experiences by telling a story from their perspective was shown to be a direct influence on stigma. Therefore, we were unable to show a direct effect of our experimental manipulations on attitude across any of our studies. The indirect effect we found on attitude should be drawn upon cautiously since no register was collected to test the role of our proposed mediators in our theoretical model.

Data Accessibility Statement
All the stimuli, presentation materials, participant data, and analysis scripts can be found on this paper’s project page on the OSF (osf.io/vyt02).

Notes
1 We should clarify here that we do not mean to diminish the impact of entry denials on migrants and their families as shown in our previous work. It may be the case that problematic public policy, which results in entry denials, creates cascades of additional problems for immigrants as is illustrated by authors of public policy uncertainty. We need to understand how the governmental apparatus to deny even greater numbers of immigrants entry, which Kundnani (2001) points out. This footnote was not present in the preregistered manuscript.

2 Normals in stigma research often refer to non-stigmatized individuals (Goffman, 1974). This footnote was not present in the preregistered manuscript.

3 Specifically, this work found that perspective taking into a black body reduced bias toward dark-skinned individuals as indicated through an implicit attitude test. This footnote was not present in the preregistered manuscript.

4 Both of the registered manuscript, the sentence originally read “... whereas Coby (2014) ... “. The edit was made as we did not intend to contrast Coby’s view of narrative with Abbott’s.

In the preregistered manuscript, this sentence was unclear as it seemed to imply that combining the 12 narrative engagement items into a single scale was appropriate when we thought that the .77 alpha for our scale was acceptable. Although Busselle and Bilizzine recommend that their scale can be used in this manner, we did not mean to imply that the general practice of doing so was acceptable.

5 Two changes were made to this paragraph after the preregistered manuscript was accepted. First, we amended the language preceding the model fit test that drew on the pooled participants from both the refugee and foreign aid condition. The original language may have been perceived as being similar to other analyses that we should have said differently. Second, the word “not” was omitted from the final sentence, resulting in a nonsensical conclusion to be drawn from the test.
Presid. Proclamation No. 9645. (2017). In (pp. 45161–45172), 82.F.R.


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