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## Reducing intergroup prejudice and conflict with the media A field experiment in Rwanda

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**Abstract:** Can the media reduce intergroup prejudice and conflict? Despite the high stakes of this question, understanding of the mass media's role in shaping prejudiced beliefs, norms, and behaviors is very limited. A yearlong field experiment in Rwanda tested the impact of a radio soap opera about two Rwandan communities in conflict, which featured messages about reducing intergroup prejudice, violence, and trauma. Compared to communities who listened to a control radio soap opera, listeners' perceptions of social norms and their behaviors changed concerning some of the most critical issues for Rwanda's post conflict society, namely intermarriage, open dissent, trust, empathy, cooperation and discussion of personal trauma. However, the radio program did little to influence listeners' personal beliefs. Group discussion was a notable feature of the listening experience. Taken together, the results suggest that radio can communicate social norms and influence behaviors that contribute to intergroup tolerance and reconciliation.

**Keywords:** Education-entertainment, prejudice reduction, conflict reduction, trauma, field experiment, mass media, radio, social norms

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## Reducing intergroup prejudice and conflict with the media

### A field experiment in Rwanda

For nearly a century, psychological research has tackled the societal problems of prejudice and intergroup conflict. Few topics have attracted a greater range of theoretical perspectives. Theories implicate personality traits (Adorno, Frenkel-Brunswik, Levinson, Sanford, & Nevitt, 1950), displaced aggression (Hovland & Sears, 1940), scarcity of material resources and status (Blumer, 1958; Sherif & Sherif, 1953), ingroup favoritism (Tajfel & Turner, 1979), various combinations of conservative or liberal values and negative affect (Gaertner & Dovidio, 2002; Katz & Hass, 1988; Sears & Henry, 2005), human proclivities for hierarchy (Sidanius & Pratto, 1999), and automatic habits of mind (Banaji, 2001a; Devine, 1989). Although this literature has generated some promising theoretical and empirical leads, scholars do not currently have a clear answer to the question “What interventions have been shown to reduce prejudice and conflict in real-world settings?” (Paluck & Green, in press).

Understanding of the mass media’s role in shaping beliefs and behaviors, especially prejudiced beliefs and behaviors, is even more limited. Spurred by widespread use of propaganda in the first and second world wars (Hovland, Lumsdaine, & Sheffield, 1949; Lewin, 1952; Lippman, 1922), early psychological research explored how the media could play a role in fomenting (Doob, 1935; Lasswell, 1928) and reducing (Cooper & Jahoda, 1947; Flowerman, 1949; Peterson & Thurstone, 1933) prejudice and conflict. This research began the work of identifying important theoretical issues, but soon after psychologists drifted away from the study of media effects.

The research presented here is an attempt to fill gaps in both literatures. The setting for this study is the East African country of Rwanda, where radio played a key role in a war and genocide that resulted in the deaths of more than 10% of the population and 75% of the Tutsi ethnic minority population over the course of 3 months in 1994. This study reports the results of a randomized field experiment conducted with the non-governmental organization LaBenevolencija, which 10 years after the genocide produced a yearlong “education-entertainment” radio soap opera designed to promote reconciliation in Rwanda.

We test three questions within this experiment: do the mass media have the capacity to affect personal beliefs (here, regarding the soap opera’s messages about prejudice, violence, and trauma), perceptions of social norms (depicted by fictional soap opera characters), and behavior (open communication and cooperation)? Many theoretical perspectives can be brought to bear on the questions of whether media can change prejudiced beliefs, norms and behavior. We use our evidence to adjudicate among their various predictions and to point to social psychological processes involved in the media’s influence. Importantly, the data also allow us to assess the functional interdependence of prejudiced beliefs, norms, and behaviors. Theoretically speaking, what does it mean if an intervention changes an individual’s behaviors but not beliefs, or personal beliefs but not perceived social norms? Answers to these questions could have important implications for prejudice reduction theory and intervention design.

Although the mass media have long been an object of social scientific interest, the number of randomized field experiments that have assessed the causal impact of television, radio, or newspapers is very small. Nearly every study in this literature relies on observational data or lab experimentation; rarely are claims about a media intervention

rigorously tested by randomly assigning media exposure outside a laboratory setting. Further, while it is not a novelty for social psychologists to study intergroup relations in Africa (Brewer & Campbell, 1976), there is a dearth of field research on frequently discussed but seldom investigated cases of extreme intergroup conflict like Rwanda, including topics like reconciliation after mass violence (cf. Bar-Siman-Tov, 2004).

As media outlets proliferate in all corners of the globe, finding out whether the media can contribute to the reduction of the world's prejudice and conflict falls under the longstanding call to "make psychology matter" (Campbell, 1969, Miller, 1969; Zimbardo, 2004). Moreover, we argue that rigorous research based in real-world settings will inform current psychological theories of intergroup relations. The overall objective of this article is to progress toward these two goals.

#### Reducing Prejudice and Intergroup Conflict with Media:

##### Interventions, Evidence, and Theory

At the beginning of the 20<sup>th</sup> century, psychological research agendas on intergroup relations and the media frequently overlapped (e.g., Cooper & Jahoda, 1947; Doob, 1935; Hovland, et al., 1949; Peterson & Thurstone, 1933). In 1935 Gordon Allport published *The Psychology of Radio*, which explored, among other things, how people drew upon stereotypes when listening to voices on the radio. Today the joint agenda of media and intergroup prejudice and conflict belongs to practitioners: those who use media with the goal of reducing prejudice and conflict and those who use media to incite prejudice and conflict.

One of the most infamous examples of media inciting prejudice and conflict is the Rwandan radio station RTL, which was used to goad the Hutu population into killing up

to 800,000 Tutsi and politically moderate Hutu civilians in 100 days. The media's role in the genocide was deemed so central that the International Criminal Tribunal for Rwanda charged two of the radio station's founders with crimes of genocide, arguing that radio "set the stage" for genocide (Prosecutor v. Nahimana, Barayagwiza & Ngeze, 2003, p. 29).

*Media Interventions to Reduce Prejudice and Conflict*

On the other hand, there are countless examples of media programs aimed at reducing prejudice and conflict (see Paluck, 2007a, for a review). Each year governments and organizations around the world pour millions of dollars into anti-prejudice public service announcements, print and internet publications, and television and radio programs (Howard et al., 2003; Spurk, 2001). This includes children's programs like Sesame Street (Graves, 1999), television commercials (e.g., [http://themoreyouknow.com/Anti\\_Prejudice](http://themoreyouknow.com/Anti_Prejudice)), billboards and bus posters (e.g., Donovan & Leivers, 1993; Horovitz, 1993; Vrij & Smith, 1999), information and advocacy websites ([www.splcenter.org](http://www.splcenter.org)), and television and film dramas (e.g., Ball-Rokeach, Grube, & Rokeach, 1981; Frazier, 2006; Rojas et al., 2005). Countries with historical or current intergroup conflicts (like Israel and Palestine, Macedonia, and Liberia) are particularly active sites of media interventions (Abdalla & Torrey, 1999; Brenick, Lee-Kim, Killen, Fox, Leavitt, & Raviv, in press; Brussett & Otto, 2004).

Entertainment-education is a particular type of media program used worldwide to address social, economic and health issues (Rosin, 2006; Singhal, Cody, Rogers, & Sabido, 2004). It weaves educational messages (e.g., about disease, literacy, or nonviolence) into an entertainment show, typically a soap opera. Entertainment combined with education is expected to "increase audience members' knowledge about an educational issue, create

favorable attitudes, shift social norms, and change overt behavior” (Singhal & Rogers, 2004, p. 5; see also Bandura, 2006). Examples are a radio drama in Angola about a multi-ethnic soccer team ([www.sfcg.org/programmes/angola](http://www.sfcg.org/programmes/angola)), and the reconciliation program in the present study.

*Evidence for the Impact of Anti-Prejudice Media Programs*

Despite the high stakes and prevalence of anti-prejudice and conflict media, very little is known about their impact. McGuire’s critique from his classic “Myth of Massive Media Impact” (1986) applies well: studies suffer from (a) poor measures of exposure to the media program, (b) poor measures of outcomes, and (c) no clear identification of a causal relationship between program and outcomes. Knowledge about impact is based on laboratory studies whose artificial environments create an unknown bias for translating findings into real-world contexts, and on observational field research that cannot speak to the causal effect of the media program.

*Laboratory evidence.* A number of artificial elements of laboratory studies complicate the extrapolation of findings about anti-prejudice media programs into the world, including experimenter surveillance (e.g., sitting next to and taking notes on each child as he or she watches an anti-prejudice movie; Houser, 1978), atypical settings (besides the laboratory, watching television monitors in a converted truck; Vrij, van Schie, & Cherryman, 1996), and “fabricated” media (e.g., television commercials filmed by the social scientists; Jennings-Walstedt, Geis, & Brown, 1980). Laboratory experiments also rarely capture the length of time or repetition involved in most media exposure, and usually measure impact only immediately after this limited exposure (e.g., Bodenhausen et al., 1994; c.f. Iyengar & Kinder, 1987).

Artificiality is particularly damaging for the study of media impact because media consumption involves much more than an individual's attention to a media program. When people consume media in the world, they often eat, do homework or chores, drive a car, discuss their reactions with a friend, or anticipate the reactions of peers who are watching elsewhere. Simultaneous activities can impact the persuasiveness of, memory for, and interest in a communication (Janis, Kaye, & Kirschner, 1965) while real or imagined social company can affect emotional and behavioral reactions (Ruiz-Belda et al., 2003). Over time, repetition and sustained exposure can lead to boredom and annoyance (McGuire, 1985, p. 274) or to loyalty and emotional attachment (Zajonc, 1968). Whether these factors strengthen, weaken, or have no effect on the relationship between media exposure and prejudice is unknown.

*Field evidence.* The gains in realism brought by moving prejudice and media research into the field have been diminished by the observational design of most field studies. Without random assignment, researchers introduce a selective exposure bias into their sample (e.g., egalitarian people are more likely to consume egalitarian programs; Ball-Rokeach et al., 1981; Sears & Whitney, 1973). Moreover, observational research often relies on participants' self-report: of their awareness of or exposure to the program (e.g., Environics, 2001), and sometimes of their self-judged change as a result of the program (e.g., Temin, 2001). Self-report, particularly when related to prejudice, is subject to a variety of cognitive and social biases (Nisbett & Wilson, 1977).

There have been fewer than 10 field experiments worldwide that allow for causal conclusions about tolerance or peacebuilding media. As a group, these studies capture a sliver of the research spectrum—all but one examine television programs shown in North

American elementary schools (Paluck & Green, in press). They report mixed positive and null findings, mostly based on self reported attitudes and stereotypes: children were more likely to choose pictures of outgroup children as potential playmates (Mays, Henderson, Seidman & Steiner, 1975); attitudes toward other-race children were more positive depending on the combination of characters in the television show (Graves, 1975); and children's moral reasoning about social exclusion improved in most cases (Brenick et al., in press). Media effects are unknown for adults, who may respond differently and may be more resistant to change (Alwin & Krosnick, 1991; Krosnick & Alwin, 1989). Most importantly, no series of field experiments has systematically accumulated evidence testing psychological theories of prejudice reduction.

*Theories of Media Influence and Intergroup Prejudice and Conflict*

The goals and the processes of anti-prejudice media lend themselves to tests of psychological theories of prejudice. The radio program in the current study was designed to change beliefs about prejudice and conflict, to change perceptions of social norms that give rise to prejudice and conflict, and to influence group behavior. Some of the processes through which these goals might be achieved include empathizing and discussing with others.

Many theoretical perspectives can be brought to bear on these processes and outcome goals, but given the dearth of empirical evidence scholars reasoning from various respected theories could easily differ in their predictions regarding media's impact on prejudice and conflict. Even less clear is how to predict an intervention's impact across multiple outcomes (e.g., will behaviors change along with shifted norms?). We review the theoretical grounds for change (or no change) in beliefs, norms and behavior targeted by

anti-prejudice media, theories that shed light on the functional interdependence of these outcomes, and hypotheses regarding the change process.

Beliefs (defined as understandings of self and environment; Bem, 1970) have long been considered important components of an individual's level of prejudice (Allport, 1954, p 13). Research on beliefs that give rise to prejudice and discrimination (e.g., Devine, 1989; Jost & Burgess, 2000) is one of social psychology's most active areas of inquiry. According to some scholars, beliefs can be influenced by media cultures or programs (Ball-Rokeach et al., 1981; McClosky & Zaller, 1984; Rokeach, 1968). For example, one might mount a public education campaign to correct faulty beliefs or to instill new ones by communicating facts persuasively (Hovland et al., 1949).

Other scholars claim that beliefs are extremely resistant to change (Bem, 1970). Contemporary social cognition research suggests that an individual's beliefs about another group might change, but that societal stereotypes about groups persist in the long term (Devine & Elliot, 2000) and seep into the unconscious where their operation is routinized and automatic (Banaji, 2001b; Dovidio et al., 1997). Such a theoretical perspective would predict that the potential effects of one media program would be weak.

Social norms (socially shared definitions of the way people *do* behave or *should* behave; Miller, Monin, & Prentice, 2000) are thought to have powerful effects on prejudice and conflict (Crandall & Stangor, 2005; Sechrist, Stangor, & Killen, 2005; Sherif, 1936). Successive waves of communications research have concluded that media may not be successful at telling people *what* to think, but that the media are very successful at telling people *what other people are thinking* (i.e. a descriptive norm; Mutz, 1998; Noelle-Neumann, 1973). Media might communicate norms in a number of ways—for example,

through fictional media characters. Audiences often think about and relate to fictional media characters as they do with real people (Esslin, 1982; Gerrig 1993; Rubin & Perse, 1987; Shapiro & Chock, 2003). Like a real-life social group, a media program's characters may influence listeners' perceptions of how people like themselves do behave (a descriptive norm) and should behave (a prescriptive norm).

On the other hand, numerous intergroup relations theorists argue that under normative pressure people will veil rather than transform negative affect towards outgroups (Katz & Hass, 1988; Kinder & Sears, 1981), a problem for shaping long-term behavior (Kelman, 1958). The focus theory of norms (Reno, Cialdini, & Kallgren, 1993) predicts conditional media effects, such that media campaigns may change behavior if they broadcast messages about prescriptive (*should* behave) norms together with material that is directly relevant to the audience's behavioral context (Kallgren, Reno, & Cialdini, 2000). This prediction is consistent with social cognitive theory (Bandura, 1986; 2004).

What are the relationships among beliefs, norms, and the ultimate target of prejudice reduction efforts, behavior? Psychology's great debate about the relationship between prejudiced beliefs and behaviors is far from over. While many investigators find the link between beliefs and behaviors to be unreliable (Greenwald et al., 2007; Wicker, 1969), a large literature on implicit stereotypes shows that behaviors consistent with those beliefs can be subtly activated (Bargh, Chen, & Burrows, 1996; Kawakami, Young, & Dovidio, 2002). A rich theoretical tradition on conformity, public opinion and norms suggests that norms powerfully predict behavior (Allport, 1954; Asch, 1958; Crandall & Stangor, 2005; Kallgren et al., 2000; Sherif, 1936). Relating beliefs and norms, theory suggests that individuals will value knowledge of a social norm more highly than their own

personal belief (Kuran, 1995; Miller et al., 2000; Stangor, Sechrist & Jost, 2001; Van Boeuven, 2000), but perhaps not, if individuals overestimate the number of people who share their beliefs (Monin & Norton, 2003; Ross, Greene & House, 1977). Rarely are all three outcomes —beliefs, norms, and behaviors—assessed within the same study on prejudice reduction, which would allow researchers to measure their functional interdependence.

Given that media consumption in the real world is often marked by emotional reaction, empathy, and discussion, theories of prejudice reduction that focus on these factors suggest possible paths of media influence.

*Emotions and empathy.* Prejudice is sometimes defined as an intergroup emotion (Smith, 1993), thus it is not insignificant that media (particularly soap operas) excel at arousing emotion. Empathy is the experience of emotion that is congruent with another person's situation (e.g., I feel sad because you are sad; Batson, Fultz, & Schoenrade, 1987). Evidence shows that media programs can inspire empathy with real and fictional characters (Zillman, 2006), and theory and research link empathy with decreased prejudice (Batson et al, 1997; Schechter & Salomon, 2005; Stephan & Finlay, 1999).

Feelings about an individual group member often generalize to that person's group (Andersen, Downey, & Tyler, 2005; Pettigrew, 1998). In addition, recent extensions of the intergroup contact hypothesis show that vicarious contact with a member of a stigmatized group (e.g., via storybooks; Cameron & Rutland, 2006) can improve liking for that group. These theoretical perspectives would predict that empathy for fictional media characters might transfer to real-life people or groups the characters represent.

*Discussion.* Because real world media consumption is social, it often generates discussion among audience members during or after the show. Lazarsfeld (1947) and others argued that messages from mass media are most powerful when they inspire and reinforce the personal discussions necessary for converting attitudes toward tolerance (Katz & Lazarsfeld, 1955; also Bandura, 2006; Rojas et al., 2005). Group discussion has been linked to positive outcomes like cooperation, political tolerance, reduced conflict, and more inclusive group identities (Mendleberg, 2002; Mutz, 2006).

However, other research shows a group's initial attitudes may be exaggerated by discussion—thus, discussion among prejudiced people may simply increase levels of prejudice (Moscovici & Zavalloni, 1969; Myers & Bishop, 1970). In sum, various positions from the literature argue that discussion can amplify effects (positive or negative) of a media program.

Taken together, these various theories offer complex predictions for undoubtedly complex human behavior. Yet they leave unspecified the basic prediction of what will actually happen with any particular anti-prejudice media intervention in the real world, and which approach (one that targets beliefs, social norms, etc.) would be most successful.

In response, this research departs from common practice. The primary goal is to provide rigorous evidence from the real world that will assess broad claims about prejudice and conflict reduction with the media—specifically can it affect beliefs, perceived social norms, behaviors? How are factors like empathy and discussion involved in media impact? Not only can such research help to begin adjudicating among rival theoretical perspectives; it can illuminate social factors that are often omitted from laboratory studies. Progress on this complex issue will stagnate without rigorous field research to restart the discussion.

### The Present Research: Radio in Rwanda

Radio is the most important form of mass media in Rwanda, where, like most of the developing world, people gather to listen to the radio in groups (Bourgault, 1995; Hendy, 2000). Rwanda is slightly smaller than the state of Maryland; at the time of data collection in 2004-2005 it was home to 8.4 million people (approximately 84% of whom identify as ethnically Hutu, 15% as Tutsi, and 1% as Twa) and was ranked among the least developed countries in the world at 158 of 177 (UNDP, 2004).

Anti-Tutsi discrimination and violence that erupted in 1959 during the colonially sponsored “Hutu Revolution” widened small fissures in Rwandan society. Historically, Hutus and Tutsis lived side by side, spoke the same language, worshiped together, and married one another. Ethnic identity was often contested and reconstructed by individuals who faked ethnic identity cards (that had been issued by colonial authority) or who had physical features that enabled them to “pass” as a member of the other ethnic group. But in the 1990s as the country fell into economic crisis, transitioned into a multiparty democracy, and experienced civil war, ethnic stereotypes crystallized into organizing categories of Rwandan politics and, to a certain extent, ordinary social life. Tutsis became scapegoats, under the inaccurate narrative of Tutsis as invading conquerors who had migrated from Ethiopia to subjugate the Hutu. Extremist Hutu politicians encouraged these stereotypes and narratives using tools of policy, law, and the media (Des Forges, 1999; Mamdani, 2001; Newbury, 1988; Prunier, 1995).

The case for the radio’s culpability in Rwanda’s 1994 genocide is well documented (e.g., Article 19, 1996; Chalk, 1999; Chrétien et al., 1995; Gourevitch, 1998; Thompson, 2007). RTLM was launched in 1993 as a talk radio station and progressively worked in

anti-Tutsi jokes and commentary until it was considered an arm of the extremist Hutu government. During the genocide, RTLM broadcast rumors that marked Tutsi and politically moderate Hutu for assassination and encouraged killers to do their “work.” The radio show successfully communicated ideology (Li, 2004), made violence synonymous with authority, and delivered information to key groups who led attacks (Straus, 2007).

Today Rwandans face a monumental crisis of trust in their communities, as survivors, returned refugees, and accused killers are obliged to live side by side in their old communities. Rwandans on all sides harbor resentment, are affected differently by the new Tutsi government regime, and have poor access to psychological treatment for trauma (N. Munyandamutsa, personal communication; Stover & Weinstein, 2004). Moreover, open discussion of ethnicity or of Rwandan history that differs from the official government version is effectively prohibited (Longman & Rutagengwa, 2004).

*Rwandan Reconciliation Radio: “New Dawn”*

*Musekweya* (moo-say-kay-way-ah), or “New Dawn,” is an entertainment-education radio soap opera that portrays the fictional story of two Rwandan communities. The story parallels the history of cohabitation and conflict between Tutsis and Hutus, with each community representing one ethnic group (direct mention of ethnicity would be censored). Tensions persist because of a history of government favors granted to one community and not the other; relations between the two communities crumble and the more prosperous community is attacked, resulting in casualties, traumatization, and refugees—a political situation paralleling, without directly referring to, the lead-up to and aftermath of the 1994 genocide. However, some characters band together across community lines, listen to one another, and speak out against the powerful demagogues

from each village who urge more violence (LaBenevolencija, 2004).

*Educational Messages*

The program's scriptwriters weave educational messages into the soap opera plot that are aimed at influencing listeners' beliefs about prejudice and violence (their roots and prevention), and trauma (its symptoms and paths to healing; see Staub, Pearlman, Weiss, & Hoek, 2007). The soap opera characters endorse these messages in a didactic fashion throughout the yearlong broadcast. Of 12 total messages, one or two are emphasized each episode and cycled throughout the remainder of the year. The messages were designed by two American psychologists, based upon their theories of mass violence and trauma (McCann & Pearlman, 1990; Staub, 1989; 2006).

*Prejudice and violence.* Educational messages about the roots of prejudice and violence state that they are located in the frustration of basic psychological needs (for security, a positive identity, control, connection to others, and an understanding of the world) and that violence advances along a predictable continuum of events. In one scene from the show, for example, a wise man describes the escalation of violence to victims of a famine who wish to attack the other village. Scapegoating is described in a related message as a technique used to increase intergroup prejudice. To reduce and prevent prejudice and violence, the messages emphasize the importance of critical thinking and open dissent (i.e. expression of disagreement), active bystanders, and meaningful connections between members of the different groups (Staub, 2006).

*Trauma and trauma healing.* Messages about trauma emphasize that its symptoms can be understood, trauma is not "madness," and traumatized people can heal (Pearlman, 2001). For example, one character assumes the role of an informal "trauma counselor" and

educates people about trauma symptoms while assuring them that trauma can be healed over a long period of time by talking about traumatic experiences with a respectful, supportive person.

### *Realistic Plot*

Rwandan scriptwriters mirror everyday rural Rwandan society (92% of Rwandans live in rural areas). The characters use popular proverbs, sing traditional songs, and generally walk through the same daily routines as ordinary Rwandans. Most importantly, characters wrestle with the same problems as real Rwandans in the times leading up to, during, and following the genocide, such as cross-group friendships, demagogues, poverty, and memories of violent events. The show's most popular subplot is a Romeo-and-Juliet story of a boy and a girl from the different communities. Their love is forbidden, and their persistence becomes a lightning rod for tensions between the two communities.

The study reported in the present article was not designed to test the validity of the theoretical claims that guided the program's content. Rather, we designed the experiment to test the media's ability to affect listeners' beliefs, perceived social norms, and behaviors, to answer the more general question of whether media can reduce prejudice and conflict.

### *Study Hypotheses*

*Influencing personal beliefs.* The explicit goal of the radio program was to promote understanding of and belief in its messages, similar to a "public education" campaign (Staub et al., 2007). Thus, the first hypothesis is that the program will change listeners' beliefs with respect to program messages about prejudice, violence, and trauma.

*Influencing perceived norms.* By portraying people and situations found in listeners' own lives, the reconciliation program should influence listeners' perceptions of

descriptive norms regarding how Rwandans do behave and prescriptive norms regarding how Rwandans should behave in situations related to prejudice, conflict, and trauma.

*Influencing behavior.* The third hypothesis is that behavior will change in the direction encouraged by the program—that people will be more willing to speak about and dissent on sensitive topics (e.g., community relationships and trauma), and to cooperate with one another, even across group lines. This behavioral change may be observed in conjunction with belief change, norm change, or neither of the two.

*Additional Factors of Influence: Empathy and Discussion*

Although neither empathy nor discussion was experimentally manipulated in the present study, documenting emotional reactions and discussion captures important features of real world media consumption and may point to possible processes of change to investigate in future research. We document emotional reactions to the soap opera characters and empathy for the real-life people they represent, as well as discussions that take place during and after the radio broadcasts.

In sum, the field experiment tested the impact of a reconciliation radio program, measured against listening to a radio program with unrelated content (health). We hypothesized that after one year, reconciliation listeners would (1) report beliefs in line with the program's educational messages, (2) perceive positive social norms consistent with the those portrayed in the program, and (3) behave in ways consistent with the program messages and norms.

Method

The study was designed to (a) measure the causal impact of the radio program (b) in the most naturalistic manner possible (c) within a stratified sample of the population and (d) along meaningful outcomes using various tools of measurement.

#### *Sampling Listeners and Communities*

Because Rwandans typically listen to the radio in groups, we used a group-randomized design in which communities were randomly assigned to the treatment (the reconciliation radio program) or control condition (a different radio soap opera about health). The communities were sampled from four categories representing salient political, regional, and ethnic breakdowns of present-day Rwanda: eight general-population communities, two genocide survivor communities, and two Twa communities (see Appendix).

Communities from each category were randomly assigned to listen to the reconciliation or health program using a matched randomization procedure. Each community was matched to the most similar community from the same category (general population, survivor, or Twa) according to a number of observable characteristics such as gender ratio, quality of dwellings and education level. Then one community in each pair was randomly assigned to the reconciliation program and the other to the health program. This stratification of sites helped to balance and minimize observable differences between the communities *ex ante*.

Finally, we randomly selected 40 adults from official lists of all individuals living in each selected community, balancing for sex, age (half of the group aged 18-30, the other half above 30), and family (no more than one person from an immediate family). Four Rwandan research assistants who represented Hutu and Tutsi ethnic backgrounds visited

each community with the author and located these individuals to explain the study. Our purpose—“...to understand Rwandans’ opinions about radio programs and the issues addressed in those programs of the research”—was defined broadly to avoid creating particular expectations.

### *Pretest*

When an individual agreed to participate, the researcher obtained informed consent and conducted a brief interview that included demographic questions and questions about radio listening habits and experience of the genocide.

The total participant sample (N= 480) was on average 38.5 years old (ranging from 18 to 87). Seventy-nine percent of participants were farmers, 6% teachers or students, and 5% worked in business or in “town” jobs. Seventy-three percent of men and 63% of women had some primary schooling. The majority (63%) was married, 22% were single and 13% were widowed. Catholics made up 64% of the sample, followed by Protestants (14%). Eighty-seven percent of Rwandans in the sample reported that they listen to the radio. Only 53% actually owned a radio; 83% of those without a radio reported listening in groups with family and neighbors.

Ninety-nine percent of the participants were in Rwanda at the start of the genocide, and approximately 50% were displaced by the violence for a time of one week to a few years. Sixty-nine percent of the sample claimed one or more relatives were killed in 1994. Twenty-eight percent of the general population participants had a relative in prison, compared to 7% of survivor and 57% of Twa participants. As expected, random assignment balanced covariates between the reconciliation and health program groups on all measured characteristics (see Appendix).

### *Experimental Procedure*

The same Rwandan research assistants visited each community over the course of one year and played each month's four 20-minute episodes on a portable stereo for the groups. Although research assistants were aware of the program differences, they were blind to specific research hypotheses. Participants gathered in their respective community spaces as they do for non-research occasions to listen to the radio. Control groups listened to an education-entertainment radio soap opera that aims to change beliefs, and behaviors about reproductive health and AIDS: Urunana ("hand in hand"; hereafter "health program"). Thus, program content was the only difference between the two conditions—listening protocol, frequency, and outcome measurements were the same.

The monthly field visits guaranteed that participants listened to the program but preserved the most natural environment possible. Research assistants who visited every month sat and listened with the group as part of what was designed to be a casual community gathering. The group shared customary local drinks (purchased by the research team) that are often consumed while listening to the radio in a local restaurant or neighbor's home. Research assistants never provoked or guided discussion.

Research assistants filled out observation sheets (see Appendix) *after* they left the site to record attendance and rate the groups' levels of observable enthusiasm, attentiveness, confusion, emotional expressions, and amount and type of discussion during and after the program. They recorded whether and how often participants discussed program themes like intergroup prejudice, violence, or trauma.

### *Keeping the Control Group Untreated*

We took extra steps to ensure the control group remained “untreated” by the reconciliation program, which was broadcast nationally during the evaluation period. We asked the health program groups to refrain from listening to the reconciliation program for one year, and as an incentive to comply, we promised a portable stereo and 14 cassette tapes containing the year’s worth of reconciliation program episodes at the end of the year (also promised to the reconciliation groups). Thus, health participants understood their promise as a postponement and not a sacrifice.

There are several reasons to believe that health participants did not listen to the reconciliation program. There was no existing loyalty to the program since it was new, and there were three alternative programs on other stations during Musekeweya’s broadcast. When research assistants made casual comments to health participants about the reconciliation program halfway through the year, participants indicated that they were not listening. Doubtless some health participants did listen to the reconciliation program one or more times, and because participants were unlikely to admit if they did “cross over,” we have no precise measure of how many did so. However, if significant numbers of participants “crossed over,” findings would *underestimate* the true effect of the reconciliation program, pointing toward a “false negative” (Type II) error, rather than a more troubling Type I “false positive” error. The true unbiased difference between the reconciliation and health groups would be larger, given that the reconciliation program influenced some proportion of health participants as well as reconciliation participants, making analyses a conservative estimate of program impact.

#### *Data Collection*

At the end of one year, a team of 15 Rwandan researchers accompanied the regular research assistants and the author to each community for three days. Researchers conducted individual interviews, focus groups, and behavioral observation at each site with all 40 participants.

*Individual interviews.* Researchers read each participant 19 statements, and participants specified how much they agreed or disagreed with each statement by pointing to one of four progressively larger circles printed on a large index card; the smallest circle represented “disagree strongly” and the largest “agree strongly.”

Nine statements measured participants’ beliefs with respect to the program’s educational messages, and six statements measured perceptions of descriptive (“that is the way things are”) and prescriptive (“that is the way things should be”) norms portrayed in the program (see Table 1). Questions about the health program tested the discriminant validity of the intervention, specifically whether the pattern of treatment effects reversed in favor of the control group on questions about health. We measured participants’ empathy for other Rwandans with four statements probing whether participants “imagine the thoughts or feelings of” Rwandan prisoners, genocide survivors, poor people, and political leaders.

*Focus groups.* Participants organized into single-sex groups of 10 discussed four topics: intermarriage, violence prevention, trauma, and trust. As with the individual interviews, the goal was to assess personal beliefs and perceptions of social norms. We also wanted to see whether individuals were willing to voice the same opinions in front of their peers as they did in their individual interviews, an important behavioral measure of dissent.

*Behavioral observation.* We recorded group deliberations about how to share and supply batteries for the portable stereo and set of 14 cassette tapes of the radio program presented to each community at the end of the data collection. Given the monetary and entertainment value of a portable stereo, this discussion was of great significance to the participants. The measure also captured spontaneous behavior that participants believed to be “off record”—their discussions took place during the goodbye party when the research team gathered with the participants to share drinks and socialize.

To launch the discussion, one research assistant presented the stereo to the group and suggested that since they were all present they could decide how to share and supply it with batteries before parting ways. Two researchers sat discreetly in the back of the group and recorded the participants’ ensuing discussion by hand.

### Results

A nested statistical model was used to estimate the reconciliation program effect on individuals with maximum precision, using dummy variables for the blocks within which randomization occurred ( $S_{i1} \dots S_{i5}$ ; the matched communities) and pre-intervention covariates ( $Z_{i1} \dots Z_{iK}$ ; sex, birthplace, radio listening habits) from the pretest. The dependent variable for individual  $i$  is  $Y_i$ , the treatment is  $X_i$ , and the error term is  $u_i$ :

$$Y_i = \alpha + \beta X_i + \gamma_1 S_{i1} + \gamma_2 S_{i2} + \gamma_3 S_{i3} + \gamma_4 S_{i4} + \gamma_5 S_{i5} + \delta_1 Z_{i1} + \dots + \delta_{iK} Z_{iK} + u_i$$

Using covariates helps to improve the precision with which the program’s effect is estimated; estimates obtained without the covariates did not yield different results.

STATA’s “robust cluster” option accounted for the fact that errors are dependent within each cluster (community), allowing us to estimate coefficients for individuals rather than groups and increasing the effective N from 12 to 480 (see also Raudenbush & Byrk, 2002).

This adjustment generated errors that scarcely differed from conventional standard errors because of low intra-cluster correlation. For dependent variables expressed as ordered categories, we used ordered probit (Greene, 2002).

To analyze the qualitative data, we translated and typed transcripts of all focus groups into a database where they were matched with identifying codes for site, speaker, composition of the group (e.g., male, female, average age), and experimental condition. Using an a priori coding system devised by the author and the LaBenevolencija staff based on desired and expected responses, an independent judge and the author coded (blind to condition) every spoken turn in each focus group. Every turn received from 0 to  $n$  codes,  $n$  being the total number of codes pertaining to the comment. Coding agreement was acceptable ( $\alpha = .71$ ) and disagreements were resolved through discussion. We submitted the codes to probit regressions using the same model laid out above.

*Manipulation check.* Between 35 and 40 participants attended each month's listening sessions at each site with no difference in attendance between conditions. During the listening sessions, there were no differences between reconciliation and health groups' interest ( $M_{Reconciliation} = 4.0, SD = .75; M_{Health} = 4.2, SD = .83$ , respectively), enthusiasm ( $M_R = 3.3, SD = .96; M_H = 3.6, SD = .90$ ), distraction ( $M_R = 1.9, SD = .90; M_H = 1.7, SD = .78$ ), or confusion ( $M_R = 1.5, SD = .60; M_H = 1.5, SD = .78$ ; using a scale from 1, *least* to 5, *most*).

We present results from individual interviews alongside results from focus groups to evaluate the first two hypotheses of belief and perceived norm change. Because we found no differences among different types of communities (general population, survivor, Twa) for these variables, we collapse these data and present individual-level results only.

Next we present individual and group-level data gathered on potential processes of change like empathy and discussion, and finally group-level data testing the third hypothesis of behavioral impact.

*Survey and Focus Group Results: Personal Beliefs*

*Mass violence.* There was no difference between reconciliation and health groups' endorsement of the message that violence gradually builds along a continuum ( $M = 3.62$ ,  $SD = .05$ ); there was also no difference between the groups' middling endorsement of the idea that "violence comes suddenly" ( $M_R = 2.78$ ,  $SD = .09$ ;  $M_H = 2.81$ ,  $SD = .09$ ).

In focus groups, participants from reconciliation and health conditions discussed their beliefs about how violence escalates. Their collective insights, illustrated with caveats from their own personal life, included all of the factors presented in the reconciliation program's messages about violence escalation. One participant volunteered:

There is poverty, and this makes even small differences great between one person and his neighbor, like the poor and the rich. Then there are bad leaders, who privilege some to the detriment of others, and this kind of ethnic tension leads to contempt of someone who is of a different ethnicity, in conversations and then in public speeches in which the other ethnicity is despised.

These beliefs about violence cannot be attributed to the radio program because the control group was just as likely and in some instances more likely to point out factors communicated by the reconciliation program (Table 2). Even worse for the hypothesis of belief change, the reconciliation group was significantly more likely to mention that "evil people" cause violence—a view disputed by a reconciliation program message, which emphasized that average people become violent through ordinary psychological processes.

*Intergroup relations.* Participants' beliefs did not change regarding a bystander's responsibility to intervene when others are promoting violence or intergroup conflict.

Reconciliation ( $M_R = 3.11$ ,  $SD = .08$ ) and health groups ( $M_H = 3.21$ ,  $SD = .07$ ) agreed “somewhat” that bystanders share responsibility. Notably, nearly a quarter of all participants did *not* believe that passive bystanders are partly responsible for unjust acts they witness and do not try to prevent. Participants who disagreed often recounted a time during the genocide in which they were unarmed or otherwise helpless to stop a group of armed people from killing.

The intermarriage item probed whether participants believed that marriage among people from different ethnic, regional, and religious groups contributes to the peace. The reconciliation program had a modest and not statistically significant effect in the *opposite* direction than predicted, in which reconciliation listeners were less likely to believe in peace coming from intermarriage ( $M_R = 3.59$ ,  $SD = .05$ ;  $M_H = 3.65$ ,  $SD = .04$ ).

*Trauma.* To the exact same degree ( $M = 1.51$ ,  $SD = .07$ ), reconciliation and health groups disagreed that traumatized people are mad. Both groups believed perpetrators of violence could be traumatized ( $M_R = 3.29$ ,  $SD = .06$ ;  $M_H = 3.45$ ,  $SD = .05$ ), and that traumatized people can recover ( $M_R = 3.29$ ,  $SD = .06$ ;  $M_H = 3.49$ ,  $SD = .05$ ). However, contrary to the aim of the reconciliation program, reconciliation listeners were significantly *less* likely to believe that traumatized people can recover.

Researchers probed participants’ beliefs about trauma symptoms in focus groups. Both reconciliation and health groups listed symptoms like shortness of breath, social isolation, sudden outbursts and hallucinations, which parallel the reconciliation program’s list of symptoms. With one exception (discussed in the next section), no differences emerged between the reconciliation and health focus groups’ advice for a traumatized person. Participants suggested social support from the community (33% of all comments):

“visit him many times, make him a good friend of yours.” A smaller percentage of participants (10%) recommended providing material support, such as sending firewood or a child to help around the house.

*Health.* The great majority of all participants correctly reported a belief that pregnant women with AIDS “can be given the chance” to have a healthy baby (75% of reconciliation and 85% of health, *ns*). Participants in both conditions also believed correctly that it is safe to share objects with a person who has AIDS (92% of reconciliation and 93% of health, *ns*).

*Survey and Focus Group Results: Perceived Social Norms*

*Intermarriage.* Participants reported whether they tell (or would tell) their children that they must marry within their own regional, religious, or ethnic group. Here the treatment effect is large and significant. Those exposed to the reconciliation program are between .25 and .28 probits more likely to reject prescriptions of ingroup marriage. Expressed in percentage-point terms, this implies that a person who would otherwise have a 50% likelihood of advising in-group marriage would have a roughly 40% likelihood if assigned to the reconciliation condition.

The focus group data are consistent with individual responses about prescriptions for marriage. The majority of focus groups agreed that in some cases intermarriage can be a positive force for peace. Nearly every group recounted the same Kinyarwanda proverb: *Aho ugishe igisalo ntuhatera ihuye*, or “Don’t throw stones in a place where you keep a treasure,” meaning you must treat your in-laws well because your son or daughter resides with them. However, important differences emerged when participants elaborated reasons for why intermarriage brings peace. Reconciliation focus groups stated more frequently

that intermarriage sets an example, or creates a new social norm about relationships between ethnic groups that alters attitudes in the family and community (27% vs. 5.7%;  $\beta = .21, se = .08, p < .01$ ), e.g.:

Sometimes the two fiancés overcome the hate, even when the parents have not. But then the [marriage] ceremonies come, and they bring a change of perspective, for all those who have been invited to come see them unify. Even if the rancor and hate was there, the guests see, and are inspired to reconcile with one another.

By contrast, 11% of health group comments (vs. no comments in the reconciliation group) described intermarriage as a private choice that changes individuals rather than a decision that would involve and potentially transform their social and familial environment, e.g.:

...some youth nowadays have dispensed of these ideas of division between ethnicities. Once the child loves a person, you cannot, even if you were the father, convince the child to leave that person because of ethnicity. In that case, intermarriage overcomes ethnicity.

Both reconciliation and health groups placed conditions on the positive effects of intermarriage, lending credibility and realism to their otherwise positive discussions. Many cautioned that positive effects depend on the “gravity of the [political or social] situation,” citing stories about Tutsis who were killed by Hutu spouses or in-laws during the genocide or parents who prevented intermarriage: “You can remember one of our leaders who forced his daughter to have an abortion when she was pregnant with a Tutsi’s baby.”

*Trust.* All participants agreed that “there is mistrust in my community,” a 3 out of 4 on the rating scale ( $M_R = 3.0, SD = .07; M_H = 3.1, SD = .07$ ). However, reconciliation listeners were significantly more likely to deny “it is naïve to trust people” ( $M_R = 1.81, SD = .07; M_H = 2.01, SD = .08; \beta = -.20, se = .10, p < .05$ ).

In focus groups, some responses shifted when participants were asked to report the level of community trust in front of fellow community members. Notably it was health group participants who were most likely to modify their private stance. In front of community members, 39% of the health groups' comments turned into unqualified denials of mistrust in their community, compared to 7% in the reconciliation groups ( $\chi^2 = 4.21, p < .05$ ). In light of the uniformly high levels of mistrust reported in the individual interviews, the difference in focus group responses seems to reveal more about the reconciliation group's willingness to speak out on difficult subjects than about actual levels of community mistrust.

*Open dissent.* Individual responses to the statement "If I disagree with something that someone is doing or saying, I should keep quiet" revealed one of the strongest treatment effects associated with the reconciliation program. Consistent with their willingness to speak out about mistrust in focus groups, reconciliation listeners were .26 to .29 probits more likely than health listeners to indicate that they should speak up.

*Discussing personal trauma.* Reconciliation listeners were much more likely to agree that people should talk about traumatic experiences, an effect of .22 probits. This normative position did not correlate with a higher rate of self-reported talking since 83% of people in both groups reported that they had already talked with someone about their traumatic experiences.

In the focus group discussions of trauma healing, reconciliation listeners also mentioned the importance of talking about trauma and listening to other people talk much more often than health groups (39% vs. 23%;  $\beta = .15, se = .07$ ). For example, "You should accept his condition and let him express his mind," and "The most important thing is to

accept all that she is. After that, approach her and listen to her attentively without wounding or rushing her.”

*Health.* Although overall agreement was extremely high (95%), health groups were more likely to agree that all pregnant women should be tested for AIDS, a statistically significant difference. Predicting outcomes using the .56 probit coefficient shows that listening to the health program made individuals 1% more likely to agree.

#### *Emotions and Empathy*

According to the monthly field notes, participants’ emotional reactions to both soap operas were visible, audible, and frequent. In every listening session, researchers documented different combinations of surprise, happiness, scorn, anger, and sadness. Examples from the reconciliation program are: participants crying out in pain when a man from the prosperous community was beaten, laughter and excited clapping during a reunion of the star-crossed lovers, and calls of encouragement to the girl when the relationship was foiled again—“*ihangane sha*” (“hold on dear”). Expressions may have reflected sympathy (feeling sorry for a character) or empathy (feeling an emotion parallel to the character’s).

In the individual interviews, reconciliation listeners expressed more empathy for real life Rwandan prisoners, genocide survivors, poor people, and political leaders. An additive index of these empathic responses indicated a moderate and significant effect of the reconciliation program ( $M_R = 3.52$ ,  $SD = .04$ ,  $M_H = 3.41$ ,  $SD = .04$ ). This effect holds when responses of genocide survivors are taken out of the analysis (because their empathy for other survivors of violence may be more well-developed, but this was not the case).

#### *Discussion*

Monthly field notes reveal on average the same amount of spontaneous participant discussion in response to either program during and after the broadcast. On a scale from 1 (completely silent) to 5 (constant commentary), discussion was on average 3.09 ( $SD = 1.08$ ;  $M_R = 2.9$ ,  $M_H = 3.3$ ) during the broadcast. Afterward, researchers reported that participants spent on average 63% of their time discussing the program (as opposed to other topics) before leaving ( $SD = 25.0$ ;  $M_R = 62\%$ ,  $M_H = 65\%$ ).

Field notes illustrate how participants kept up a running commentary on the actions and conversations of the radio characters as they listened. Listeners echoed, supported, or protested their statements and predicted how other characters might react; noises, whistles, and exclamations (“eh!” “yoo!”) punctuated the broadcast. Discussions centered on the overarching messages of the program, not only on plot developments and jokes. For example, one episode of the reconciliation program ended with a character’s comment that tolerance and respect for one another’s ideas are necessary, to which a male participant called out “we should repeat those words!” thereby sparking a dialogue. A similar pattern emerged in the health groups whose talk was always launched by storylines about sexuality or HIV. Local proverbs used by characters inspired participants to trade their own likeminded proverbs.

### *Behavior*

During the health groups’ deliberations about the portable stereo and cassettes, we frequently observed the following pattern: the first member of the group to speak would propose handing over the stereo and cassettes to the village’s local authority, who could regulate usage and financial contributions for the batteries. Following this proposal, group members would overwhelmingly support the motion and close the discussion.

In the reconciliation groups, deliberations typically followed a different pattern. After the same initial proposal to entrust the stereo to the authorities, one or more of the participants would challenge this suggestion, for example claiming that the group should be collectively responsible or should elect one of their members to manage it. Comments about one group's ability to cooperate came up more frequently, such as: "We've been coming together to listen all of this time, why can't we come together to listen to this stereo together, just as we did before?"

These different patterns were borne out by statistical analyses of the coded transcripts. We counted the number of dissenting propositions that followed the initial proposal to assess the extent and openness of the deliberation session. This indicator reveals that reconciliation groups proposed and debated a significantly greater number views on how to share the communal stereo compared to health groups (using a Wilcoxon matched pair signed-rank test,  $z = 2.3, p = .05$ ). Table 4 illustrates how reconciliation groups' deliberations represent a stark improvement over health groups, where the modal number of dissenting opinions is zero. The number of positive comments made about group cooperation was also more frequent in reconciliation groups, ( $z = 2.3, p = .05$ ; joint significance of the two codes  $p = .02$ ). Like the absolute number of dissenting comments, comments about cooperation in reconciliation groups represent a 100% increase in this kind of speech compared to health groups. Importantly, these results were the same for ethnically homogenous Twa and survivor communities and for heterogeneous communities in the general population.

## Discussion

An interesting pattern of effects emerged from the study. The reconciliation program's educational messages did not substantially change listeners' personal beliefs about the etiology and dynamics of intergroup prejudice, violence, and trauma. If anything, the few significant changes in personal beliefs were contrary to the program's messages, such as the greater belief in "evil" rather than ordinary people bringing about mass violence. On the other hand, the program did substantially influence listeners' perceptions of social norms. Reconciliation listeners were more likely to endorse positive social norms regarding intermarriage, trusting people, open dissent, and the discussion of trauma. Moreover, participants' normative endorsements were not empty abstractions—reconciliation listeners were more likely to voice their privately held opinions in front of their peers regarding the sensitive issue of community mistrust, to dissent with other group members' suggestions regarding a community resource, and to express confidence in their ability to cooperate as a group (including heterogeneous groups). The differential effect on beliefs and perceived norms was replicated within the data testing the impact of the comparison health radio program: listeners were more likely endorse AIDS testing as the norm for pregnant women, but beliefs about AIDS did not change. Reconciliation listeners reported more empathy for other Rwandans, and both groups' listening experience was marked by rich emotional reaction and active group discussion.

The answer to this study's fundamental question is yes: radio can affect intergroup norms and behaviors in the real world. The modulated pattern of effects—in which norms and behaviors were affected but not personal beliefs—increases confidence that the results are not artifacts of experimental demand. Moreover, this pattern provides evidence of the functional interdependence of prejudiced beliefs, norms, and behaviors, and suggests

which might be most fruitfully pursued in prejudice reduction research and intervention. We consider in turn intergroup norms and behavior change, beliefs, the change process, group effects, and cultural factors.

*Intergroup norms and behavior change.* That listeners' perceptions of intergroup norms and their intergroup behavior changed without a corresponding change in their personal beliefs is consistent with predictions from the literature on norms, conformity, public opinion, and intergroup prejudice (Allport, 1954; Asch, 1958; Kallgren et al., 2000; Miller et al., 2000; Sechrist et al., 2005; Sherif, 1936) that people will align with a perceived social consensus even if it is incongruent with their personal beliefs (Crandall et al., 2002; Kuran, 1995; Stangor et al., 2001). Indeed, in some instances reconciliation participants endorsed norms *despite* their stated beliefs—e.g., they indicated that trusting should not be viewed as naïve while recognizing high levels of mistrust in their communities, and they rejected prescriptions for ingroup marriage even though they stated that marriage between groups could cause tension.

One reasonable implication of this finding is that pursuing social norms instead of individual beliefs may be more fruitful for prejudice reduction interventions, particularly given independent concurrent findings that social norm perception is more reliably tied to behavior, including prejudiced behavior (Ajzen, 2001; Ajzen & Fishbein, 2000; Blanchard et al., 1994; Miller et al., 2000). Focusing prejudice reduction research and intervention on norms would be no small shift, given the current emphasis on educating individual beliefs and attitudes in real world interventions (Paluck & Green, in press), and the emphasis on individual-level cognition and emotion in academic social psychology. As others have argued (Crandall & Stangor, 2005), bringing social norms back into research on prejudice

invites psychologists to revisit earlier ideas about the roots of prejudice (e.g., conformity). To this we add that the study of prejudiced norms invites a greater focus on the dynamics of social *groups* for studying prejudice acquisition, expression, and reduction (this would also invite re-examination of classic social psychology, e.g. Lewin, 1952). Of course, targeting group norms in anti-prejudice research and intervention does not preclude examination of downstream individual belief change, given that changed behaviors may transform attitudes and beliefs (Bem, 1970).

Interestingly, the observed disparity between private beliefs and public behaviors in this study resonates with analyses of the dynamics of violence during the Rwandan genocide. Scholars emphasize that violence did not often reflect the personal prejudices of the killers (Fujii, 2006; Straus, 2006), but that (together with other factors), social pressure from authorities, peers, and the media made killing seem socially appropriate and necessary. “Norms” writ large should not significantly impact behavior unless they are made salient in a particular situation—by a neighbor, a policeman, or a radio broadcast (Kallegren et al., 2000; Latané & Darley, 1970). The nuanced and sobering suggestion raised by these analyses is that normative pressure—applied in a targeted manner through the media and other sources—can be a double-edged sword.

*Beliefs.* The present results support the pessimistic view that beliefs are difficult to change (Bem, 1970; McGuire, 1986; Wood, 2000) and that media are not good at “telling people what to think” (Kinder, 1998; Mutz, 2002). In the present study, however, a few reported beliefs *did* change—in the opposite direction than predicted.

These findings may reflect a particular resistance to messages aimed at beliefs based on important personal experiences. Research demonstrates resistance to persuasive

messages when people's personal values or their "egos" are involved (Johnson & Eagly, 1989; Sherif & Hovland, 1961). Other investigations have demonstrated that people are less likely to be influenced by fictional stories when the stories overlap substantially with their real lives because they process the stories much more critically (Prentice, Gerrig & Bailis, 1997). For example, one reconciliation program message stated that violence does not come suddenly. Many participants, even those who recognized the buildup of tension prior to the genocide claimed they experienced the *genocidal* violence as a surprise. As one participant stated, "when the violence began, it fell upon us like a sudden rain." Indeed, all of the messages in the reconciliation program were aimed at issues with which participants had a surfeit of personal experience—prejudice, violence, and trauma.

*Change process.* With these data, we cannot specify a sequential model of change in which listeners' behaviors changed in response to their shifted perceptions of norms—nor do we believe that such a simplified model is realistic. The fact that participants listened in groups suggests a potential reverse direction model in which the radio program changed the group's behavior, and this behavior changed perceptions of norms. Most likely both directions of change are valid (Bandura, 2004).

One model of change proposed at the outset was that the realistic soap opera characters and situations would influence listeners just as real-life peers and situations influence norms and behaviors (Blanchard et al., 1994). A fair amount of evidence suggests that listeners did experience the program as realistic and relevant to their lives. Reconciliation listeners in several sites reported that they compared characters' behaviors to the way their neighbors handle certain situations; they also reported using characters' names to nickname people in the community—e.g. pretty girls were named after the

female star-crossed lover and accused killers who deny their charges were named after the story's villain. In a separate survey of Rwandans listening to the reconciliation program, 95% of respondents said that the reconciliation program's characters reminded them of people from their local community (Paluck, 2006).

A similar explanation may account for the finding of increased empathy for real life Rwandans (prisoners, genocide survivors, the poor, and leaders). Listeners' emotional, empathic reactions to the soap opera characters may have transferred onto the real-life versions of the groups that the characters represented. This explanation is consistent with claims made by the extended contact hypothesis (Wright et al., 1997) that feelings from a vicarious relationship can generalize to the larger social group represented in that relationship. It also fits with other research showing that people do not draw a bright line between the fictional and the real world (Gerrig, 1993; Harris, 2004, pp. 49-51).

*Group effects.* The impact of the radio intervention is inseparable from the impact of listening to the program in a group. Alone, listeners become aware of ideas communicated in radio programs, but in groups they also became aware of other people's awareness of those ideas. Moreover, when group members react positively, their endorsement creates another vector of social influence on each listener (Katz & Lazarsfeld, 1955). Thus, positive endorsement of fictional norms gives birth to actual group norms: when group members voice agreement with certain ideas about how one should behave, prescriptive expectations are created for this behavior, at least in the presence of the group. Likewise, when group members behave in accordance with the program messages, a new descriptive norm takes shape.

Group discussion of an idea can enhance its attractiveness (Lewin, 1952), sometimes because of social pressure from those who agree with the message (Mendleberg, 2002), and other times because it generates more thoughtful processing of the message (Petty & Cacioppo, 1986; for reviews see Mendelberg, 2002; Wood, 2000). At the very least, spontaneous discussion of the radio soap opera certainly contributed further to “socially shared cognition” (Fiske, 2005, p. 44), which is the basis of a social norm.

*Cultural influence.* Certain effects of the reconciliation program were notably large relative to others; the biggest shifts occurred with respect to dissent and intergroup relationships (intermarriage and group cooperation). Both subjects have particular resonance in Rwandan culture. Specifically, there exists a prominent imperative *against* dissent in Rwanda’s hierarchical society. Proverbs like “when you are in a weak position, rest calmly and cross your arms” illustrate the customary prescription to refrain from disagreeing with authority. Moreover, intergroup cooperation and interdependence are celebrated aspects of customary Rwandan society. Rwandans note with pride various imperatives to share beer with neighbors from the same straw, to carry one corner of an *ingobyi* (stretcher) down the mountainside when a neighbor is ill, and other rituals characterizing Rwandan society at peace (Paluck et al., 2004). Ethnic intermarriage was part of this ideal prior to the 1990s (exact rates are unknown; Des Forges, 1999) before it was discouraged under certain government policies (Verwimp, 2004).

One interpretation of these strong effects is that attempts to shift social norms may be most successful when they give force to an idea that already has momentum in a society’s culture or in the private views of its population (see also the *Zeitgeist* phenomenon; Paicheler, 1976). Scenes featuring radio characters speaking their minds may

have inspired listeners who feel unhappy with a perceived dictum that they should remain silent about their point of view. The program's love story may have reminded listeners of the formerly positive status of intermarriage in their culture or reinforced stories about the lifesaving effects of intermarriage during the genocide.

#### *Future Questions*

To paraphrase Kurt Lewin, in order to truly understand a system you must change it (Schein, 2002). Manipulating different factors of media interventions in future field experimental research will help to disentangle the various change mechanisms at work, some of which were documented but not manipulated in the current study (discussion and empathy). To study the contribution of peer discussion to media impact, a field experiment is currently underway in the Democratic Republic of Congo that uses random assignment of a listener reaction show to certain regions in order to increase discussion about a conflict reduction program broadcast across all regions (Paluck, 2007b).

Another promising path suggested by this study is to investigate the power of emotionally evocative media, including humor and fictional narrative—specifically whether these genres of media allow people to think through difficult issues or to experience intergroup contact in a less threatening and vicarious way (Allport, 1954, p. 488; Cameron & Rutland, 2006; Lustig, 2003). Manipulating emotional content is also one way to measure the influence of media-inspired empathy on prejudice reduction. Another pertinent question is whether the medium of radio has a particular impact, perhaps because it requires the audience to imagine action as opposed to looking at newspaper pictures or watching television scenes. Such research would address theory describing the power of

mental imagery over human behavior, which has a distinguished pedigree in psychology (James, 1890) and continues today (Bargh et al., 1996; de Vignemont & Singer, 2006).

The radio program was aimed at increasing “reconciliation,” a controversial and multifaceted term. Not all would agree with the definition that it signifies “...people reforming prior connections, both instrumental and affective, across ethnic, racial, or religious lines” (Stover & Weinstein, 2004, p. 4). However, we believe that the measures used in this study—of beliefs and norms about past and future intergroup interaction, of empathy, of trauma healing—represent broadly relevant contributors to the process of reconciliation (Krog, 1998; Minow, 1998). Theorizing the process of reconciliation, along with forgiveness and related concepts, deserves a more central position in social psychological research on prejudice and conflict reduction (Bar-Siman-Tov, 2004; Hewstone & Cairns, 2001).

#### *Limitations of Current Research*

Given the distinctiveness of this study’s context and methods, two questions of external validity are in order. First, did the experimental listener groups create conditions in which norms could shift more easily compared to real-life communities that are more diffuse and exposed to more programs? Experimental listening groups were meant to be recreations of the small groups of neighbors that listen together within larger communities, not recreations of the communities themselves. Real-world listener groups are more, not less likely to shift norms because they are smaller and more homogeneous (Fishkin, 1995) than the 40-person, randomly composed groups used in the study.

One could also question whether changes in perceived norms in small listener groups can spread to the larger community and society. Through interviews with other

members of the communities where we conducted our research, we discovered that research participants did discuss the radio program with other members of the community outside of the experiment (Paluck, 2006). This extra-group discussion suggests a social influence model in which perceived norms change in small, dedicated listener groups, who then spread their local norms out to the community or regional level. This peer exchange also makes it more plausible that changes will endure.

Although these data are from Rwanda, there is nothing uniquely Rwandan about the pattern of social norm perception and norm-consistent behavior they reveal. Moreover, the present study was an investigation of small groups and their local norms, which can be found in every society where groups of friends or family choose similar news and entertainment outlets. The hundreds of media outlets found in more developed countries do not necessarily represent a diversity of informational and normative influence; their relative homogeneity makes it reasonable to question whether television and news programming have affected general social norms such as tolerance for violence and political torture (Anderson & Bushman, 2002; Lithwick, 2006). In the end, whether media's influence on prejudice and conflict translates to more developed or Western societies is an empirical question. But translation to these countries is by no means the yardstick for measuring the utility of these findings—many dozens of countries on earth are currently home to a range of media outlets comparable to that of Rwanda's.

### Conclusion

The present research provides some of the first clear evidence of the media's impact on intergroup prejudice and conflict in the world. It is, moreover, one of the first large scale demonstrations that a field experiment can be deployed to estimate the causal

impact of a media program on prejudice and conflict. The results of this yearlong experiment in Rwanda reveal the utility of psychological perspectives on social norms, empathy, and peer discussion for reducing real-world intergroup prejudice and conflict. Many of these findings, based upon observations and activities in participants' actual community environments, would have been impossible to obtain in a laboratory setting. Future research should continue to gauge the media-prejudice-conflict relationship with real world experiments, while parsing the basic social psychological mechanisms that seem to drive its effects. We view this particular study as part of a growing body of "psychology that matters," in which field interventions feed psychological theory, and psychological theory informs field interventions.

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Table 1: Interview items regarding personal beliefs and perceptions of social norms

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Beliefs

- Mass violence grows out of a series of small acts like spreading rumors and stealing
- Mass violence comes about suddenly\*
- If I stand by while others commit evil actions, I am also responsible
- When people marry each other from different regions, religions, or ‘ethnicities,’ this contributes to the peace
- Traumatized people are ‘crazy’\*
- Perpetrators of violence can also be traumatized
- Recovery from trauma is possible
- (Health) A pregnant woman who has AIDS can be given a chance to have a healthy baby
- (Health) You can safely share something with someone who has AIDS

Social norms (descriptive and prescriptive)

- I advise my children (or the ones I will have in the future) that they should only marry people from the same regional, religious, or ethnic group as our own\*
- It is naive to trust\*
- There is mistrust in my community
- If we disagree with something that someone is doing or saying, we should keep quiet\*
- For the sake of my mental health, I should never talk about the experiences that have caused me great pain and suffering\*
- (Health) It’s necessary that every woman who is pregnant goes to the health center to be tested

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\* = *Reverse coded*

Table 2: Top focus group opinions about factors that contribute to violence

Code	Reconciliation	Health
Jealousy / greed / selfishness	22.5%	15.6%
Cyclical violence memorialized and perpetuated	17.1%	11.5%
“Evil,” bad people	<b>17.1%</b>	<b>4.9%</b>
Ethnic or group categorization, discrimination, segregation	<b>14.7%</b>	<b>25.4%</b>
Power politics: divide and rule	12.4%	20.5%
Ignorance / lack of education / uncritical mind	9.3%	4.1%
Poverty	6.2%	10.7%

*Percentages represent the average number of times each theme was raised out of all comments raised in the focus group discussion. Significant differences at the  $p < .05$  level are bolded. Other factors mentioned less than 4% of the time were family troubles, rumor, restricted political environment, and colonialism.*

Table 3: Reconciliation show effects on beliefs, social norms, and empathy

	Predicted direction	Reconciliation radio	SE	<i>p</i>
<b>Beliefs</b>				
Violence is a continuum	+	0.04	0.05	0.85
Violence comes suddenly	-	-.004	0.06	0.92
Bystanders to violence are responsible	+	-.010	0.11	0.38
Intermarriage brings peace	+	-0.12	0.11	0.47
Traumatized are crazy	-	-.004	0.06	0.99
Perpetrators can be traumatized	+	0.08	0.09	0.62
Trauma recovery is possible	+	<b>-0.15</b>	<b>0.08</b>	<b>0.05</b>
Pregnant women with AIDS can have healthy babies	-	0.06	0.05	0.87
I can share with AIDS patients	-	0.10	0.16	0.77
<b>Social norms (prescriptive and descriptive)</b>				
Intermarriage should be allowed in my family	+	<b>0.28</b>	<b>0.04</b>	<b>.001</b>
It is not naïve to trust	+	<b>0.14</b>	<b>0.07</b>	<b>0.04</b>
There is mistrust	-	-0.1	0.07	0.52
I should dissent	+	<b>0.29</b>	<b>0.07</b>	<b>0.01</b>
I should talk about trauma	+	<b>0.22</b>	<b>0.03</b>	<b>0.04</b>
Pregnant women should be tested for AIDS	-	<b>-0.56</b>	<b>0.18</b>	<b>.002</b>
Empathy for other Rwandans	+	<b>0.17</b>	<b>0.08</b>	<b>0.04</b>

*Each line is a separate ordered probit regression that analyzes individual level data and accounts for clustering at the listener group level. The reconciliation radio program is scored as 1 (vs. health program = 0) in each regression, thus predictions for health messages are in the reverse direction.*

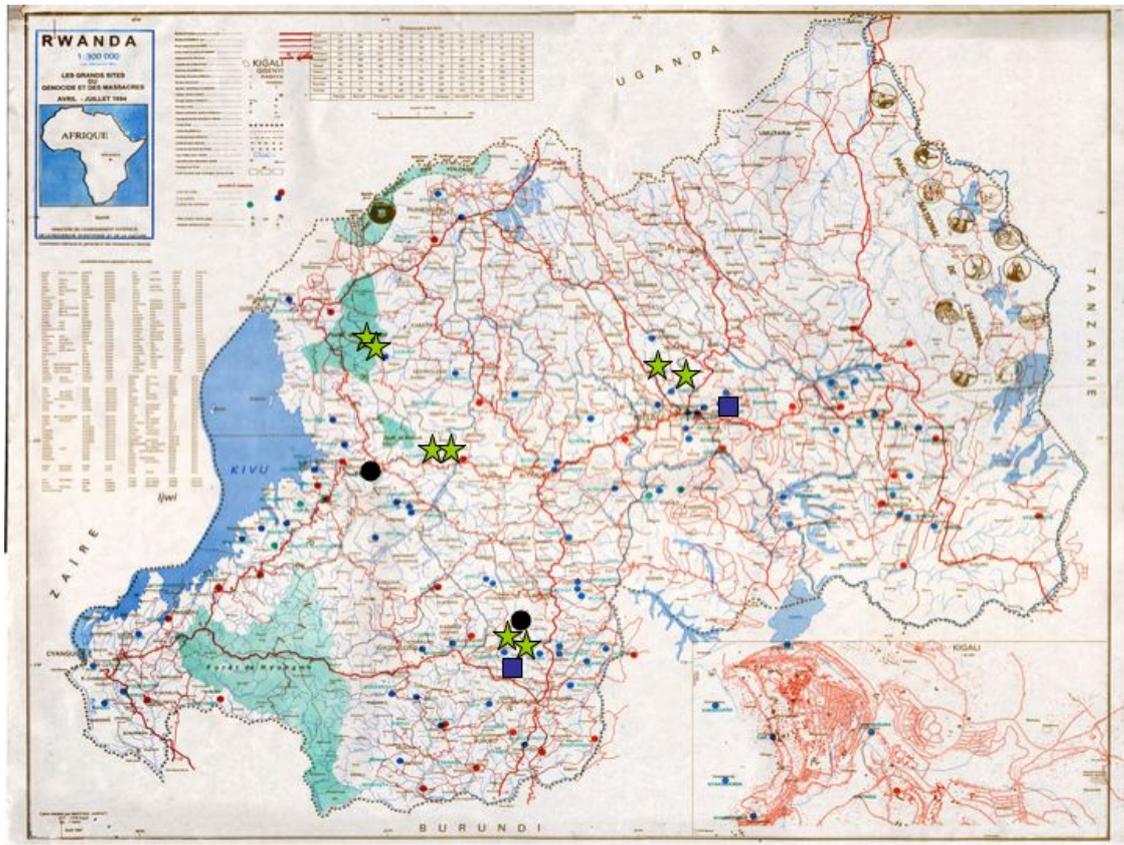
Table 4: Behaviors during discussion of community resource

		Pair	Health	Reconcile
Number of dissenting opinions raised	<i>General</i>	<i>a</i>	1	1
		<i>b</i>	0	0
	<i>Population</i>	<i>c</i>	0	2
		<i>d</i>	0	1
	<i>Twa</i>	<i>e</i>	0	2
		<i>f</i>	0	1
Number of cooperative comments	<i>General</i>	<i>a</i>	0	2
		<i>b</i>	0	1
	<i>Population</i>	<i>c</i>	0	2
		<i>d</i>	1	1
	<i>Twa</i>	<i>e</i>	0	0
		<i>f</i>	0	1

*Letters a-f represent each pair of communities, one assigned to the Health and the other to Reconciliation. Transcripts from community discussions were awarded one point for offering a dissenting opinion about the initial position taken by one or more members of the group and for any comment made about the group's ability to cooperate. The joint probability of finding these differences is  $p = .02$ .*

Appendix

Figure 1: Map of Research Sites



*Stars = General population villages; Circles = Survivor communities; Squares = Twa communities*

Table 1: Background information on participants in each research site

	General population communities								Twa		Survivor	
	West		North		East		South		S & E		S & W	
Treatment	R	H	R	H	R	H	R	H	R	H	R	H
Sex (% men)	72	58	50	60	56	75	48	33	35	33	20	68
Age (mean)	30	44	37	31	37	42	47	41	37	32	38	44
Has lived elsewhere (%)	41	23	75	63	73	60	78	63	50	50	48	44
Had some education (%)	77	48	78	80	90	54	63	73	45	54	63	80
Listens to radio (%)	92	93	83	80	100	87	75	88	75	85	95	90
Present in 1994 (%)	100	97	100	98	98	100	100	100	100	95	100	100
Lost 1 or more relatives (%)	69	49	33	36	85	70	73	78	59	76	100	100
Has relative in prison (%)	51	38	25	3	32	23	38	15	50	65	12	3
Total N	39	40	40	40	41	40	40	40	40	37	41	40

*R = Reconciliation; H = Health. Twa and Survivor communities were sampled from different regions of the country.*

Note: The breakdown of demographic characteristics of participants in this study is similar to general population characteristics in each region according to the 2002 Rwandan Census. A multivariate test involving a regression of treatment on background characteristics (including dummies for missing data in the pre-test) was, as expected, non-significant, meaning that there was no reliable association between characteristics of the research sites and their assignment to the reconciliation or health radio program condition.

**Field visit form**

**(In translation from original French)**

Research site (Site ville de) .....

Date of visit (Date de la visite).....

Researcher name (Chercheur) .....

Visit duration (Durée de la visite): de ..... à .....

TOTAL: ...h....Min

Program episode numbers of which program (Episodes) ..... à ..... de

MUSEKEWEYA/ URUNANA

(Number of people present (nombre des personnes présentes) : .....

« Notable reactions » (“Réactions Notables”):

---

- Laughter (about what) (Rire (de quoi)):
- Surprise (about what) (Surprise (de quoi)):
- Disapproval (of what) (Désapprobation (sur quoi)):
- Other comments (and how the participants reacted to these comments) (autres commentaires (et comment les participants réagissent sur des commentaires de leur collègues)) :

Characters or storylines that participants seem to like a lot (Des personnages ou des histoires qu'ils semblent aimer):

Characters or storylines that participants seem to dislike (Des personnages ou des histoires qu'ils semblent détester):

Other observations (D'Autres Observations) :

Comments and suggestions that participants make to you the researcher (Commentaires et suggestions qu'ils font à vous le chercheur) :

Any problems or events that occurred during the visit (Tous problèmes ou événements peu communs pendant la visite) :

Anything else you wish to report ? (Toute autre chose que vous voulez rapporter) ?

Use the scales and table (below) to rate the group, and to rate it in comparison to other groups:

1.....2.....3  
*pas du tout un peu beaucoup*  
 Not at all a little a lot

1.....2.....3.....4.....5 *beaucoup*  
*moins un peu moins la même chose un peu plus beaucoup plus*  
 A lot less A little less the same a little more much more

	The group	Compared to the other group	Compared to other sites in the province
	<i>Le groupe</i>	<i>Comparé à l'autre groupe</i>	<i>Comparé à d'autres sites dans la province</i>
Interest <i>comment intéressé</i>			
Enthusiasm <i>comment enthousiaste</i>			
Distraction <i>comment distrait</i>			
Confusion <i>comment confus</i>			
How much they discussed <i>Combien ils l'ont discuté</i>			
During <i>pendant</i>			
Afterward <i>Après</i>			

Write all of the comments that the participants made during the period after the broadcast when they were sitting and drinking together. How many times did they talk about the program ? For example, : 5%, 15%, 25%, 35%, 50%. 75%, 100%, or another percentage you estimate

*N B. Ecrivez tous les commentaires que les participants font durant la période de rafraîchissement concernant le programme : combien de temps parlent-ils du programme ? Durant le rafraîchissement : 5%, 15%, 25%, 35%, 50%. 75%, 100% ou autre pourcentage que vous estimez.*

Table 2. Frequency distributions of individual questionnaire items

Beliefs

Violence as a continuum: “Mass violence comes out of small actions, like spreading negative ideas about a group of people, or stealing from them.”

- 74% strongly agree
- 19% somewhat agree
- 4% somewhat disagree
- 4% strongly disagree

Onset of violence: “Violence like the violence that happened in Rwanda in 1994 comes about suddenly.”

- 48% strongly agree
- 13% somewhat agree
- 9% somewhat disagree
- 29% strongly disagree

Active bystandership: “If we stand by while others commit evil actions, we am also responsible”

- 56% strongly agree
- 19% somewhat agree
- 9% somewhat disagree
- 16% strongly disagree

Intermarriage: “When people marry each other from different (regions, religions, ethnicities, etc) this contributes to the peace”

- 72% strongly agree
- 20% somewhat agree
- 5% somewhat disagree
- 3% strongly disagree

Trauma: “Traumatized people are crazy”

- 13% strongly agree
- 16% somewhat agree
- 19% somewhat disagree

52% strongly disagree

Trauma: "Perpetrators of violence can also be traumatized by their own actions."

59% strongly agree

34% somewhat agree

3% somewhat disagree

4% strongly disagree

Trauma healing: "Traumatized people can recover"

54% strongly agree

35% somewhat agree

8% somewhat disagree

4% strongly disagree

Trauma healing: "Recovering from grief (intimba) and from trauma (ihungabana) may take a very long time."

64% strongly agree

29% somewhat agree

5% somewhat disagree

3% strongly disagree

Health: "A pregnant woman who has AIDS can be given a chance to have a healthy baby."

Yes: 80%

Health: "You can share something with someone who has AIDS."

Yes: 92%

Social norms

Intermarriage in family: 'we tell our children (or we will tell our future children) they should only marry people from the same group (regions, religions, ethnicities) as theirs.'

25% strongly agree  
17% somewhat agree  
11% somewhat disagree  
47% strongly disagree

'It is naïve to trust people'

13% strongly agree  
16% somewhat agree  
19% somewhat disagree  
51% strongly disagree

'There is mistrust'

42% strongly agree  
34% somewhat agree  
9% somewhat disagree  
14% strongly disagree

Dissent: 'If we disagree with something that someone is doing or saying, we should keep quiet.'

27% strongly agree  
16% somewhat agree  
12% somewhat disagree  
45% strongly disagree

Trauma healing: 'It is better for my mental health to never talk about the experiences that have caused me great pain and suffering'

29% strongly agree  
20% somewhat agree  
12% somewhat disagree  
39% strongly disagree

Tests for pregnant women: 'It's necessary that every woman who is pregnant goes to the

health center to be tested”

Yes: 78%

Empathy

Empathy index (composite of 4 questions): “Do you ever try to imagine the thoughts or feelings of other people who you don’t know in Rwanda” (prisoners, survivors, the poor, leaders).

35% strongly agree

57% somewhat agree

7% somewhat disagree

1% strongly disagree

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*Frequency distributions include both reconciliation and health program conditions*