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Assessing the Impact of a Media-based Intervention to Prevent Intergroup Violence and Promote Positive Intergroup Relations in Burundi

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ABSTRACT

The present study ($N = 1074$) examined the impact of a theory-driven media intervention aimed at violence prevention and intergroup reconciliation in Burundi. We used a novel methodology utilizing audio-based surveys to assess attitudes related to intergroup conflict and reconciliation among community members. We conducted a propensity score analysis to estimate the causal effects of the intervention by examining differences between listeners and non-listeners of the radio dramas. The results indicated a positive effect of the intervention on several social psychological outcomes (tolerance, in-group superiority, social distance, intergroup trust, responsibility attributions, trauma disclosure and competitive victimhood). However, listeners and non-listeners did not differ in obedience toward leaders or historical perspective taking; and the results for active bystandership, one of the main foci of the intervention, were mixed. Furthermore, the results show that the impact of the intervention sometimes depends on listeners' personal experiences of victimization. Copyright © 2015 John Wiley & Sons, Ltd.

Key words: community intervention; intergroup relations; entertainment–education; media; ethnic conflict; violence; reconciliation

Protracted, violent conflicts influence attitudes, emotions and behaviours in ways that can maintain the conflict and inhibit a peaceful resolution and reconciliation (Staub, 2011). Transforming the psychological orientation of groups in conflict is therefore crucial in order to prevent further violence and promote peaceful coexistence (Bar-Tal, 2007). However, this requires interventions that reach large segments of the population. Because of its potential for large-scale impact, media has become a popular tool for conflict resolution interventions at the community level (e.g. Paluck, 2009). Yet, the evidence of the impact of media-based reconciliation and conflict prevention interventions on target audiences is

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scant (Bilali & Vollhardt, 2013; Paluck, 2009). In an extensive review of prejudice-reduction interventions, Paluck and Green (2009) found only few studies assessing the impact of media-based programmes, mostly one-time viewing experiences. Most of these programmes were not theory-driven and typically assessed the effects of an anti-bias documentary or educational movie on small audiences in school settings in the USA. The effects of long-term exposure to media interventions, especially in conflict areas, are less studied because of the methodological challenges of evaluating population-level programmes that run over a long time. One exception is a study of the impact of the show *Sesame Street* on Israeli and Palestinian children, showing that viewing the programme was linked to more positive stereotypes and attributes of the out-group (Cole et al., 2003). The present research contributes to this literature by assessing the impact of a theory-driven, violence prevention and reconciliation intervention in Burundi: a radio drama using the entertainment–education approach (Singhal & Rogers, 1999).

With the goal of addressing intergroup conflict and promoting intergroup reconciliation, the NGO Radio La Benevolencija has broadcast radio dramas in the Great Lakes region of Africa—specifically, in Rwanda (since 2004), Burundi (since 2006) and the Eastern Democratic Republic of Congo (since 2006; Bilali, 2014; Staub, 2011). These interventions aim to raise awareness about the roots and evolution of violence as well as to encourage behaviours that prevent violence. The radio dramas are very popular, with listener rates ranging from 65% in Burundi to 85% in Rwanda (Staub, 2011). The radio dramas embed educational messages, based on psychological research and theories of intergroup conflict and reconciliation (Staub, 1989, 2011) as well as clinical theories about trauma healing after mass violence (Pearlman, 2013), in an entertaining story about a fictional conflict. The theoretical approach is the same across sites, but the implementation is country-specific. Local staff and partners adapt the educational content to the local context and design the fictional setting of the conflict, in line with the nature of inter-community relations in each country. For instance, in Burundi, the radio drama *Murikira Ukuri* (*Shedding Light on the Truth*) portrays a conflict between two fictional ethnic groups that differ in education level and income opportunities, wealth and representation in governance. The story is very accessible to Burundians, who can relate to the complex power relations and grievances of the fictional groups. In addition, accurate communication of the educational messages is ensured by training the local staff on the educational material, reviewing all scripts to ensure the fidelity of the intervention and eliciting feedback from listeners.

What are the mechanisms through which fictional radio dramas such as *Murikira Ukuri* might influence people's attitudes regarding inter-ethnic conflict? Based on Staub's (1989, 2011) work, a main tenet of the programme is that understanding the origins and evolution of mass violence contribute to its prevention. For instance, Staub theorizes that passivity in the face of derogation of and violence toward out-groups further encourages perpetrators, whereas speaking up against these actions—which Staub refers to as active bystandership—has the potential to prevent escalation of violence. Accordingly, the radio dramas raise awareness about the role of individuals' passivity in conflict escalation and provide role models that encourage listeners to speak out and act against violence.

Beyond this main goal of the intervention (promoting active bystandership) and the hypothesized mechanisms of change (providing role models and understanding the evolution of violence), the literature suggests other processes through which the radio dramas might influence the audience. For instance, radio dramas effectively communicate new social norms (Paluck, 2009), which in turn influence behaviour (Cialdini & Trost, 1998).

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In addition, fictional narratives expose listeners to diverse opinions in non-threatening ways, thereby reducing intergroup anxiety (Johnson, Jasper, Griffin, & Huffman, 2013) and encouraging perspective taking with characters from different sides of the conflict (Paluck, 2010). These processes can reduce out-group prejudice in the context of the actual conflict (Bilali & Vollhardt, 2013). The radio dramas also portray members of the two villages cooperating, allowing people to imagine positive intergroup interactions. Such 'imagined contact' reduces intergroup bias (Crisp & Turner, 2009). Finally, the radio dramas show negative and positive characters on both sides of the conflict, challenging a 'good versus evil' understanding of conflict that predicts support for violence (Campbell & Vollhardt, 2014). Because of these features, these interventions have the potential to influence intergroup attitudes more generally, beyond promoting active bystandership.

Two previous studies demonstrated a positive impact of the radio drama *Musekeweya* in Rwanda. During its first year of broadcasting, Paluck (2009) conducted a field experiment, randomly assigning communities to either listen to Musekeweya or a radio drama on health. Over the course of one year, participants in each community regularly listened together to the assigned radio soap opera. *Musekeweya* listeners reported less social distance and more intergroup trust, dissent, tolerance and cooperative behaviour, compared with participants in the control condition (Paluck, 2009). In a more recent study, we (Bilali & Vollhardt, 2013) used audio priming (i.e. making the radio drama salient by exposing participants to the voice of one of its main characters) to assess the impact of an educational message in the drama that focused on the importance of confronting the conflict's past for reconciliation. Priming the radio drama increased listeners' intergroup trust and willingness to engage with out-group perspectives on the history of the conflict in Rwanda and increased perceived commonalities between the in-group's and the out-group's suffering (i.e. inclusive victimhood).

Taken together, these two studies speak to the potential of this media-based intervention to promote reconciliation. However, it is unclear whether these findings from Rwanda generalize to adaptations of this intervention in other contexts. The positive effects observed in Rwanda might be due to unique characteristics of the Rwandan drama, or to features of the Rwandan post-genocide context. System-level and setting-level features such as culture, socio-political context and policies can influence the effectiveness of interventions. This seems particularly crucial to consider in the case of post-genocide Rwanda, where the government has implemented a nationwide 'reconciliation and unity campaign' (Straus & Waldorf, 2011). Thus, it is important to test whether the positive effects of the radio reconciliation intervention extend to other post-conflict contexts that lack strong reconciliation policies, such as Burundi.

THE PRESENT RESEARCH: CONTEXT AND AIMS

Burundi is culturally similar to Rwanda, with a similar ethnic composition (a majority of Hutu and a minority of Tutsi) and a history of mass violence after the country's decolonization, including several mass killings of Hutus by the Tutsi militia (Lemarchand, 2009). The assassination of the first democratically elect Hutu president in 1993 started a civil war: mass violence was committed by Hutus against the Tutsi minority, and counter-attacks were carried out by Tutsi military against Hutu communities (Lemarchand, 2009). After a long political transition after the end of the war in 2005, Burundi has

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instituted a power-sharing government. Unlike Rwanda, it has not implemented transitional justice mechanisms to deal with its violent past or policies to promote reconciliation (Vanedginste, 2014). Therefore, Burundi provides an excellent setting to examine whether the impact of the media reconciliation intervention could be replicated under conditions where the reconciliation process received less institutional support.

Toward this end, we assessed the same outcomes that revealed a positive impact in studies on the prototype intervention in Rwanda. Following Paluck (2009), we predicted that the radio drama listeners would be more willing to endorse social norms promoted by the intervention (i.e. less *social distance*, but more *out-group trust*, *dissent* and *openness toward talking about trauma*). Following Bilali and Vollhardt (2013), we examined whether listeners of the radio drama would express increased *inclusive victimhood*, *out-group trust* and *perspective taking* with regard to the history of the conflict. Whereas Bilali and Vollhardt (2013) assessed the impact of a message highlighting the importance of confronting history on historical perspective taking, the radio drama in Burundi had not yet communicated this message. Therefore, we included this measure for the sake of comparability but did not expect the intervention in Burundi to influence historical perspective taking.

Extending previous research, we also tested one of the main intervention goals, namely, to enhance understanding of the individual's role in conflict (e.g. the role of passivity in the face of violence) and to encourage people to engage in actions that prevent violence, such as intervening to disrupt out-group derogation (i.e. *active bystandership*).

We also extended the previous studies by assessing additional outcomes that predict support for intergroup violence: obedience to leaders, in-group superiority and attributions of responsibility. Conformity and *obedience* are at the core of social psychological literature on intergroup violence (Milgram, 1974) and have been central to understanding how ordinary people come to perpetrate mass violence (Staub, 1989), including in scholarship on the Great Lakes Region of Africa (Prunier, 1995). The role of obedience in perpetuating mass violence is also emphasized in the intervention. Although Paluck (2009) assessed the impact of the intervention in Rwanda on dissent in general, we extended her measures to assess conformity and obedience specifically toward leaders (Staub, 1989). *In-group superiority* refers to a glorified view of the in-group as being better than other groups (Roccas, Sagiv, Schwartz, Halevy, & Eidelson, 2008) and predicts legitimization of in-group violence and out-group derogation (Leidner, Castano, Zaiser, & Giner-Sorolla, 2010). *Attributions of responsibility* for the conflict are central in intergroup conflicts, including in Burundi, where each group tends to blame the out-group for the conflict and deny the in-group's responsibility (Bilali, Tropp, & Dasgupta, 2012).

Finally, we examined the potentially moderating role of exposure to conflict-related violence. While some research has demonstrated adverse effects of personal victimization on intergroup attitudes and support for justice (e.g. Canetti-Nisim, Halperin, Sharvit, & Hobfoll, 2009; Elcheroth, 2006), other studies—including field experiments in Burundi—suggest that greater exposure to violence at the individual level is linked to more altruistic and risk-seeking behaviour and to less support for violence (Voors et al., 2010). In prolonged conflicts, people are exposed to multiple war-related events and traumatic experiences, which might influence how they respond to media interventions promoting reconciliation between groups that once harmed each other. Therefore, an exploratory question for this study was whether or not the effectiveness of the intervention depends on

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participants' degree of exposure to violence—and if so, whether these experiences make them more or less open to messages promoting positive intergroup relations.

METHOD

Data collection procedure

Local research assistants administered the survey in Kirundi, translated and back-translated from English. Participants were approached in public areas (e.g. marketplaces and streets) and invited to participate in a study examining the opinions of Burundians on social issues. To reduce social desirability, the radio drama was not mentioned until after participants had completed the outcome measures. After providing oral consent, participants completed the questionnaire on their own. We used a novel, audio-delivered questionnaire procedure adapted from Chauchard (2013) and reported in Bilali and Vollhardt (2013). Specifically, participants listened to the recorded items on a CD player over headphones and marked their responses on 4-point pictorial scales depicting two 'thumbs up' to show agreement and two 'thumbs down' to show disagreement. A small thumb represented *moderate agreement* or *disagreement* and a bigger thumb strong *agreement* or *disagreement*. Radio drama listening habits and demographic information were obtained after participants completed the survey. At the end, participants were debriefed.

This methodology has advantages over traditional paper-and-pencil surveys, which are not suitable for communities with high illiteracy rates. It also has benefits over face-to-face interviews as it reduces socially desirable responding by allowing for anonymous responses (Chauchard, 2013).

Ethical considerations

The research team was trained to follow general ethical research procedures and to address concerns that might arise specifically due to the sensitive topic of conflict in Burundi. Several general ethical procedures were implemented, such as not coercing anyone to participate or respond to all questions, and informing participants that their data were confidential. Names were not recorded, the demographic form was kept separately from the response sheet and both were put away immediately after completion to avoid that the researcher could see the participant's responses. The audio survey methodology further increased the confidentiality of the responses. Additional steps were taken to ensure participants' privacy as they completed the survey, such as keeping curious onlookers away. Finally, the research team was instructed to stop the study if any questions were causing participants distress. No such instances were reported by the research team, likely because the questions were rather general in nature and ethnic groups or specific events were intentionally not mentioned, to reduce such distress. Additionally, the research team was instructed to avoid probing if participants refused to answer demographic questions or questions about their experiences of victimization.

Participants

Participants ($N = 1099$) were recruited from 12 communities across five provinces (Bururi, Gitega, Makamba, Ngozi and Bujumbura Mairie) in Burundi, chosen to represent areas

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with different ethnic compositions and different levels of exposure to conflict-related violence. Twenty-five participants who had only recently started listening to the programmes were excluded from the analyses, resulting in a final sample of 1074 participants [714 listeners (67.2%); 50.5% women; 65% residing in rural areas] who had listened to the programmes for at least six months. The sample included adults from 16 to 85 years of age ($M = 32$, $SD = 12.8$), with varying levels of education (181 participants had no formal schooling, 449 participants had one to six years, 387 participants had six to ten years and 57 participants had more than 10 years of education). To avoid making participants uncomfortable, we did not ask about participants' ethnicity because historically, it has been used to target and divide people.

Measures

All outcome measures, including their means and standard deviations, are listed in Table 1. We used all measures that had revealed an impact of the prototype intervention in Rwanda. These include four items assessing social norms about intergroup conflict (i.e. social distance, out-group trust, dissent and disclosure of trauma) from Paluck (2009), as well as measures of competitive and inclusive victimhood and historical perspective taking (Bilali & Vollhardt, 2013).

We assessed two aspects of active bystandership: one item measured the level of understanding of the link between passivity and the evolution of violence in general (Staub, 1989, 2011); and another item assessed a self-reported behaviour, namely, acting on behalf of out-group members (Spearman's $\rho = .06$). *Obedience to leaders* was measured with two items assessing deference to leaders and people's understanding of the link between obedience and violence ($\rho = .12$). *In-group superiority* was assessed with two items measuring the degree to which the in-group is described as superior and more moral than other groups (adapted from Roccas et al., 2008) ($\rho = .40$). Finally, two items assessed *attributions of responsibility*: in-group responsibility and out-group blame ($\rho = .28$). Because these items tapped into different aspects of complex constructs, and consistent with previous findings in these settings, the correlations between items belonging to the same construct were low. Therefore, all items were analysed separately.

Victimization experiences during the war were assessed with a checklist to capture the variability in exposure to conflict-related events. These included physical harm (blows and injuries, and sexual violence), harm to family (loss of family members and family member injured), dislocation (displacement and expulsion), harassment (threats, restriction of movement, arbitrary arrests and mistreatment by militia) and destruction of property. About half of the sample (533 participants) had experienced at least one form of victimization. Following prior research (e.g. Canetti-Nisim et al., 2009), we created a cumulative index by summing up victimization experiences ($M = 2.45$, $SD = 2.94$).

Propensity score matching

Because the media intervention is very popular and has been broadcast for several years, it is challenging to assess its causal effects. Field experiments randomly assigning community members to treatment and control groups (e.g. Paluck, 2009) are not feasible when

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Table 1. All outcome measures included in the present study

	M	*SD*
Social distance, trust, dissent and trauma (adopted from Paluck, 2009)		
I advise my children (or the ones that I will have in the future) that they should only marry people from the same regional, religious or ethnic group as our own. (*Social distance*)	1.89	1.18
It is naïve to trust members of the other ethnic group (reverse coded). (*Out-group trust; also in Bilali & Vollhardt, 2013*)	2.76	1.22
If I disagree with something harmful that someone is doing or saying, I keep quiet (reverse coded). (*Dissent*)	2.49	1.26
For the sake of my psychological health it is better never to talk about the experiences that have caused me great pain and suffering (reverse coded). (*Trauma disclosure*)	1.83	1.05
Collective victimhood and perspective taking (adopted from Bilali & Vollhardt, 2013)		
No other group in Burundi has suffered the same way my group has. (*Competitive victimhood*)	2.07	1.15
The victimization that my group has experienced is similar to what other groups in Burundi have experienced. (*Inclusive victimhood*)	2.79	1.16
I am sure that the history of conflict in Burundi that I have learned from my family is the only true history (reverse coded). (*Historical perspective taking* 1)	2.48	1.16
I have tried to learn about the history of the conflict in Burundi from the other ethnic group's perspective. (*Historical perspective taking* 2)	2.88	1.10
It is dangerous and causes too much confusion to allow the expression of different points of view (reverse coded). (*Tolerance for different perspectives*)	2.23	1.19
Active bystandership		
When we do not intervene when someone is being treated in an unfair way, we allow violence to evolve. (*Active bystandership* 1)	2.84	1.26
When I see that someone who is not in my ethnic group is treated unfairly, I try to stop this (for example, by getting help or by speaking out against it). (*Active bystandership* 2)	3.36	1.00
Obedience to leaders		
If we always obey our leaders blindly, without questioning them, violence is more likely to occur (reverse coded). (*Obedience* 1)	2.22	1.15
People should defer to their leaders' decisions without asking critical questions. (*Obedience* 2)	2.8	1.2
In-group superiority		
My ethnic group is superior to other groups. (*In-group superiority* 1)	1.76	1.06
Relative to other groups, my ethnic group is moral. (*In-group superiority* 2)	1.97	1.14
Attributions of responsibility		
The other ethnic group is responsible for the problems in this country. (*Out-group responsibility*)	1.86	1.09
My ethnic group has no responsibility for the problems in this country (reverse coded). (*In-group responsibility*)	2.19	1.19

Notes: All items are measured on 4-point scales (1 = strongly disagree; 4 = strongly agree)

a majority of the population has been exposed to the programmes, as is the case with the radio drama in Burundi at this point. Therefore, to test the impact of the media intervention, we employed propensity score matching (PSM)—an increasingly popular method also among community psychologists (Lanza, Moore, & Butera, 2013) —that is used to draw causal inferences from observational studies (Rosenbaum & Rubin, 1983). PSM reduces bias due to confounding variables in the estimate of the treatment effect by

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accounting for an array of covariates that predict receiving treatment. It estimates the probability of receiving treatment conditional on observed covariates. In our study, the propensity score is the conditional probability of being a listener of *Murikira Ukuri*. PSM was conducted using the *psmatch2* module for STATA.

To calculate the propensity scores, we ran linear logistic regressions predicting the probability of being a listener of the programme from 16 pretreatment covariates: demographics (age and gender), socio-economic variables (job and education), province of residence and various personal experiences of victimization because of the conflict (Table 2). These covariates occurred before listening to the programme, thus placing them outside the causal pathways we investigate in this study.

The propensity scores were then used to match listeners to similar respondents in the control condition by means of a near-neighbour with replacement method (Smith & Todd, 2005). Individuals in the non-listening group were matched with listeners who have the most similar propensity score, allowing non-listeners to match to more than one listener. Given that there were nearly twice as many listeners ($n = 714$) as non-listeners ($n = 360$), this matching method is appropriate to assess the average treatment effect of the treated (ATT). The pweight option used in STATA implements a Huber sandwich estimator, which accounts for the fact that some control observations have been weighted up in the analysis. Ultimately, matches were drawn from 195 participants in the control group, with an average of 3.5 non-listeners per listener. To assess balance, standardized bias estimates were calculated by dividing the difference in means of each covariate by the standard

Table 2. Standardized biases between treatment and control group covariates for pre-propensity and post-propensity score adjustment

Covariate	Standardized bias pre-adjustment	Standardized bias post-adjustment
Demographics		
Age	0.360	0.023
Education	0.038	0.052
Occupation	0.149	0.009
Gender (male)	0.007	0.000
Province		
Bururi	0.126	0.048
Buju	1.149	0.021
Ngozi	0.260	0.067
Git	0.193	0.064
Maka	0.165	0.034
Urban	0.718	0.016
Victimization experiences		
Physical harm	0.067	0.030
Family harm	0.313	0.028
Harassment	0.213	0.049
Dislocation	0.205	0.028
Destruction of property	0.319	0.006
Victimization sum	0.277	0.043

Notes: The standardized bias estimate is calculated by dividing the difference in means of the covariate between the treatment group and the control group by the standard deviation; we considered the covariates balanced if the standardized bias estimate is below 0.10, which is a strict criterion compared with the cut-off of 0.25 set by Ho et al. (2007).

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deviation. We used a strict criterion to assess balance by considering the covariates balanced if the standardized bias estimates post-matching were below 0.10 (Table 2; the criterion in the literature is 0.25: Ho, Imai, King, & Stuart, 2007).

RESULTS

To assess the effect of the intervention, following the matching procedure (i.e. weighting the data using the propensity scores), we conducted ordered logit regression analyses with the dichotomous listening variable as the predictor and each item as an outcome. We report robust standard errors, calculated via the Huber–White sandwich estimator method, which adjusts for clustering of participants in the 12 communities where the data were collected. In the next step, to examine the moderating role of exposure to violence, we added the victimization index and its interaction with listening as predictors (Table 3).

Overall, the results mostly replicate Paluck's (2009) findings from Rwanda: compared with non-listeners, listeners reported more out-group trust, less social distance and endorsed norms about trauma disclosure more. However, there was no effect of listening on dissent. Replicating the findings in Bilali and Vollhardt (2013), listeners were less likely than non-listeners to state that their group has suffered more than the out-group (i.e. competitive victimhood), and they were more supportive of the idea that people should be allowed to express diverse opinions (i.e. more tolerant). However, there were no differences between listeners and non-listeners in inclusive victimhood and historical perspective taking.

The findings revealed a positive effect of listening to the drama (significant and marginally significant effects) on in-group superiority and responsibility attributions, such that listeners were less likely to view their in-group as superior, less likely to blame the out-group and somewhat more likely to acknowledge the in-group's responsibility for the country's problems. However, there were no differences in obedience toward leaders.

There were mixed effects with regard to active bystandership. In line with the goals of the intervention, listeners were somewhat more likely to report that they act on behalf of the victims when they witness derogation of an out-group member. However, contrary to the goals of the intervention, listeners showed less awareness of the role that passive bystanders can play in the escalation of violence.

Exposure to violence moderated the listening effect on four outcomes: social distance, tolerance, historical perspective taking (one item) and in-group superiority (one item). The interactions suggest that the intervention might reduce the otherwise negative effects of exposure to violence on intergroup outcomes. Specifically, among non-listeners, more exposure to violence predicted slightly greater social distance ($b = 0.13$, $SE = 0.07$, $p = .07$) and in-group superiority ($b = 0.12$, $SE = 0.07$, $p = .07$), but less tolerance ($b = -0.16$, $SE = 0.06$, $p = .006$) and historical perspective taking ($b = -0.15$, $SE = 0.06$, $p = .01$). In contrast, among listeners, these negative effects of victimization were either diminished (social distance: $b = -0.02$, $SE = 0.02$, $p = .49$; in-group superiority: $b = -0.02$, $SE = 0.02$, $p = .41$; tolerance: $b = -0.04$, $SE = 0.02$, $p = .05$) or the trend was reversed, such that exposure to violence predicted more historical perspective taking ($b = 0.05$, $SE = 0.02$, $p = .03$).

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Table 3. Logit regression estimates of the radio drama listening on outcome variables

	Model 1 (main effect of listening only)			Model 2 (including victimization and its interaction with listening)					
	Listen B (*SE*)	*p*	Odds ratio	Listen B (*SE*)	*p*	Victim B (*SE*)	*p*	Listen B × Victim B (*SE*)	*p*
Distance, dissent, trust and trauma (Paluck, 2009)									
Social distance	−0.73 (0.21)	.00	0.48	−0.67 (0.21)	.001	0.13 (0.07)	.06	−0.15 (0.07)	.05
Out-group trust	0.41 (0.19)	.04	1.50	0.41 (0.19)	.03	−0.02 (0.07)	.76	0.01 (0.07)	.93
Dissent	0.03 (0.20)	.87	1.03	−.00 (0.21)	.99	−0.07 (0.06)	.27	0.05 (0.06)	.42
Trauma disclosure	0.44 (0.19)	.02	1.55	0.44 (0.19)	.02	−0.08 (0.06)	.15	0.02 (0.06)	.75
Victimhood and perspective taking (Bilali & Vollhardt, 2013)									
Competitive victimhood	−0.50 (0.20)	.01	0.61	−0.47 (0.19)	.01	0.17 (0.08)	.04	−0.11 (0.09)	.21
Inclusive victimhood	−0.09 (0.21)	.67	0.91	−0.06 (0.21)	.76	0.07 (0.07)	.29	−0.06 (0.07)	.37
Historical perspective taking 1	0.07 (0.21)	.74	1.07	0.02 (0.20)	.92	−0.16 (0.06)	.01	0.21 (0.07)	.002
Historical perspective taking 2	−0.05 (0.20)	.77	0.94	−0.04 (0.20)	.84	0.02 (0.06)	.68	−0.04 (0.06)	.45
Tolerance for different perspectives	0.38 (0.20)	.05	1.47	0.36 (0.20)	.07	−0.17 (0.06)	.005	0.12 (0.06)	.06
Active bystandership									
Active bystandership 1	−0.42 (0.20)	.04	0.66	−0.43 (0.20)	.03	−0.01 (0.08)	.87	0.05 (0.08)	.58
Active bystandership 2	0.38 (0.20)	.06	1.46	0.42 (0.20)	.04	0.12 (0.07)	.10	−0.11 (0.08)	.18
Obedience to leaders									
Obedience 1	0.32 (0.20)	.12	1.37	0.31 (0.20)	.12	−0.01 (0.05)	.80	0.007 (0.05)	.89
Obedience 2	−0.17 (0.21)	.42	0.84	−0.17 (0.21)	.42	0.02 (0.08)	.84	−0.01 (0.09)	.95
In-group superiority									
In-group superiority 1	−0.42 (0.23)	.07	0.66	−0.35 (0.24)	.15	0.13 (0.17)	.07	−0.15 (0.07)	.05
In-group superiority 2	−0.45 (0.21)	.03	0.64	−0.46 (0.20)	.02	−0.04 (0.07)	.57	0.04 (0.07)	.59
Attributions of responsibility									
Out-group responsibility	−0.48 (0.23)	.04	0.62	−0.47 (0.24)	.05	0.06 (0.07)	.37	0.005 (0.07)	.95
In-group responsibility	0.38 (0.21)	.07	1.46	0.34 (0.21)	.10	0.11 (0.05)	.02	0.06 (0.05)	.24

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DISCUSSION

The present study aimed to extend prior work in Rwanda on the effects of reconciliation media interventions to Burundi. Specifically, we tested the impact of the radio drama *Murikira Ukuri* on conflict-related intergroup attitudes, beliefs and perceived social norms. The current study contributes to the literature on reconciliation interventions in post-conflict settings. Despite a proliferation of such interventions, rigorous studies assessing their impact are rare. To address the methodological challenge of assessing the impact of the reconciliation radio drama after several years of broadcasting of the programme, we used propensity score methods to draw causal inferences by comparing matched listeners and non-listeners of these popular programmes. Overall, the results were encouraging: in large part, they replicated Paluck's (2009) findings in Rwanda showing the expected impact of this intervention on all outcomes (i.e. higher trust, less social distance and more trauma disclosure) except for dissent. As predicted, the present results did not replicate Bilali and Vollhardt's (2013) findings from the intervention in Rwanda on historical perspective taking, because confronting history was not a message implemented in the Burundian radio drama at the time of conducting this study.

The positive effects of the intervention on in-group superiority and responsibility attributions are particularly encouraging: they suggest that the intervention might not only impact psychological outcomes that are directly targeted by the programme but also more general attitudes that are relevant to conflict and violence. The radio drama challenges group stereotypes and simplistic accounts of conflict (e.g. by showing negative and positive characters on both sides), elicits empathy with characters from different groups and engages the audience in imagined intergroup contact. All of these processes might reduce defensive reactions to intergroup relations and change attributions of responsibility for the conflict as well as perceived superiority of the in-group. In future research, the processes through which the intervention influences intergroup attitudes that go beyond its specific goals and messages need to be further investigated.

Notably, the intervention did not influence dissent or obedience to leaders, even though this was an important goal of the intervention. One potential explanation might relate to the influence of existing, institutional and societal norms that support or counter certain goals of the intervention. For instance, the idea that conformity and obedience contribute to mass violence is particularly salient in Rwanda, where 'following bad leaders' is a popular explanation for the genocide (Moss, 2014). In addition, transitional justice and other societal mechanisms of addressing the past, along with peoples' diverse experiences of it, had not been introduced in Burundi at the time of the study (Vanedginste, 2014). An empirical question for future research that has important practical implications is whether or not the impact of interventions varies with the degree to which the ideas they put forth are in line with or counter dominant narratives, or disseminate narratives that are not as familiar or normative.

While in Rwanda both inclusive and competitive victimhood were affected by the intervention, listeners in Burundi were less likely to claim that their group had suffered more than the out-group (competitive victimhood), but they were not more likely to acknowledge that other groups had suffered in similar ways (inclusive victimhood). This is plausible, given that competitive and inclusive victimhood are distinct constructs rather than opposite sides of the same dimension and differentially predict out-group attitudes (Vollhardt & Bilali, 2015). In addition, acknowledging similarities between the in-group's

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and the adversary's victimization might be psychologically more challenging than reducing claims of the in-group's greater suffering.

In regard to one of the intervention's main goals, namely, encouraging active bystandership, we found mixed results. Importantly, listeners were more likely to report engaging in active bystandership on behalf of out-group members. Interestingly though, listeners were *less* likely to endorse the general belief that the passivity of bystanders contributes to violence. The intervention attempts to increase active bystandership through two processes: (i) raising awareness about the role of passive versus active bystandership in the evolution and prevention of violence and (ii) portraying role models of active bystanders (Staub, 1989, 2011). Clearly, the first pathway of influence is not supported by these findings; that is, listeners' beliefs about the role of passivity cannot be driving the increased, self-reported active bystandership behaviours. In contrast, exposure to the numerous role models of active bystanders that are presented in the radio drama may be responsible for the observed, positive effects. It is possible that by painting a more complex picture of the variety of factors that together lead to mass violence, the programme might inadvertently reduce listeners' belief that any one specific factor on its own can explain violence. Future research should investigate the assumptions underlying the intervention's effectiveness, in particular, the different routes of influence via belief change versus modelling of behaviours.

Individual experiences of victimization because of the conflict moderated the effects of the intervention for several outcomes. In these instances, the intervention seems to reduce the negative effects of victimization on intergroup attitudes. However, it is not clear why these effects were not consistent across more outcomes. One possibility is that our measure of victimization experiences is not sufficient. Although sum scores of violent experiences are common in the literature (e.g. the Harvard Trauma Questionnaire that is commonly used to assess traumatic experiences among populations exposed to war uses a checklist of events, see Mollica et al., 1992), they are problematic in several ways, for example, by assigning equal weight to different experiences with violence, by not distinguishing between one-time versus prolonged or repeated experiences, or by neglecting individual resilience and ability to cope with the events. Additionally, the effects of exposure to violence may depend on the specific, subjective meaning that is derived from these experiences, rather than on the objective experience itself (e.g. Vollhardt, 2012).

In addition, the use of single-item measures to assess social psychological outcomes is also a limitation. We used single-item measures due to practical constraints on administering long questionnaires in public settings and following previous research practices in similar contexts. More robust and culturally sensitive scales of all constructs need to be developed and validated for future studies in these understudied contexts. A second limitation concerns the extent to which we are able to draw causal inferences from correlational data. PSM provides unbiased estimates of causal impact to the extent that we balance all potential confounds. However, factors we were not able to account for, such as ethnic affiliation, might also influence the treatment estimates. In addition, considering the popularity of the radio drama, the effects of the media intervention might be transmitted from listeners to non-listeners. This spillover effect, which would be interesting to examine in future research, could reduce our ability to accurately estimate the effects of the intervention—thereby potentially leading us to underestimate the impact of the intervention.

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Finally, while we assessed the listening habits with a dichotomous variable (i.e. listeners versus non-listeners), the degree to which listeners engage with the radio drama varies. Therefore, other factors, such as the dosage of the treatment or the degree to which people discuss the programmes in their communities (Paluck, 2010), should also be considered. This would require more elaborate research methods that follow the same listeners over time (e.g. on a monthly basis) to examine the frequency with which they tune in to the programme, the contexts in which they listen (e.g. alone or in groups), which aspects of the drama they discuss, and so on. Considering that the intervention has many components, such methodologies would also be beneficial in teasing apart the different ingredients of this complex intervention and testing different mechanisms of change. In sum, although many questions remain to be examined in future research, the present study provides first evidence of the effects of a community-based media intervention in Burundi, showing the promises of this intervention in post-conflict settings.

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