Research Article

Psychological Science
2022, Vol. 33(2) 184–195

DOI: 10.1177/09567976211031895
www.psychologicalscience.org/PS

Fighting Violent Extremism With Narrative Intervention: Evidence From a Field Experiment in West Africa

Rezarta Bilali
Department of Applied Psychology, Steinhardt School of Culture, Education, and Human Development, New York University

Abstract

Violent extremism is one of the major challenges of our time. A cluster-randomized controlled trial with two arms (treatment vs. control) conducted in 132 villages in the Sahel region of Burkina Faso ($N = 2{,}904$ participants) examined whether a narrative intervention in the format of a radio drama can shift behavioral intentions, beliefs, and attitudes in contexts of violent extremism. Individuals in intervention villages participated in weekly listening sessions to the radio drama (6 months' content) over 12 weeks. Compared with the control condition, the narrative intervention reduced justification of violence, increased behavioral intentions to collaborate with the police, and increased prioritization of addressing violent extremism. The intervention did not influence beliefs about or attitudes toward the police (e.g., trust, fairness) or beliefs about police–community collaboration. Content analysis of the narrative intervention and participants' reception and discussion of the intervention provide insights on the processes driving the intervention's influence.

Keywords

violent extremism, narrative intervention, media, field experiment, edutainment, open materials

Received 2/18/21; Revision accepted 6/10/21

The spread of violent extremism poses a big challenge to communities around the world. A main approach to addressing it is to discourage people from embracing violent extremism, either prospectively through prevention or reactively through deradicalization programs designed to convince extremists to abandon violent beliefs and behaviors (Kruglanski et al., 2019). The psychological literature has focused on deradicalization processes but has paid less attention to strategies to counter violent extremism prospectively. The present study examined an intervention that adopts the latter strategy.

Extremist groups exploit narratives of actual and perceived grievances to gain support and recruit people. Extremist narratives can help people make sense of their reality, gain power and prestige, fulfill the need for significance and meaning, and become part of something larger than themselves (Kruglanski et al., 2014). These needs, however, can also be attained through narratives that promote prosocial behaviors and values rather than violence. Shifting the focus away from violence-promoting narratives is essential to countering violent extremism (Kruglanski et al., 2014). A novel approach to undermining the appeal of extremist narratives is to give voice to alternative narratives that resonate with and acknowledge people's grievances. Such narratives provide different scripts for understanding one's reality and prescribe behaviors that help build peaceful communities (Aldrich, 2012). In a large-scale field experiment, I examined whether a narrative intervention in the format of a fictional radio drama can influence attitudes and behavioral intentions related to violent extremism in the Sahel region of West Africa, Burkina Faso, which has experienced a significant rise in extremist violence (Human Rights Watch, 2020).

Corresponding Author:
Rezarta Bilali, New York University, Steinhardt School of Culture, Education, and Human Development, Department of Applied Psychology
Email: rezarta.bilali@nyu.edu

Narrative Interventions for Social Change

One approach to thinking about change in narrative interventions involves inserting prescriptive messages in an entertaining story. Prescriptive messages are often delivered through role models who portray desirable and undesirable behaviors (Bandura, 1986). The narrative format can be effective because it reduces resistance to persuasive attempts (Murrar & Brauer, 2019). Narrative media interventions using prescriptive messages and role models to promote intergroup reconciliation (Paluck, 2009), address corruption (Blair et al., 2019), and counter gender-based violence (Green et al., 2020) have been shown to shift behaviors and perceived social norms but not personal beliefs. However, under some conditions (e.g., ongoing violence), prescriptive messages might be ineffective or backfire, for instance, if prescribed behaviors are risky, if the community disapproves of the behaviors, or if community discussions counter the messages (e.g., Bilali et al., 2017; Paluck, 2010). This presents a challenge for interventions tackling violent extremism because behaviors to prevent terrorist acts can be risky.

A different approach to narrative interventions is to raise awareness and create scripts that broadly influence people's worldviews (Petraglia, 2007). Narrative interventions use the power of storytelling to help people make meaning of their reality in a new way or help them imagine a different reality (Bruner, 1990; Greitemeyer, 2011) through encouraging reflection and engagement with different perspectives (Bilali & Vollhardt, 2013). Fictional narratives can simulate real-world experience, providing the opportunity to explore difficult situations, such as war, without the associated risk and trauma (Mar & Oatley, 2008). This approach can be suitable in violent-extremism contexts because it provides different scripts to understand reality without creating the ethical concerns of prescribing risky behaviors. However, it is not known whether such awareness-raising narratives can influence attitudes and behaviors.

How Can Awareness-Raising Narratives Influence Attitudes and Behaviors About Violent Extremism?

First, narrative interventions can spotlight a sensitive issue to trigger a reaction or provide information when the audience is uninformed or misinformed, thereby influencing prioritization of the targeted social issue in the community (Arias, 2019). Second, stories can push the audience to take a critical stance by tackling issues of social power, such as the role of institutions in contributing to social problems. They can dive into community problems, represent them in a nuanced way, and counter simplistic narratives. For instance, in a violent-extremism-affected context, a story can take a critical approach by showing how police treatment of a minority group can contribute to the community's mistrust and low willingness to collaborate with the police. However, it is not clear whether and how this form of awareness raising or "calling out" influences outcomes. On one hand, stories that voice communities' concerns might be perceived as empowering because they validate and expand on the lived experiences of marginalized groups. On the other hand, mirroring intractable social problems might increase a sense of helplessness and forestall actions for change (Bilali & Vollhardt, 2015).

Third, all stories are told within a normative framework: The events are organized causally in a plot that ends in a normative conclusion; the moral of the story is inferred from the plot and the fate of the characters (de Graaf et al., 2016). In this manner, stories can subtly support or counter certain perspectives, for example, by reinforcing the undesirability of using violence to achieve political goals (i.e., through implicit moral lessons). Yet moral lessons are determined not only by a story's content but also by the story's interpretation in a social setting (Polleta & Callahan, 2017). Whereas stories can raise awareness about grievances and communicate social norms, social interactions can facilitate narrative interventions' effects in some contexts (e.g., Arias, 2019; Paluck & Green, 2009); however, they can also counter intended effects through increased polarization (Paluck, 2010).

Statement of Relevance

Violent extremism poses a big challenge to societies around the world. Violent extremists use narratives to garner support from marginalized communities. Common strategies to counter violent extremism include campaigns to stop the spread of misinformation by extremist groups. The present study examined the effectiveness of a novel strategy, a narrative intervention, that uses storytelling to reduce the appeal of violent-extremist narratives and promote community collaboration with security forces. The findings of a large-scale randomized field experiment in the Sahel region of West Africa highlight the power of storytelling to impact change.

The Present Study

In a large-scale field experiment in the Sahel region of Burkina Faso, I examined whether a narrative intervention—52 episodes of a serial drama, equivalent to 6

Table 1. Content of the Intervention, Goals, and Outcomes

Storyline	Content of the drama	Goal	Measured outcome
Extremist violence	• Armed group commits acts of violence harming the community • Youths recruited to commit violence • Perpetrators portrayed negatively • No resolution to the violence	• Denounce violence	• Justification of violence • Prioritization of violent extremism • Beliefs about community's ability to address violent extremism
Collaboration with the police	• Some police officers portrayed as corrupt and abusive; others portrayed as fair and well intentioned • Police abuse linked to an unwillingness to collaborate with the police • Arguments presented for and against collaboration with the police; it is often negative characters who are against collaboration	• Highlight the importance of police–community collaboration • Highlight the negative consequences of police abuse and corruption	• Intentions to collaborate with police • Anticipated consequences of collaboration o Police fairness o Police trust

months of radio broadcast—can influence attitudes, behavioral intentions, and beliefs regarding violent extremism. The narrative intervention was designed to counter the tendency toward extremist violence by highlighting its detrimental consequences for the community and raise awareness about the dynamics of police–community relations, the importance of establishing collaborative relationships for preventing violent extremism, and the consequences of police corruption and mistreatment of citizens (see Table 1). I examined the effect of this awareness-raising narrative intervention on the audience's justification of violent extremism, agenda setting, intentions to collaborate with police, and attitudes and beliefs about the police.

In sum, the present study extended prior research on narrative interventions in three ways: by examining (a) the impact of a narrative intervention targeting violent extremism, (b) whether narrative interventions influence agenda setting, and (c) the influence of an awareness-raising narrative intervention on behavioral intentions, beliefs, and attitudes (in contrast to previous research, which has examined the effects of prescriptive messages and role models embedded in narratives).

Method

Intervention context, goals, and design

The region of Sahel in West Africa (Niger, Mali, Burkina Faso) has experienced a rise of extremist violence by Al-Qaeda-affiliated groups. This constitutes the largest increase in terrorist activity in the world; violent attacks have doubled every year since 2015 (Le Roux, 2019). The Sahel province of Burkina Faso is populated by the Fulani, who are a primarily Muslim tribe and a marginalized minority group in Burkina Faso. Although much of the extremist threat in Burkina Faso is thought to be external (i.e., coming from neighboring countries), at least one group (Ansarul Islam) founded by a local preacher is homegrown (International Crisis Group, 2017). Initially, this preacher's sermons, disseminated through radio, attracted a lot of followers because they addressed the population's legitimate grievances and challenged unjust social hierarchies and practices. However, most of these followers left when the organization resorted to violence (International Crisis Group, 2017; for details, see Section S1 in the Supplemental Material available online). The government responded to the insecurity by increasing the presence of security forces—a strategy that relies on collaboration between the population and the security forces. However, as in other contexts of marginalized communities, there is mutual mistrust between the population and security forces because of disenfranchisement, alienation, and sometimes abuse of marginalized communities by the security forces.

Intervention design and narrative content

The nongovernmental organization (NGO) Equal Access International, funded by the U.S. Agency for International Development, launched the "Voices for Peace" project with the goal of countering violent extremism by supporting and giving a platform to moderate voices

and narratives. A radio-drama intervention was created as part of this project. Prior to the intervention design, NGO representatives and I conducted consultations and group discussions with local communities, local leaders, and experts in Burkina Faso to gauge the communities' perceptions of violent extremism, perceived challenges, and solutions. These consultations informed the intervention goals.

The narrative plot of the drama consists of three intertwined storylines about violent extremism, police–community collaboration as a pathway to address violent extremism, and participation in local governance. In this article, I focus on the first two storylines that concern violent extremism and how to address it. The goals of these two storylines were to (a) denounce violent extremism and reduce support for it and (b) raise awareness about the importance of police–community collaboration for fighting violent extremism and about the issues that prevent collaboration (see Table 1).

The story is set in a fictional city with high levels of corruption, low employment, frequent terror attacks by armed groups, and a difficult relation between community members and police. The violence storyline highlights the dangers and consequences of extremist violence: It portrays multiple terror acts committed by an armed group that inflicts harm on the community as well as manipulation and coercion of youth to get them involved in illicit activities (e.g., smuggling of weapons). The violence continues without an effective resolution. The police–community collaboration storyline portrays a difficult relationship between security forces and the population. Collaboration is tackled through discussions among characters, who either encourage or discourage it. It emphasizes the importance of police–community collaboration for curbing extremist violence while calling out the abuse and mistreatment of the population by some police. Because of the differential power dynamics, the story gives voice to and acknowledges the community's concerns by highlighting the police's problematic behaviors and its consequences. As shown in a content analysis of the two storylines in Table 2, the police are portrayed as abusive or corrupt; in fewer instances, the police are portrayed as fair (e.g., refusing bribes) or as making efforts to reform.

Study design

This study employed a cluster-randomized controlled trial with two arms (the narrative intervention vs. a business-as-usual control condition) in the Seno province of Burkina Faso (for a flowchart showing design, selection, and randomization procedures, see Fig. 1). The 132 participating villages were randomly selected from 190 villages (out of 208 villages) that met the inclusion criteria (security risk, accessibility, language, village size), and then each village was randomly assigned to either the control or treatment condition (for village characteristics, see Tables S1 and S2 in the Supplemental Material). The intervention was conducted prior to the radio drama's initial public broadcast (i.e., the implementing organization held off the broadcast until study completion) in order to allow for random assignment of villages to the treatment and control conditions. At baseline, 22 participants per village ($N = 2{,}904$) were randomly selected and individually interviewed. Two months after baseline, participants from the 66 treatment villages were invited by the implementer organization to participate in listening sessions carried out in each village weekly over 12 weeks. Every week, facilitators played the recorded episodes of the drama (four to five episodes per week) in a 1-hr-long group session to selected participants in each village. The control villages did not receive any intervention. A survey was administered 1 to 4 weeks after the end of the intervention. To assess the reception of the intervention, facilitators reported on each listening session, and each group engaged in one discussion session during the course of the 12-week intervention.

Sample-size estimation

Sample size was estimated by power calculations using the following parameters: power = 80%, $\alpha = .05$ (two-tailed test), clusters of equal size, effect size = 0.2 standard deviations, and intracluster correlation (ρ) = 0.10, accounting for attrition of two village pairs and 20% attrition at the individual level. On the basis of these parameters, I included 66 village clusters in each condition (for a total of 132 villages) and selected 22 participants per village.

Random assignment

Each village was randomly assigned to either the treatment or control condition using a cluster-block randomization procedure (using the R allocation algorithm "blockTools") with matching to (a) maximize the power of the experiment by minimizing differences between treated and control villages and to (b) reduce spillover effects by not blocking together villages that are geographically very close or share markets or schools. Randomization was carried out in three steps. In the first step, the villages were grouped into clusters on the basis of their physical location using the geographic coordinates from baseline data—the villages within a distance threshold of 2 km were grouped into the same cluster. In the second step, the villages were matched into paired blocks on the basis of 13 village characteristics

Table 2. Content Coding of the Narrative Intervention and Measured Outcomes

Content code of narrative intervention	Number of episodes	Measured outcome
Violent extremism		
Violence or threat of violence portrayed	23	Justification of violence; prioritization of violent extremism
Efficacy beliefs to address violent extremism	0	Perceived efficacy of addressing violent extremism
Hopelessness of addressing violent extremism	1	Hopelessness of addressing violent extremism
Police–community collaboration		
Portrayal of police–community interactions		
Police presented as fair	2	Police fairness; police trust
Police presented as corrupt and abusive	10	Police fairness; police trust
Characterization of the police		
Positive characteristics	0	Police fairness; police trust
Negative characteristics	6	Police fairness; police trust
Not all police are bad	4	Police fairness; police trust
Collaboration behavior and norms		
Character collaborates with police	1	Intentions to collaborate
What characters say		
"We should collaborate with police"	7	Intentions to collaborate
"We should not collaborate with/trust police"	3	Intentions to collaborate
Anticipated consequences of collaboration		
Collaboration with police is effective to combat extremism	3	Anticipated consequence: collaboration is effective
Collaboration with police is dangerous	6	Anticipated consequence: collaboration is dangerous

Note: Two coders analyzed the content of the narrative to determine how measured outcomes were reflected in the intervention.

(e.g., population size, number of households, having an electric grid, distance to nearest health center) with the constraint that no villages from the same cluster be paired together. An optimal greedy algorithm was used to find the best of all possible pairs, matching on Mahalanobis distance and with the constraint that each village in a matched pair belong to different clusters. Lastly, the villages in each pair were randomly assigned to the treatment and control conditions, with the constraint that all villages in the same cluster be assigned to one condition and that paired matches of those villages always be assigned to the other condition (see Fig. S1 in the Supplemental Material; for the list of villages and their condition assignment, see Appendix SB in the Supplemental Material).

Sampling and data collection

The baseline and postintervention data were collected by a local survey firm not connected to the intervention. Within each experimental village, 22 households were selected using a random-walk methodology. In each household, a roster of household members more than 16 years old was taken, and a family member was randomly selected from this list. After providing oral consent (for participants younger than 18 years, consent was provided by the parent and the participant), each participant was interviewed individually by an enumerator in the local language and responses were coded on tablets.

Participants

At baseline, the sample contained 2,904 participants (1,638 male, 56.40%). Participants' average age was between 39 and 40 years old (16–89 years old). The majority of participants were of Fulani (Peul) origin, and their primary language was Fulfude (94%). The majority (more than 96%) identified as Muslim. About half of the sample (53%) did not have any formal education. The majority of participants were farmers (35%), housewives (27%), and miners (8%). The level of poverty was high (e.g., more than 50% reported lacking sufficient food or drinking water; for demographic details, see Table S1).

Measures

I present outcomes relevant to the goals and content of the two storylines in the narrative intervention

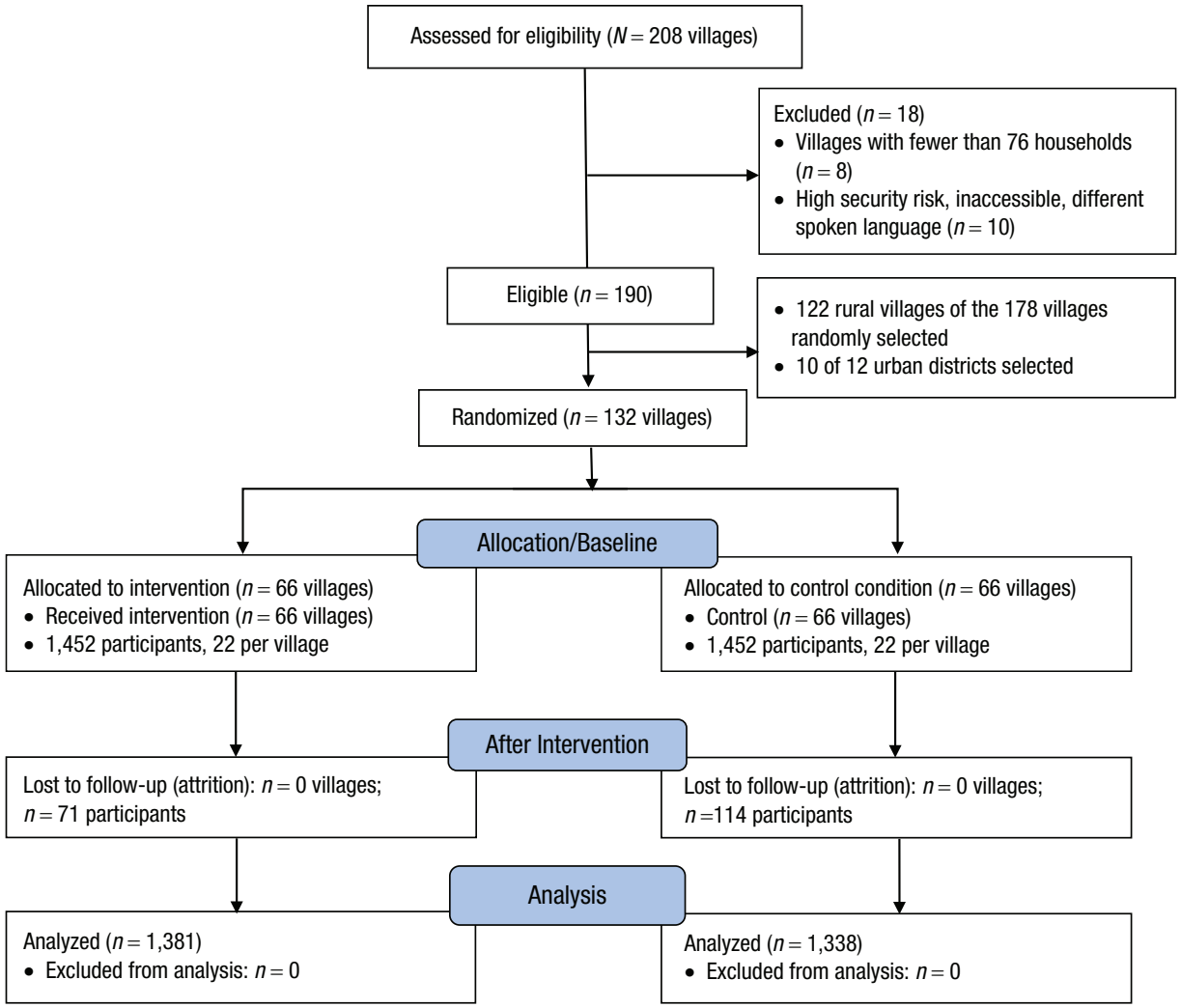

Fig. 1. Flowchart showing the design of the study and procedures for sample selection and random assignment of villages and participants to the intervention and control conditions.

(Tables 1 and 2): violent extremism and police collaboration. (A full list of relevant items and scales is reported in Appendix SA in the Supplemental Material.) I also conducted qualitative analyses of the audience's reactions to and discussions of the drama to understand the processes of influence. Unless otherwise noted, measures were assessed at baseline and after the intervention. Demographic information, village characteristics, and other additional measures that tackle alternative explanations are described in Section S2 in the Supplemental Material.

Violent-extremism outcomes. I measured prioritization of violent extremism, justification of extremist violence, and beliefs about the community's ability to prevent and cope with violent extremism. In addition, measures of specific beliefs about characteristics of violent extremism in Burkina Faso that were not targeted by or tackled in the intervention are reported in Section S3 in the Supplemental Material.

Agenda setting: prioritization of violent extremism (measured after the intervention). One open-ended question adopted from Afrobarometer asked participants to name the three most important problems in the country that the government needs to tackle. The answers were coded by the interviewer into one of the 34 a priori codes, one of which was violent extremism. A dichotomous variable was created and coded 1 if participants reported insecurity and violent extremism and 0 if they did not. (A broader measure of insecurity using different response codes is reported in Section S4 in the Supplemental Material.)

Justification of violence. Three items (similar to those used by Finkel et al., 2021) assessed justification of violence (e.g., "The use of violence is never justified," "It

is sometimes necessary to use violence to defend just causes"). The responses were coded on 4-point scales (1 = *violence is not justified*, 4 = *violence is justified*) and aggregated into a composite score (α = .63).

Beliefs about the community's ability to address violent extremism. Six items assessed perceived collective efficacy to address violent extremism. An exploratory factor analysis revealed two underlying factors: *efficacy beliefs to address violent extremism* (three items; e.g., "My community is able to prevent the spread of violent attacks to our community"; α = .83) and *helplessness about violent extremism* (two items; e.g., "We are helpless when it comes to dealing with insecurity in the region"; ρ = .67, α = .79). One item that loaded weakly on both factors was dropped.

Police–community-collaboration outcomes. I measured behavioral intentions to collaborate with the police, anticipated consequences of collaboration, and attitudes toward the police (i.e., police fairness and trust).

Intentions to collaborate. Intentions to collaborate with the police were assessed using an open-ended and a scenario-type question. The open-ended question, assessed only after the intervention (Buchanan-Clarke & Lekalake, 2016), asked, "What is the most effective thing that people like you could do to help combat violent extremism in this country?" The responses were entered by the interviewer into a priori categories and then transformed into a dichotomous variable (police collaboration coded 1, all other categories coded 0).

A short scenario asked participants to imagine that they were approached by someone suspicious who makes them a lucrative financial offer. Participants rated how likely (1 = *completely likely*, 4 = *completely unlikely*) they were to contact the official authorities (e.g., the security forces). This behavioral choice was presented among four other behavioral options (e.g., avoid contact with that person, consult a friend).

Anticipated consequences of collaboration. Two items examined the degree to which participants believed that collaboration with the police helps security (e.g., "Collaborating with the police/security forces helps ensure community safety"; 1 = *not at all*, 4 = *a lot*; ρ = .67, α = .80), and two items assessed the degree to which participants believed that collaboration is dangerous (e.g., "Collaborating with the police/security forces can be dangerous as it puts one at risk of attacks"; 1 = *not at all*, 4 = *a lot*; ρ = .59, α = .73).

In addition, one item examined whether "seeking the support and protection of security forces" puts people in danger by making them a target of attack or retaliation by a radical group. Specifically, participants were told,

> People use different strategies to minimize their risk of becoming a target of an attack or retaliation by radical groups. I will read a list of things that some people have suggested they would do to minimize this risk. We would like your opinion regarding whether each action might help or not in minimizing the risk of becoming a target of an attack.

Then, participants rated (on a 4-point scale) the extent to which six behaviors (e.g., "do not speak out against them," "avoid going to certain public areas," "seek the support and protection of police forces") might reduce their risk of becoming a target of attack.

Police fairness and trust. Four items from the Procedural Justice Scale (Gau, 2014) assessed the extent to which participants believed that police are fair (e.g., "Police treat people with respect"; 1 = *not at all*, 4 = *a lot*; α = .82). Police trust (measured only after the intervention) was assessed with three items asking how much participants trust the police, the military, and the security forces (1 = *not at all*, 4 = *a lot*; α = .95).

Mechanisms of influence

Although the study was not designed to formally test mechanisms of change, analysis of the narrative content as well as data on participants' interpretation and discussions of the intervention can provide important insights. I examined these elements in three ways. First, at the end of the postintervention survey, participants were asked an open-ended question about what they thought the main goal or lesson of the drama was. Second, facilitators of the listening sessions noted participants' utterances and discussions during and following the listening sessions. Facilitators' notes (793 notes corresponding to 12 sessions for 66 experimental groups) were coded to assess the themes brought up. Third, during the 12-week intervention, participants in each intervention village engaged in one short (approximately 15 min) feedback session following one listening session. The goal was to assess participants' interpretation and reception of the story they just listened to (i.e., facilitators asked participants what they thought about the episode of the show they just listened to). Villages were randomly assigned to have these sessions in different weeks over the course of the intervention. About five to six feedback sessions were conducted each week of the intervention (total of 63 sessions). Participants' responses were recorded,

transcribed, and translated to English. Two research assistants coded the written transcripts on the main themes that emerged.

Preliminary analyses

Balance, attrition, and data imputation. Random assignment resulted in excellent balance between the treatment and control groups (see Table S3 in the Supplemental Material). Individual-level attrition from baseline to postintervention assessment was low (6.37%, n = 185), and there was higher attrition in the control condition (7.85%, n = 114) than the treatment condition (4.89%, n = 71), $t(2902) = 3.27$, $p = .001$. Attrition was predicted by treatment status, age, gender, employment, and education status (see Table S4 in the Supplemental Material). Multiple imputations were conducted using the *mice* package (Version 3.0; van Buuren & Groothuis-Oudshoorn, 2011) in R to produce 32 imputed data sets in order to reduce bias due to differential attrition. The default predictive-mean-matching settings in *mice* were used. Predictors in the imputation model included treatment assignment, 10 demographic variables, four village-level characteristics, community dummy indicators, and baseline values of the outcome (aggregated outcome or its indicators). The results of the analyses with imputed data were consistent with the analyses without imputations (see Table S6).

Intervention compliance. Approximately 18% (n = 246) of participants assigned to the treatment condition did not attend any listening session. On average, 17 participants (SD = 3.27) per village attended listening sessions. Among attendees, average attendance was 8.62 sessions (SD = 4.54), and approximately 70% of participants attended 10 or more sessions. Participants in one treatment village spoke a different language and had difficulty understanding the story. Two control participants reported that they had attended listening sessions. The analyses include all participants, providing conservative impact estimates.

Data-analysis strategy

The impact of the intervention was examined with the intent-to-treat approach, which assesses the effect of the assignment to treatment on outcomes, independently of whether participants attended the intervention. The analyses were conducted on 32 imputed data sets in *STATA* (Version 15.1; StataCorp, 2017) using robust standard errors and the cluster option to account for clustering of standard errors at the village level—the level of treatment allocation. To increase power and reduce noise, I also included the baseline value of outcomes, when available. The main specification (Model 1) was a basic regression:

$$Y_{ivb} = \beta_0 + \beta_1 \text{Treatment}_{vb} + \beta_2 Y_{0ivb} + \rho_b + \varepsilon_{ivb},$$

where Y_{ivb} corresponds to the outcome variable for individual i in village v in randomization block b. Treatment$_{vb}$ corresponds to the village-level treatment (vs. control) condition. The baseline measure of the outcome Y_{0ivb}, if available, was included to increase power; ρ_b is the randomization-block fixed effect, and ε_{ivb} is the error term.

The same analyses were conducted in a second model to account for a set of individual-level (X_{ivb}) and village-level (Z_{vb}) covariates:

$$Y_{ivb} = \beta_0 + \beta_1 \text{Treatment}_{vb} + \beta_2 Y_{0ivb} + \gamma Z_{vb} + \delta X_{ivb} + \rho_b + \varepsilon_{ivb}.$$

Individual-level covariates included gender, age, education, employment, and economic grievances. Village-level covariates included population size, accessibility (e.g., impassable road), aggregate services index (e.g., health center, water supply system), and presence of at least one security marking (e.g., block with a police post; for details, see Section S2).

I analyzed dichotomous outcomes with probit regression, single-item ordered outcomes with ordered probit regression, and aggregated scales with linear regression.

Results

Results are presented in Table 3.

Violent-extremism outcomes

The results suggest that the narrative intervention increased prioritization of violent extremism (this effect was significant in Model 2). Intervention participants freely named "insecurity and violent extremism" as a greater priority for the government to address (about 0.11 probits more) than control participants did (see Section S4 in the Supplemental Material for intervention effects on a broader measure of insecurity). Marginal-effects analyses on nonimputed data showed that participants in the treatment condition were about 17% more likely to freely mention violent extremism, compared with 14.6% of participants in the control condition. That is, naming violent extremism was 2.5 percentage points higher, or 17% more likely, in the treatment condition than in the control condition.

The level of justification of violence was quite low (at baseline: M = 1.495, SD = 0.556, on a scale from 1 to 4; see Fig. S2 in the Supplemental Material). The

Table 3. Results From Models Assessing the Impact of Narrative Intervention on Outcomes

Outcome	Control: *M* (*SE*)	Model 1			Model 2		
		b (*SE*)	*p*	95% CI	*b* (*SE*)	*p*	95% CI
		Police–community collaboration					
Behavioral intentions							
Contact security forces	3.140 (0.025)	0.161 (0.044)	.001	[0.078, 0.244]	0.157 (0.042)	.001	[0.074, 0.240]
Collaborate with security forces	0.581 (0.013)	0.145 (0.055)	.008	[0.037, 0.252]	0.134 (0.054)	.013	[0.029, 0.240]
Beliefs and attitudes about police and collaboration							
Police fairness	3.039 (0.016)	0.042 (0.024)	.08	[–0.005, 0.089]	0.04 (0.022)	.07	[–0.004, 0.085]
Police trust	3.131 (0.021)	0.028 (0.035)	.44	[–0.042, 0.097]	0.018 (0.034)	.59	[–0.049, 0.086]
Anticipated consequences							
Collaboration helps	3.558 (0.013)	–0.025 (0.023)	.27	[–0.069, 0.019]	–0.030 (0.021)	.15	[–0.072, 0.010]
Collaboration is dangerous	2.238 (0.022)	–0.029 (0.047)	.54	[–0.122, 0.064]	–0.021 (0.044)	.63	[–0.108, 0.066]
Collaboration minimizes risk of becoming target of attack	3.241 (0.024)	–0.004 (0.061)	.94	[–0.104, 0.096]	–0.008 (0.051)	.87	[–0.109, 0.093]
		Violent extremism					
Justification of violence	1.467 (0.015)	–0.044 (0.021)	.04	[–.0086, –0.002]	–0.036 (0.019)	.06	[–0.075, 0.002]
Prioritization of violent extremism	0.147 (0.010)	0.105 (0.058)	.07	[–0.009, 0.220]	0.117 (0.059)	.045	[0.003, 0.232]
Beliefs about community's ability to address violent extremism							
Efficacy beliefs to prevent violent extremism	2.217 (0.021)	0.045 (0.032)	.16	[–0.018, 0.107]	0.046 (0.032)	.16	[–0.018, 0.110]
Helplessness about violent extremism	3.084 (0.021)	–0.023 (0.030)	.44	[–0.083, 0.367]	–0.018 (0.030)	.55	[–0.078, 0.042]

Note: Regressions were conducted on imputed data. Model 1 does not include covariates; Model 2 includes covariates. Baseline measures of the outcome are included in all equations except for "prioritization of violent extremism" and "collaborate with security forces." All regressions include block fixed effects. Standard errors are clustered at the village level. Robust standard errors are given in parentheses. The control mean is the mean assessed after the intervention. "Contact security forces" was assessed on a 4-point scale and estimated with ordered probit regression; "collaborate with security forces" and "prioritization of violent extremism" are dichotomous variables estimated with probit regression. All other outcomes are composite scales estimated with linear regressions. CI = confidence interval.

results of Model 1 show that the narrative intervention reduced justification of violence compared with the control condition, although the effect was rather small: Justification of violence was 0.044 lower (*SE* = 0.02, *p* = .04) in the treatment condition compared with the control group mean of 1.467 (*SD* = 0.567). This change is less than a tenth of the standard deviation of the control-group mean.

The intervention did not influence beliefs about the community's ability (i.e., efficacy beliefs or helplessness) to prevent or cope with violent extremism (see Table 3) or specific beliefs about violent extremism in Sahel (see Table S5 in the Supplemental Material).

Police–community-collaboration outcomes

The intervention increased intentions to collaborate with the police on both measures. In the control condition, 57.8% of participants freely named collaboration with the police as the most effective way in which ordinary citizens like them could help fight violent extremism,

compared with 63.3% in the treatment condition. The narrative intervention increased reporting of the "collaboration with police" strategy by 0.145 probits (SE = 0.055, p = .008). Participants in the intervention condition were on average 9% more likely (5.4 percentage points higher) than those in the control condition to freely name collaboration with security forces as the most effective strategy to combat violent extremism.

The majority of participants (about 85%) were somewhat or completely likely to report that they would contact the police if someone made a suspicious financial proposal. Intervention participants were significantly more likely (by 0.16 probits) to report that they would contact the police. Average marginal-effects estimates conducted with nonimputed data indicated that the predicted probability that treatment participants would report that they are "completely likely" to contact the police was 6 percentage points higher than control participants. By contrast, the predicted probability of the treatment participants to select one of the other choices on the scale (*completely likely*, *somewhat unlikely*, and *somewhat likely*) was between 1 and 2.5 percentage points lower in the treatment than in the control condition. To ease interpretation, I dichotomized this outcome to either "likely to contact" or "unlikely to contact" the police: The predicted probability of participants to report that they would contact the police was 4.2 percentage points, or 5%, higher in the intervention condition than the control condition.

The intervention did not influence endorsement of other socially desirable strategies that were not addressed by the intervention (see Table S7 in the Supplemental Material). Furthermore, although the intervention increased willingness to collaborate with the police, it did not influence anticipated consequences (i.e., beliefs about whether protection by police reduces one's risk of becoming a target of an attack or whether collaboration is helpful or dangerous) or attitudes toward the police and security forces (i.e., police fairness and trust; see Table 3).

Processes of influence

Analyses of participants' self-reports, facilitator reports, and group discussions converged on a few key processes that help explain the results (for details, see Section S5 in the Supplemental Material). First, the majority of participants (n = 985, 94%) understood the show's main goal as promoting peace and harmony (i.e., social cohesion, solidarity, peace, and harmony). Second, the analyses of facilitators' reports revealed that during or after the listening sessions, participants talked mostly about peace and violence (40% of 793 sessions) and collaboration with police security forces (29% of the sessions). Importantly, in most of these discussions (25% of all sessions), participants approved of actions that promote peace and condemned violence; in 15% of the sessions, they voiced approval of collaboration with the police. Finally, thematic analyses of group discussions also revealed that participants emphasized the importance of reporting to and collaborating with the security forces as an important strategy to effectively counter violent extremism (for details, see Section S5). In sum, participants' reactions during and after listening sessions seem to have reinforced a prescriptive norm that approves of police collaboration.

Discussion

A field experiment examined, for the first time, the ability of a narrative intervention to influence behavioral intentions, beliefs, and attitudes in a context affected by violent extremism. The intervention slightly reduced justification of violence, increased willingness to collaborate with the police and security forces, and increased prioritization of violent extremism and insecurity as an issue that needs to be tackled by the government. However, the intervention did not influence beliefs, including anticipated consequences of collaborating with the police, beliefs about the community's ability to address or cope with violent extremism, or perceptions about the police.

Why did the intervention increase behavioral intentions to collaborate but not expectancies of collaborating with the police or attitudes toward the police? These findings are consistent with previous research in other contexts showing that narrative media influences behaviors and behavioral intentions but not personal beliefs (e.g., Green et al., 2020; Paluck, 2009). Differing from these prior interventions, the two story lines did not use role models or prescriptive norms: Although different opinions about collaboration with the police were presented, the narrative did not portray positive role models or effective collaboration. Qualitative analyses suggest that participants' reactions during and after the listening sessions reinforced a social norm that approves of police collaboration, which likely increased collaboration intentions. These results highlight the importance of moral lessons drawn in social interactions when determining the impact of narrative interventions. It is possible that reactions in the listening group to the narrative might have solidified already held norms in the community (e.g., more than half of the sample had pointed to police–community collaboration as a main strategy to fight violent extremism). It is an empirical question whether the results would have been different if there was a different baseline about collaboration in the community or if a different narrative approach (e.g., use of prescriptive messaging) was used.

An important limitation of this study is that it did not examine long-term effects or assess behaviors. Therefore,

it is not clear whether intentions to collaborate persist over time and whether they transform into behaviors when people are faced with real-world constraints. If the intervention nudges both parties in this social interaction (community members and police) to make a collaborative step, and if that collaborative step is reciprocated, then the effects of the intervention should strengthen over time. However, if a collaborative step by one party is not reciprocated, then the intervention effects would dissipate. Future research should examine whether narrative interventions also influence the behaviors and attitudes of groups in power positions, such as police with respect to the community.

The intervention increased prioritization of violent extremism and had a very small effect on reducing justification of violence, although it did not include explicit messages denouncing violent extremism. Portrayals of the devastating impact of violence in the story might have reduced justification of violence and highlighted the importance of peace. Indeed, the main lesson that participants drew from the story was the importance of peace and social cohesion. An alternative explanation could be that the portrayed violence might have increased perceived threat due to violent extremism, which in turn would also reduce justification of violence and increase willingness to collaborate with the police. However, this mechanism is unlikely because the intervention did not influence perceived threat (see Section S2 and Table S7).

This study did not assess the effect of broadcasting (i.e., the media effect), thereby providing a conservative estimate of narrative media interventions. Constraining listening sessions to a few members of the community limits the intervention's impact on social norms, which is the most important channel of media's influence (Arias, 2019; Paluck, 2009). Furthermore, the study assessed the first 6 months of a longer narrative arc designed to evolve over several years: The beginning of a story establishes the setting and characters but does not effectively address change goals.

Two important limitations of this study include lack of a placebo control condition and potential social-desirability effects. First, it is possible that the act of gathering weekly in the treatment condition might have influenced the outcomes beyond the effects of just listening to the narrative. To assess this possibility, I examined two additional outcomes (sense of community and social trust) that would account for the effects of community gatherings (see Section S2), but the intervention did not influence them (see Table S7). Second, the fact that the intervention's goals are transparent to the audience raises concerns about social desirability. Three features of the study design were intended to reduce social-desirability and demand effects: (a) The data-collection team was different from the intervention-implementation team, (b) there was a temporal distance between the postintervention survey and the intervention, and (c) measures included open-ended questions, and the socially desirable outcomes (e.g., contacting the police) were embedded among other socially desirable responses. Importantly, the intervention's lack of impact on various socially desirable outcomes (police fairness, police trust, anticipated consequences of collaboration) suggests that the observed effects cannot be explained by social desirability and experimental demand alone.

In sum, the present findings show that narrative interventions could be well positioned to tackle violent extremism. However, more research is needed to investigate the type of narratives that are best positioned to prevent and counter violent extremism in different contexts and to examine how the features of the narrative content in conjunction with the interpretation and the moral lessons drawn in social interactions shape the impact of these interventions.

Transparency

Action Editor: Mark Brandt
Editor: Patricia J. Bauer
Author Contributions
R. Bilali is the sole author of this article and is responsible for its content.
Declaration of Conflicting Interests
The author(s) declared that there were no conflicts of interest with respect to the authorship or the publication of this article.
Funding
This research was funded by a U.S. Agency for International Development (USAID) contract (No. GS-10F-0033M, Task Order No. AID-OAA-M-13-00013) to the National Opinion Research Center (NORC) at the University of Chicago.
Open Practices
Data used in this study are confidential and cannot be shared publicly. Materials and analysis code have been made publicly available via OSF and can be accessed at https://osf.io/cmbda/. The design and analysis plans were not preregistered. This article has received the badge for Open Materials. More information about the Open Practices badges can be found at http://www.psychologicalscience.org/publications/badges.

Acknowledgments

The author thanks the National Opinion Research Center (NORC) team, including Jeffrey Telgarsky, Ali Protik, and especially Brian Kirchhoff (who oversaw the data collection), and Gregory Haugan for assistance with data management, random assignment of villages to conditions, and analytical procedure; Equal Access International for designing and implementing the intervention; Centre d'Études, de Recherches et de Formation

Pour le Développement Économique et Social (CERFODES) survey firm for collecting the data; Morgan Holmes and Noel Bauer of the U.S. Agency for International Development (USAID) for facilitating the research collaboration; Eric Arias for power analysis; Letisha Smith for assistance with data imputation; New York University research assistants for help with data coding; and Evidence in Governance and Politics (EGAP) 27 Geneva meeting participants for feedback on an early draft of the manuscript.

Supplemental Material

Additional supporting information can be found at http://journals.sagepub.com/doi/suppl/10.1177/09567976211031895

References

Aldrich, D. P. (2012). Radio as the voice of God: Peace and tolerance radio programming's impact on norms. *Perspectives on Terrorism*, *6*(6), 34–60.

Arias, E. (2019). How does media influence social norms? Experimental evidence on the role of common knowledge. *Political Science Research and Methods*, *7*, 561–578.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice Hall.

Bilali, R., & Vollhardt, J. R. (2013). Priming effects of a reconciliation radio drama on historical perspective-taking in the aftermath of mass violence in Rwanda. *Journal of Experimental Social Psychology*, *49*, 144–151.

Bilali, R., & Vollhardt, J. R. (2015). Do mass media interventions effectively promote peace in contexts of ongoing violence? Evidence from Eastern Democratic Republic of Congo. *Peace and Conflict: Journal of Peace Psychology*, *21*(4), 604–620. https://doi.org/10.1037/pac0000124

Bilali, R., Vollhardt, J. R., & Rarick, J. D. R. (2017). Modeling collective action through media to promote social change and positive intergroup relations in violent conflicts. *Journal of Experimental Social Psychology*, *68*, 200–211.

Blair, G., Littman, R., & Paluck, E. L. (2019). Motivating the adoption of new community-minded behaviors: An empirical test in Nigeria. *Science Advances*, *5*(3), Article eaau5175. https://doi.org/10.1126/sciadv.aau5175

Bruner, J. (1990). *Acts of meaning*. Harvard University Press.

Buchanan-Clarke, S., & Lekalake, R. (2016). *Violent extremism in Africa. Public opinion from the Sahel, Chad, and the Horn* (Afrobarometer Policy Paper No. 32). Afrobarometer. https://afrobarometer.org/sites/default/files/publications/Policy%20papers/r6-afropaperno32-violent-extremism-in-ss-africa-en.pdf

de Graaf, A., Sanders, J., & Hoeken, H. (2016). Characteristics of narrative interventions and health effects: A review of the content, form, and context of narratives in health-related narrative persuasion research. *Review of Communication Research*, *4*, 88–131.

Finkel, S. E., McCauley, J. F., Neureiter, M., & Belasco, C. A. (2021). Community violence and support for violent extremism: Evidence from the Sahel. *Political Psychology*, *42*, 143–161.

Gau, J. C. (2014). Procedural justice and police legitimacy: A test of measurement and structure. *American Journal of Criminal Justice*, *39*, 187–205.

Green, D., Wilke, A., & Cooper, J. (2020). Countering violence against women by encouraging disclosure: A mass media experiment in rural Uganda. *Comparative Political Studies*, *53*, 2283–2320.

Greitemeyer, T. (2011). Effects of prosocial media on social behavior: When and why does media exposure affect helping and aggression? *Current Directions in Psychological Science*, *20*, 251–255.

Human Rights Watch. (2020, January 6). *Burkina Faso: Armed Islamist atrocities surge*. https://www.hrw.org/news/2020/01/06/burkina-faso-armed-islamist-atrocities-surge

International Crisis Group. (2017, October 12). *The social roots of Jihadist violence in Burkina Faso's north* (Report No. 254/Africa). International Crisis Group. https://www.crisisgroup.org/africa/west-africa/burkina-faso/254-social-roots-jihadist-violence-burkina-fasos-north

Kruglanski, A. W., Bélanger, J. J., & Gunaratna, R. (2019). *The three pillars of radicalization: Needs, narratives, and networks*. Oxford University Press.

Kruglanski, A. W., Gelfand, M. J., Bélanger, J. J., Sheveland, A., Hetiarachchi, M., & Gunaratna, R. (2014). The psychology of radicalization and deradicalization: How significance quest impacts violent extremism. *Advances in Political Psychology*, *34*(Suppl. 1), 69–93.

Le Roux, P. (2019). *Responding to the rise in violent extremism in the Sahel* (Africa Security Brief No. 36). Africa Center for Strategic Studies. https://africacenter.org/publication/responding-rise-violent-extremism-sahel/

Mar, R. A., & Oatley, K. (2008). The function of fiction is the abstraction and simulation of social experience. *Perspectives on Psychological Science*, *3*(3), 173–192.

Murrar, S., & Brauer, M. (2019). Overcoming resistance to change: Using narratives to create more positive intergroup attitudes. *Current Directions in Psychological Science*, *28*, 164–169.

Paluck, E. L. (2009). Reducing intergroup prejudice and conflict using the media: A field experiment in Rwanda. *Journal of Personality and Social Psychology*, *96*, 574–587.

Paluck, E. L. (2010). Is it better not to talk? Group polarization, extended contact, and perspective-taking in eastern Democratic Republic of Congo. *Personality and Social Psychology Bulletin*, *36*, 1170–1185.

Paluck, E. L., & Green, D. P. (2009). Deference, dissent, and dispute resolution: An experimental intervention using mass media to change norms and behavior in Rwanda. *American Political Science Review*, *103*, 622–644.

Petraglia, J. (2007). Narrative intervention in behavior and public health. *Journal of Health Communication*, *12*(5), 493–505.

Polleta, F., & Callahan, J. (2017). Deep stories, nostalgia narratives, and fake news: Storytelling in the Trump era. *American Journal of Cultural Sociology*, *5*(3), 392–408.

StataCorp. (2017). *Stata statistical software* (Version 15.1) [Computer software]. StataCorp.

van Buuren, S., & Groothuis-Oudshoorn, K. (2011). mice: Multivariate imputation by chained equations in R. *Journal of Statistical Software*, *45*(3). https://doi.org/10.18637/jss.v045.i03