

A Winding Road to Peace Building: Longitudinal Outcomes of a Peace Intervention for Survivors and *Génocidaires* of the 1994 Genocide Against the *Tutsi* in Rwanda

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Highlights

- Survivors and *génocidaires* in Rwanda benefited from a local intergroup contact intervention (CI).
- However, *génocidaires* and survivors they directly harmed benefited differently over 22-months.
- Preparing survivors and *génocidaires* with skills to participate in communal life is critical for CI.
- Highlighting both CI outcomes and trajectories are essential for program and theory development.

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Abstract This longitudinal study examined outcomes of a local peace-building intervention that applied principles of intergroup contact to promote reconciliation between *génocidaires* and survivors whom they have directly harmed during the 1994 Genocide Against the *Tutsi* in Rwanda. Individual interviews were conducted with 46 *génocidaires* and 45 survivors whom they have directly harmed during the genocide at 7-time points over the course of their 22-month participation in three programmatic activities (workshops, cell groups, and cooperative cow raising). One thousand bootstrapped samples generated to measure changes in outcomes indicated that survivors and *génocidaires* regarded themselves and those who directly impacted them during the genocide more positively after 22 months. Although both survivors and *génocidaires* experienced significant decline in trauma symptomatology after 22 months, they responded to programmatic activities differently. Cell group interactions *sustained* some positive outcomes (*génocidaires* perceived forgiveness by others) after the workshops and *further improved* others

(*génocidaires* self-forgiveness). Survivors who participated in cell groups and raised cows with *génocidaires* demonstrated further willingness to reconcile compared to survivors who participated in cell groups alone. Our findings empirically support the benefits of promoting different forms of intergroup interactions long after a period of intense violence and highlight the importance of considering how the trajectories of outcomes can inform program and theory development.

Keywords Intergroup Contact · Rwanda · Genocide · Program Evaluation

Introduction

We often find solace in the adage “time will heal” to address the destructive aftermath of a genocide. Underlying the wisdom of this dictum is the reality that healing requires time and likely follows a circuitous path. How then do communities continue to heal and recover well beyond the critical period immediately after violent events (Ghobarah, Huth, & Russett, 2003)? The effects of trauma, outgroup prejudice, residual conflict, and economic insecurity, for example, manifest gradually over time. The complex long-term outcomes of a genocide necessitate interventions that address these challenges beyond a single intervention following a genocide. This is particularly relevant in Rwanda, where despite ongoing national efforts to challenge divisive ideology and to promote a culture of reconciliation, many who experienced

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the *1994 Genocide Against the Tutsi* (and moderate Hutu) remained reticent or silent about intergroup tensions (Otake, 2019). This has contributed in part to dormant animosity between victims who survived the genocide and génocidaires who were convicted of crimes during the genocide between April and July 1994 (Longman, 2017; Otake, 2019; Purdekova, 2015).¹ A study conducted 20 years after the genocide in Rwanda, for example, showed that survivors who experienced more genocide events remained ambivalent about interacting with génocidaires (Kang, Delzell, Mbonyingabo, & Ngendahayo, 2016). Another study conducted 15 years after the genocide found that survivors and génocidaires who experienced and witnessed more killings during the genocide similarly reported more frequent symptoms of post-traumatic stress disorder (PTSD) and/or depression than those who experienced less violent events (Schaal, Weierstall, Dusingizemungu, & Elbert, 2012). Although “chosen amnesia” of intergroup tension before and after genocide has arguably contributed to political and economic stability in Rwanda where communities are situated in close proximity to each other, vestiges of conflict that remain unaddressed over time potentially heighten the risks of future divisions and violence (Buckley-Zistel, 2006). This study aims to contribute to the existing knowledge of local peace-building interventions by presenting the longitudinal outcomes of an intervention for génocidaires and survivors whom they have directly harmed during the genocide (herein referred to as the génocidaire-survivor dyad) 23 years ago. This paper builds upon the work of many others to empirically evaluate how specific components of Allport’s (1954) contact hypothesis can be locally applied to strengthen social relations and lessen intergroup conflict among génocidaire-survivor dyads. Provided that certain conditions were met, the contact hypothesis stated that intergroup contact in conflict can be effective in reducing mutual negative prejudice and stereotypes. We will present evidence that fostering meaningful and consistent interactions among génocidaire-survivor dyads with the aim of transforming communities in conflict require building individual skills to cope with the trauma that ensues and practically applying those skills in group and interpersonal situations. Furthermore, we will show evidence that after 22 months, participants regarded themselves and those who directly impacted them during the genocide in more peaceful terms. These outcomes will

¹ The term “survivor” refers to *both* Tutsis, Hutus, or Twa who were victims of or witnessed violence and killings during the 1994 Genocide Against the Tutsi and have neither participated in nor been accused of genocidal acts. “Génocidaire” is broadly defined as one who commits genocide, not exclusively associated with Hutu ethnicity (Corey & Joireman, 2004). Nor is it a legal term suggesting that a person was prosecuted for genocide-related crimes.

then be discussed against the background of *how* survivors and génocidaires worked through their differences during this 22-month period—a process that was less straightforward. To theoretically contextualize our findings, we will first review how the contact hypothesis has informed programs in Rwanda following the *1994 Genocide Against the Tutsi*.

Field Applications of Contact Hypothesis

Notable interventions that addressed the psychological aftermaths of intense violent conflict have focused on fostering meaningful and sustained interactions between conflicting groups that work toward a goal based on a select shared status—with the aim of challenging negative prejudice toward one’s outgroup (Allport, 1954; Ramiah & Hewstone, 2013; Scacco & Warren, 2018). Allport’s (1954) contact hypothesis has been widely referenced but applied less to field studies. There were a few exceptions. The recent emergence of coffee business cooperatives in Rwanda, for example, has created opportunities for Hutu and Tutsi workers at coffee washing stations to engage in shared entrepreneurial activities. Findings from Tobias and Bourdreaux’s (2011) cross-sectional study of 239 workers at 10 Rwandan coffee washing stations (69% Hutu and 25% Tutsi) in 2004 suggested that more frequent cross-ethnic contact was correlated with less distrust toward the outgroup and higher expectations of future peace in Rwanda. Paluck’s (2009) study, conducted 10 years after the genocide, similarly found that listening to a reconciliation radio program in groups changed participants’ perception of social norms related to prejudice, violence, and trauma following the genocide. Paluck (2009) suggested that participants’ perceptions of norms could have shifted after observing behavioral changes among group members while listening to the radio program. Intentional interaction between survivors and génocidaires could also reasonably explain how participation in the Truth and Reconciliation Gacaca tribunals in Rwanda, a structured community proceeding where survivors and génocidaires listened to each other’s grievances and suffering, was found to foster reduced perceptions of outgroup homogeneity and increased positive outgroup stereotypes among both survivors and génocidaires (Rimé, Kanyangara, Yzerbyt, & Paez, 2011).

In addition to these studies in Rwanda, decades of field and experimental studies have generally reported positive outcomes of intergroup contact. However, application of these findings has been limited to children and adolescents and outcomes related to reduced prejudice toward people with mental or physical disabilities (Paluck, Green, & Green, 2018). Results from Paluck et al.’s (2018) meta-analysis indicated that few studies have addressed *how*

intergroup contact specifically mitigates ethnic prejudice among adults. Although Allport's (1954) contact hypothesis delineated specific conditions for intergroup contact—equal status between groups; common goals; intergroup cooperation; and the support of custom—there remains scant empirical support for how these conditions uniquely or collectively reduce intergroup conflict and hostility.

A condition of relevance to our study is the collective pursuit of a common goal that entails non-competitive interdependence between conflicting groups. Collective agency toward a superordinate goal intends to reduce conflict by minimizing the salience of intergroup differences and establishing a new group identity (Gaertner & Dovidio, 2000). However, the importance of jointly selecting a desired goal is coupled with the need to preserve the distinctive identities of the conflicting groups while they engage in the activity (Brewer, 1991; Deschamps & Brown, 1983). When groups perceive a threat to their identity, the process of working toward a superordinate goal may actually heighten rather than assuage intergroup hostility. To explain this, Brewer (1991) posited that social identity is a “compromise between assimilation and differentiation from others, where the need for deindividuation is satisfied within in-groups while the need for distinctiveness is met through intergroup comparisons” (p. 477). Stated differently, there are competing needs for inclusion and differentiation. In support of Brewer's (1991) social identity principle, a qualitative study that examined how memberships in livelihood cooperatives (coffee and handicraft) in Rwanda affected the relationships between genocide survivors and perpetrators found that the impetus for improved relations was not group de-identification, but rather a consensual goal that required joint effort that *incidentally* progressed toward improved future relations (Theidon, 2006). Working in a cooperative organization that was primarily motivated by redressing poverty, for example, necessitated survivors and génocidaires to meaningfully engage and communicate with intentionality. This bears relevance to Rwanda where many have argued the merits and threats of de-ethnicizing Hutu, Tutsi, and Twa and promoting a single Rwandan identity as *Banyarwanda* (Moss & Vollhardt, 2016). Promoting reconciliation at a national level by acknowledging genocide-related atrocities may not sufficiently shape personal and local discourse between survivors and génocidaires or facilitate “the reconstruction of social relationships and coexistence” (Theidon, 2006, p. 226).

Allport's (1954) contact hypothesis has been widely referenced to address this gap in understanding how such relationships are formed. However, application of the theory has been challenging given the dearth of empirical studies that examine the outcomes of Allport's specific conditions for intergroup contact over time particularly

among adults (Paluck et al., 2018). Therefore, in addition to evaluating the outcomes of an intervention that promotes group and interpersonal interactions among génocidaire-survivor dyads in Rwanda over 22 months (2017–2019), this study will help clarify the trajectory of how survivors and génocidaires are affected when they intentionally interact with each other to achieve a common goal. First, we hypothesize that building and practically applying individual skills in common daily group and cooperative work situations will result in more positive personal (trauma and self-forgiveness) and interpersonal (intergroup perceptions and willingness to interact) outcomes. Second, we hypothesize that survivors and génocidaires will follow distinctive outcome trajectories given their respective roles in the genocide.

Methods

Participants and Procedure

Participants were recruited by convenience from Mushishiro and Nyarusange—two sectors in the Muhanga district. Prior to recruitment in May 2017, our research team met with sector leaders (elected officials) to assess the need and introduce the rationale and logistics of implementing our local intervention. After agreeing on the potential benefits of the proposed program, the leaders submitted the names and contact information of residents in their respective sectors who have been directly affected by the 1994 genocide.² In Mushishiro, leaders identified 55 génocidaire-survivor dyads and in Nyarusange 47 génocidaire-survivor dyads were identified. Our local research team contacted each dyad sequentially on the lists to explain the proposed program and invited their voluntary participation (note that names on the list were not systematically ordered). The goal was to recruit a minimum total of 50 dyads ($N = 100$). In anticipation of attrition and missed interviews over time, we recruited 116 participants. The first 30 génocidaire-survivor dyads ($N = 60$) in Mushishiro and the first 28 génocidaire-survivor dyads ($N = 56$) in Nyarusange consented to participate in the intervention from each list. Prior to the start of the intervention, individual meetings were scheduled at the sector centers to obtain participants' informed consents and administer the baseline interview (see descriptions of measures below). Participant inclusion criteria were as

² Given the communal fabric of Rwanda society and the Gacaca court hearings, the identities of survivors and their direct offenders are publicly known. Moreover, our partnering organization in Rwanda is a reputable and respected agency whose work has garnered the trust of local leaders since 2004.

follows: (a) 25 years and older (at least 6 years old at the time of the genocide); (b) spoke Kinyarwanda; and (c) directly exposed to genocide events. No incentive was provided to study participants. Six Rwandan interviewers who were directly affected by the genocide (three men and three women; four were Tutsi and two were Hutu) were trained to conduct a 60- to 90-minute individual survey in Kinyarwanda. The interviewers were selected and trained by experienced staff who were involved in two previous studies we conducted in Rwanda. Validated instruments from published studies were translated from English to Kinyarwanda by a translator and back translated to English by a second independent translator. Participants were informed before the interview that they would be asked about their experiences of the genocide and that they could forgo answering any questions or discontinue the interview if they were uncomfortable. The Institutional Review Boards at the Principle Investigator's current and former institutions approved this study.

Interviewers used a mobile data collection device to administer the interviews. Magpi Mobile Data System developed by DataDyne (www.datadyne.org) is a free, self-service, web-based program that has been widely used in health, agriculture, and education studies that require access to real time health data. Data were collected and saved offline and uploaded to a cloud computer storage system, which can be accessed by the research team in the United States in real time. Participants were interviewed at seven select time points between May 2017 and March 2019 based on the timing of the three programmatic activities of *Cows for Peace*—workshops, cell groups, and cooperative cow raising—which we will now describe (See Table 1).

Cows for Peace Intervention

Cows for Peace (CFP) was a local intervention developed in 2012 that applied principles of contact hypothesis (Allport, 1954) to promote sustained reconciliation³ between génocidaires and survivors whom they had directly harmed during the 1994 genocide. This was achieved through three programmatic activities: (a) all participants completed a 3-day workshop (month 1) focused on requisite personal and relational changes for interacting with the outgroup. Multiple sessions over the course of three days were conducted with 20–25 identified génocidaire-survivor dyads. The workshop was adapted from a cognitive-behavioral-based program designed to assist persons affected by war and conflict in acquiring skills to cope

with post-traumatic stressors and to support reconciliation efforts in northern Uganda (Sonderegger, Rombouts, Ocen, & McKeever, 2011).⁴ For most participants, this was the first time since the genocide that they have formally interacted with their direct perpetrator or victim in a structured group setting. This cognitive-behavioral-based group intervention contextualized the topics by referencing Judeo-Christian themes of forgiveness and reconciliation, which were culturally fitting in Rwanda, an overwhelmingly Roman Catholic and Protestant Christian country; (b) cell groups (months 2–22) were self-led gatherings of only génocidaire-survivor dyads who completed the workshops, hosted at local residential areas. The closed groups voluntarily met monthly (four groups in Nyarusange, and six Mushishiro), under the direction of a group-appointed leader. Although all workshop participants joined a cell group with varying levels of engagement, our local project leader explained that the dyads were clearly motivated to build upon their newly formed relationships. As such, the cell groups were seldom attended by just the survivor or the génocidaire of a dyad. Each group adapted a different meeting structure and format, tailored to the skills they acquired during the workshops and to their particular context and relational history. However, the common aim was to foster sustained self-initiated interactions between dyads in a supportive group setting. Relationships that were established between génocidaires and survivors during the workshops continued to develop through discussions, communal meals, visitations, and joint activities (e.g., assistance with farming and home repairs). Christian Action for Reconciliation and Social Assistance (CARSA) staff visited the groups to assist and support as needed in areas of navigating group conflict and clarification of group discussion topics. The third programmatic activity was (c) cooperative cow raising (months 8–22) between génocidaires and survivors. One dyad from each cell group was randomly selected by the executive director of CARSA to receive a cow in month 8 of the program. Dyads selected to receive cows continued to participate in cell groups. The historical and cultural significance of owning cattle in Rwanda created a unique “superordinate goal” for génocidaire-survivor dyads to jointly work toward. Activities included building a cow shed, purchasing feed for the cow, washing, feeding, and grazing the cow. Milk, manure (for fertilizer), and income generated from the cow were shared between the two households. The cow was raised on a survivor's property, and the calf to be conceived was given to the génocidaire.

³ Conveniently defined for this paper, reconciliation is the gradual and progressive “mutual acceptance by members of formerly hostile groups of each other...as circumstances allow and require” (p. 301, Staub, Pearlman, Gubin, & Hagengimana, 2005).

⁴ The aim of the workshop was not to explicitly encourage participants to reconcile per se. Rather participants were equipped with skills to do so if it was consistent with their goals of recovery.

Table 1 Interviews administered during 22-month timeline (May 2017—March 2019)

Measures administered ^a			
Timepoint	Survivors (<i>n</i> = 45)	Génocidaires (<i>n</i> = 46)	
T1 _{Month 1}	A, B, C, D, E, F, K	A, E, F, G, H, I, J	
Workshops (T2–T1 Difference: outcome assessment)			
T2 _{Month 2}	C, D, E	E, G, H, I, J	
Cell groups (T4–T2 Difference: outcome assessment)			
T3 _{Month 4}	C, D, E, F, K, L, M	E, F, G, H, I, J, K, L, M	
T4 _{Month 6}	C, D, E, F, K, L, M	E, F, G, H, I, J, K, L, M	
Cooperative Cow Raising & Cell Groups ^b (T7–T4 Difference: outcome assessment)			
	Cell group	Cow + Cell	Cell Group
T5 _{Month 10}	C, D, E, F, K, L, M	→ + N	E, F, G, H, I, J, K, L, M
T6 _{Month 14}	C, D, E, F, K, L, M	→ + N	E, F, G, H, I, J, K, L, M
T7 _{Month 22}	C, D, E, F, K	→ + N	E, F, G, H, I, J, K
T7–T1 Difference: overall intervention outcome			

^aMeasures: A, Background Information; B, Exposure to Genocide Events; C, Readiness to Reconcile; D, Beliefs About Outgroup; E, Traumatic Stress; F, Stressors Perceived to be Attributed to Genocide; G, State Shame Guilt; H, Dispositional Forgiveness; I, Perceived Forgiveness by Others; J, Self-Forgiveness; K, Expenditure and Income; L, Social Capital Assessment; M, Cell Group Support; N, Cooperative Cow Raising Activities.

^bCows distributed in Month 8. Dyads who received cows continued to participate in cell groups (Cow + Cell).

Measures

Based on previous findings (Kang et al., 2016; Schaal et al., 2012; Scull, Mbonyingabo, & Mayriam, 2016), the extensive field work of our community partner, and the aims of CFP, we selected the following measures that reflected how survivors and génocidaires were impacted differently by the genocide in 1994.

Survivors and Génocidaires

Sociodemographic

Information collected includes age, sex, marital status, education, children, living standards as assessed living conditions (e.g., floor materials), possession of items (e.g., bank account, cell phone, and radio), and exposure to genocide events.

Traumatic Stress. Participants rated the extent to which they experienced ten symptoms of post-traumatic stress disorder as indicated in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM-4; American Psychiatric Association, 1994) on a 5-point Likert scale 1 (*Never*) to 5 (*Very often*). Symptoms included trauma-related recurrent automatic thoughts, dreams, flashbacks, pain, sleeplessness, irritability/anger burst, difficulties in concentrating, awareness of danger, and exaggerated startle reflex. A Kinyarwanda version of this instrument developed by Rimé et al. (2011) was used in our earlier study in Rwanda (Kang, Delzell, Mbonyingabo, & Ngendahayo, 2016). Sum scores ranged from 10 to 50 with higher values indicating more traumatic stress. Cronbach's α for survivors ranged from 0.71 to 0.86 over the seven time points. For perpetrators, Cronbach's α ranged from 0.61 to 0.83.

Survivors Measures

Readiness to Reconcile

Based upon their work in Rwanda, Staub et al. (2005) developed a 45-item measure that assessed for reconciliation and forgiveness among survivors of 1994 genocide. On a shortened 21-item version used for this study, participants ranked their agreement with statements such as “each group has harmed the other”; “not all Hutu participated in the genocide”; and “I can forgive members of the other group who acknowledge the harm their group did” on a 5-point Likert scale 1 (*Strongly Agreed*) to 5 (*Strongly Disagreed*). Total scores ranging from 6 to 24 were calculated with higher scores indicating more readiness to reconcile. Cronbach's α ranged from 0.60 to 0.78 across seven time points.

Beliefs About Outgroup. Beliefs and perceived social norms with respect to interactions and relationships with génocidaires were assessed by a 5-item scale adapted from Paluck's (2009) study examining the role of mass media in shaping prejudiced beliefs in Rwanda. Based on a 4-point Likert scale ranging from 1 (*Strongly disagree*) to 4 (*Strongly agree*), survivors rated their agreement with perceived descriptive and prescriptive norms of génocidaires (e.g., “there is mistrust in my community”; “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”). The scores were reversed such that higher sum scores indicated more positive personal beliefs and perceived social norms regarding génocidaires. Total scores ranging from 6 to 24 were calculated with higher scores indicating more positive beliefs about outgroups. Cronbach's α for

survivors ranged from 0.25 to 0.67 across seven time points.

Social Distance. The 6-item Bogardus Social Distance questionnaire used by Gordijn et al.'s (2008) study of ethnic stereotypes in South Africa was adapted to measure willingness to interact with génocidaires. Survivors rated the extent they would be happy from 1 (*Very unhappy*) to 4 (*Very happy*) to have a génocidaire or a family member of a génocidaire marry into their family, as a close friend, next door neighbors, at school or work, and as a speaking acquaintance. Total scores ranging from 6 to 24 were calculated with higher scores indicating less social distance and more willingness to interact with génocidaires. Cronbach's α ranged from 0.84 to 0.93 across seven time points.

Génocidaires Measures

State Shame and Guilt

The State Shame and Guilt Scale (Marschall, Sanfter, & Tangney, 1994) was a 15-item measure of guilt and shame related to a negative event. Our research team in Rwanda reviewed the questions and determined that the items appropriately addressed the context of the genocide. Génocidaires rated statements such as "I feel remorse, regret" and "I feel tension about what I did" on a 5-point Likert scale ranging from 1 (*Not feeling this way at all*) to 5 (*Feeling this way strongly*). Total scores ranging from 6 to 24 were calculated with higher scores indicating higher guilt and shame. Cronbach's α for perpetrators ranged from 0.35 to 0.55 over the seven time points.

Dispositional Forgiveness. The Heartland Forgiveness Scale (HFS) was an 18-item measure of dispositional forgiveness of self, others, and situations beyond one's control (e.g., humanitarian disasters; Thompson et al., 2005). Génocidaires rated statements such as "with time the victim has been understanding of me for the mistake I made" and "with time I can be understanding of bad circumstances in my life" on 7-point Likert scale ranging from 1 (*Definitely false*) to 7 (*Definitely true*). Total scores ranged from 18 to 126 with higher scores indicating higher dispositional forgiveness. Cronbach's α for génocidaires ranged from 0.61 to 0.89 over the seven time points.

Perceived Forgiveness by Others. The Transgression-Related Interpersonal Motivation Inventory (TRIM) was a 12-item measure of génocidaires' perceptions of being forgiven by those they offended (McCullough et al., 1998). Génocidaires responded to statements about the extent to which survivors avoided them ("he/she wants to keep as much distance between us as possible") or sought revenge ("he/she wants to get even") on a 7-point Likert

scale ranging from 1 (*Definitely False*) to 7 (*Definitely True*). The scores were reversed such that higher scores indicated greater perceived forgiveness by others. Cronbach's α for génocidaires ranged from 0.82 to 0.93 over the seven time points.

Self-Forgiveness. The State Self-Forgiveness Scale (SSFS) was a 17-item measure of self-forgiving feelings, actions, and beliefs related to a specific event rather than across a range of situational contexts (Wohl, DeShea, & Wahkinney, 2008). This was particularly relevant in assessing génocidaires' self-forgiveness for their role in the genocide. They responded to statements ("as I considered what I did was wrong, I believe I am acceptable") on a 4-point Likert scale ranging from 1 (*Not at all*) to 4 (*Completely*) with higher scores indicating more self-forgiveness. Cronbach's α for perpetrators ranged from 0.81 to 0.97 over the seven time points.

Statistical Analysis

Bootstrapped confidence intervals at the 95% confidence level were constructed for changes in outcomes at select time points. These were determined a priori to measure the specific outcomes that correspond to the beginning of workshops, cell groups, and cooperative cow raising (See Table 1). All statistical analyses were conducted using the open-source environment R. One thousand bootstrapped samples were generated separately for génocidaires and survivors (Efron & Tibshirani, 1994). Differences between Time₂ and Time₁ (T₂–T₁) measured the outcomes from the workshops, and the difference between Time₄ and Time₂ (T₄–T₂) measured outcomes from the cell groups alone. Outcomes of cell group and cooperative cow raising were measured by calculating differences between Time₇ and Time₄ (T₇–T₄) separately for those who participated in cooperative cow raising and those who did not. For some measures, Time₆ was the final time point recorded, so in those cases T₆–T₄ is the relevant difference. Overall effects for the 22-month program were assessed by calculating differences on outcome score between Time₇ and Time₁ (T₇–T₁).

Results

Participants

Forty-six génocidaires and 45 survivors ($n = 91$) completed all the interviews that were examined for this analysis. Incomplete interviews for 25 participants were attributed to deaths, hospitalizations, imprisonment, and change of residence. Approximately half of the survivors for this analysis were female (51.1%), and all the

Table 2 Background of *Cows for Peace* Survivor-Génocidaire dyad included in analysis ($N = 91$)

	Survivors ($n = 45$) n (%)	Génocidaires ($n = 46$) n (%)
Age, M (SD)	59.31 (11.65)	56.55 (8.27)
Gender (%)		
Male	22 (48.9)	44 (100)
Female	23 (51.1)	0 (0)
Highest education attained (%)		
None	13 (28.9)	20 (43.5)
Primary school	30 (66.7)	23 (52.2)
Secondary school	2 (4.4)	1 (2.2%)
Vocational	0 (0)	1 (2.2)
Marital status (%)		
Married, living with spouse	21 (46.7)	43 (93.5)
Married, not living with spouse	3 (6.7)	1 (2.2)
Widowed	18 (40.0)	0 (0.0)
Divorced	2 (4.4)	0 (0.0)
Separated	1 (2.2)	2 (4.3)
Floor material (%)		
Sand	35 (77.8)	41 (89.1)
Cement	10 (22.2)	3 (6.5)
Other	0 (0.0)	2 (4.3)
Own/Have following objects (%)		
Bank account	26 (57.8)	15 (32.6)
Radio	29 (64.4)	24 (52.2)
Cell phone	25 (55.6)	27 (58.7)

généocidaires were male. The mean age for survivors was 59.8 years and 56.4 years for génocidaires. The highest level of education for the majority was primary school (65.9% of survivors and 52.3% of génocidaires). Most génocidaires were married and currently living with their spouses (93.4%), and this was less so the case for survivors (46.6%). Financially, 56.8% of survivors and 31.8% of génocidaires owned bank accounts (See Table 2 for other demographic characteristics). Survivors reported various exposure to genocide events before, during, and after the genocide. All of the survivors reported that they hid to protect themselves during the genocide and 97.7% believed they would die. Most survivors saw dead or mutilated bodies during the genocide (93.2%) and witnessed someone being killed during the genocide (86.4%). The mean number of traumatic events experienced by the survivors during the genocide was 8.07.

Intervention Activities

After 14 months (Time₆), most cell group participants (median number in each group = 22) reported attending 2-hour meetings that occurred once a month. During the meetings, they discussed practical ways to support each other (e.g., advising on domestic conflict, financially

Table 3 Cell group activities After 14 months of intervention (Time₆)

Cell group activity	Survivors $N = 45$	Génocidaires $N = 46$
	Yes (%)	Yes (%)
Can the majority of cell group members be trusted?	42 (93.3)	42 (91.3)
Do the majority cell group members get along with each other?	43 (95.5)	43 (93.4)
Do you feel you are really a part of the cell group?	45 (100.0)	45 (97.8)
Would the majority of cell group members take advantage of you?	9 (20.0)	9 (19.5)
In the past 2 months... If you requested material support, would cell group members give it to you?	42 (93.3)	42 (91.3)

supporting families affected by illness, and developing a savings cooperative) and applied principles they learned in workshops (e.g., stopping “bad thoughts”; understanding difference between violence and conflict). Survivors and génocidaires described their participation and fellow cell group members favorably, indicating mutual trust and practical support among the members (See Table 3).

After 22 months (Time₇), dyads who received cows visited each other’s homes in the past 2 weeks (mean = 5.26 times), and their respective family members spent a mean of 3.04 hours together. During these visits they engaged in joint activities such as cleaning the cow shed, purchasing feed, feeding and cleaning the cow, and taking care of sick cows.

Intervention Outcomes

Outcomes measure scores for survivors ($n = 45$) and génocidaires ($n = 46$) from Time₁ to Time₇ are presented in Tables 4 and 5, respectively. Table 6 showed the bootstrapped confidence intervals (CI) for the various program effects, with CI in bold indicating some evidence of change (most of the CI not containing zero). Overall, survivors and génocidaires reported change in every outcome measure after 22 months (T₇–T₁) in the direction we hypothesized with the exception of dispositional forgiveness for génocidaires (CI = -29.44, -21.37). After participating in the workshops (T₂–T₁), survivors reported more willingness to reconcile and interact with génocidaires, more positive beliefs about génocidaires, and less traumatic stress symptoms. Génocidaires reported higher perceived forgiveness by others and notably lowered disposition to forgive themselves, others, and situations (CI = [-30.26, -22.52] with a possible range of 18–126).

Following the start of cell groups, survivors reported less willingness to reconcile with génocidaires. There

Table 4 Description of measures for survivors (Means and Standard Deviations)

	Time 1 N = 45	Time 2 N = 45	Time 3 N = 45	Time 4 N = 45	Time 5 N = 45	Time 6 N = 45	Time 7 N = 44
Traumatic stress ^a	30.11 (5.68)	22.31 (4.71)	22.07 (6.11)	21.80 (5.20)	22.20 (6.09)	18.98 (5.83)	19.34 (4.48)
Readiness to reconcile ^b	74.24 (7.02)	80.09 (5.97)	78.40 (4.64)	76.02 (7.34)	75.64 (5.84)	79.78 (5.82)	80.55 (5.49)
Stressors attributed to genocide ^c	31.04 (2.09)	–	28.76 (2.42)	29.27 (4.16)	27.91 (4.35)	28.22 (4.48)	28.93 (4.54)
Beliefs about outgroup ^d	13.76 (1.85)	15.96 (2.42)	15.56 (1.99)	15.49 (1.87)	16.27 (1.78)	15.58 (2.12)	15.48 (1.65)
Social distance ^e	14.27 (3.26)	16.84 (3.27)	17.07 (3.07)	17.49 (2.84)	17.64 (2.19)	16.71 (2.51)	16.73 (2.54)

^aRange = 10–50 with higher scores indicating more trauma symptoms.

^bRange = 45–225 with higher scores indicating more readiness to reconcile with génocidaires.

^cRange = 9–36 with higher scores indicating higher attribution of societal problems to the genocide.

^dRange = 5–25 with higher scores indicating more positive beliefs about génocidaires.

^eRange = 6–24 with higher scores indicating more willingness to interact with génocidaires.

Table 5 Description of variables for génocidaires (Means and Standard Deviations)

	Time 1 N = 46	Time 2 N = 46	Time 3 N = 46	Time 4 N = 46	Time 5 N = 46	Time 6 N = 45	Time 7 N = 46
Traumatic stress ^a	24.26 (6.32)	22.33 (5.51)	21.89 (6.17)	18.98 (4.41)	19.11 (4.63)	17.71 (5.18)	16.09 (3.58)
Stressors attrib. to genocide ^b	25.39 (4.23)	–	24.04 (3.74)	23.52 (5.18)	22.87 (4.67)	21.36 (5.40)	21.43 (5.35)
State shame guilt ^c	55.54 (12.71)	53.74 (14.89)	49.00 (14.43)	46.02 (12.13)	48.61 (13.03)	40.31 (8.69)	–
Dispositional forgiveness ^d	84.76 (11.79)	58.20 (6.69)	61.22 (6.58)	59.35 (9.98)	63.74 (10.82)	60.89 (8.56)	59.20 (12.11)
Perceived forgiveness by others ^e	67.13 (12.22)	75.48 (6.47)	75.80 (8.42)	74.72 (8.69)	79.13 (8.27)	78.53 (5.88)	78.00 (8.16)
Self-forgiveness ^f	37.22 (12.42)	41.33 (15.21)	41.15 (15.09)	46.83 (14.09)	46.78 (15.05)	53.09 (10.14)	–

^aRange = 10–50 with higher scores indicating more trauma symptoms.

^bRange = 9–36 with higher scores indicating higher attribution of societal problems to the genocide.

^cRange = 15–75 with higher scores indicating greater guilt and shame.

^dRange = 18–126 with higher scores indicating higher disposition to forgive others, situations, and self.

^eRange = 12–84 with higher scores indicating greater perceived forgiveness by others.

^fRange = 17–68 with higher scores indicating higher self-forgiveness.

Table 6 Bootstrapped confidence intervals (95 % Level) for changes in outcome measures by program interventions

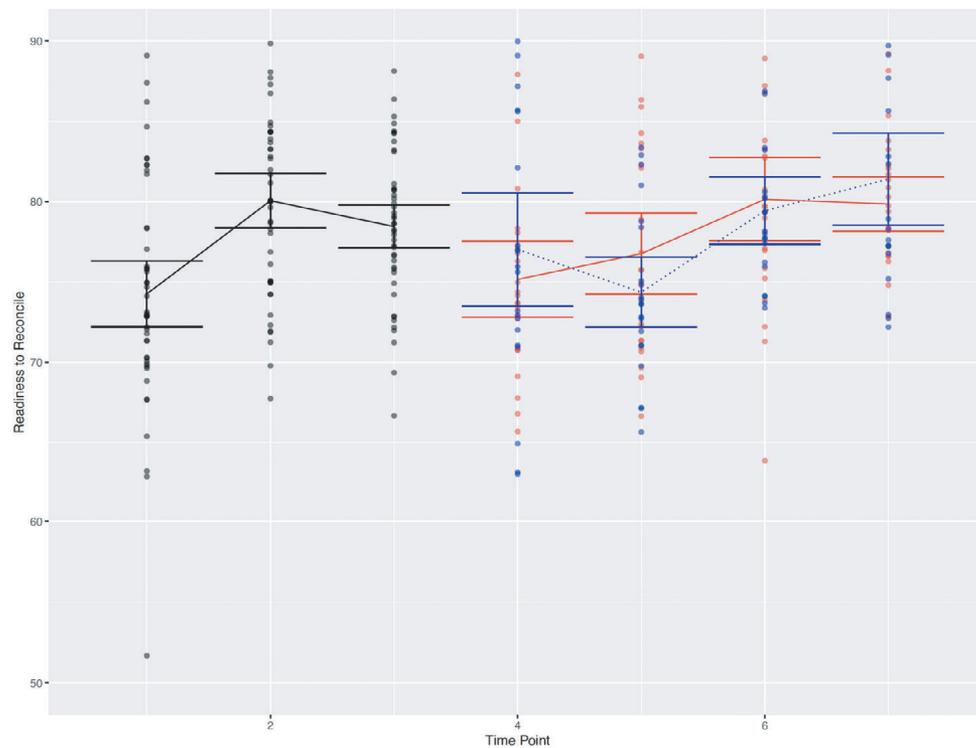
	Workshop T2–T1	Cell group T4–T2	Cell group (Cell) and cow raising (Cow) T7–T4		Overall effect T7–T1
			Cell only	Cow + cell ^a	
Survivors					
Readiness to reconcile	(3.33, 8.27)^b	(–6.49, –1.50)	(–0.10, 8.87)	(1.46, 7.93)	(3.85, 8.77)
Beliefs about outgroups	(1.39, 3.00)	(–1.27, 0.34)	(–0.97, 0.93)	(–0.75, 0.77)	(1.14, 2.31)
Social distance	(1.41, 3.74)	(–0.55, 1.84)	(–1.34, 1.34)	(–2.68, –0.09)	(1.51, 3.46)
Traumatic stress	(–9.78, –5.81)	(–2.29, 1.32)	(–6.03, –0.09)	(–4.09, 0.12)	(–12.69, –8.80)
Génocidaires					
State shame and guilt	(–5.69, 1.92)	(–11.99, –3.97)	(–13.11, –3.15)	(–8.27, 0.70)	(–18.76, –11.88)
Dispositional forgiveness	(–30.26, –22.52)	(–2.48, 4.82)	(–4.55, 7.22)	(–5.60, 3.13)	(–29.44, –21.37)
Perc forgive by others	(4.19, 12.37)	(–3.38, 2.09)	(–0.72, 9.41)	(–2.03, 6.72)	(6.83, 14.95)
Self-forgiveness	(–0.05, 8.37)	(1.24, 10.12)	(4.57, 17.74)	(–3.46, 7.99)	(11.49, 20.57)
Traumatic stress	(–3.93, 0.01)	(–4.77, –2.03)	(–4.80, –1.31)	(–4.44, –1.12)	(–10.27, –6.26)

^a24 Survivors and 25 Génocidaires received cows.

^bConfidence intervals in bold are statistically significant ($p < .05$).

was no evidence of other outcome changes for survivors during this period (T4–T2). Génocidaires in cell groups reported less shame and traumatic symptoms, and higher self-forgiveness—changes that were not evident immediately after the workshops. Between T1 and T4, thus far, participants reported outcomes in the

expected direction (except for génocidaire dispositional forgiveness) following the workshops *or* cell groups, but not both. Survivor's readiness to reconcile was the only outcome that changed significantly—that is, readiness improved after workshops and worsened after cell groups.



Note: Red Straight Line: Cow + Cell Group; Blue Dotted Line: Cell Group. Data points were jittered for visibility

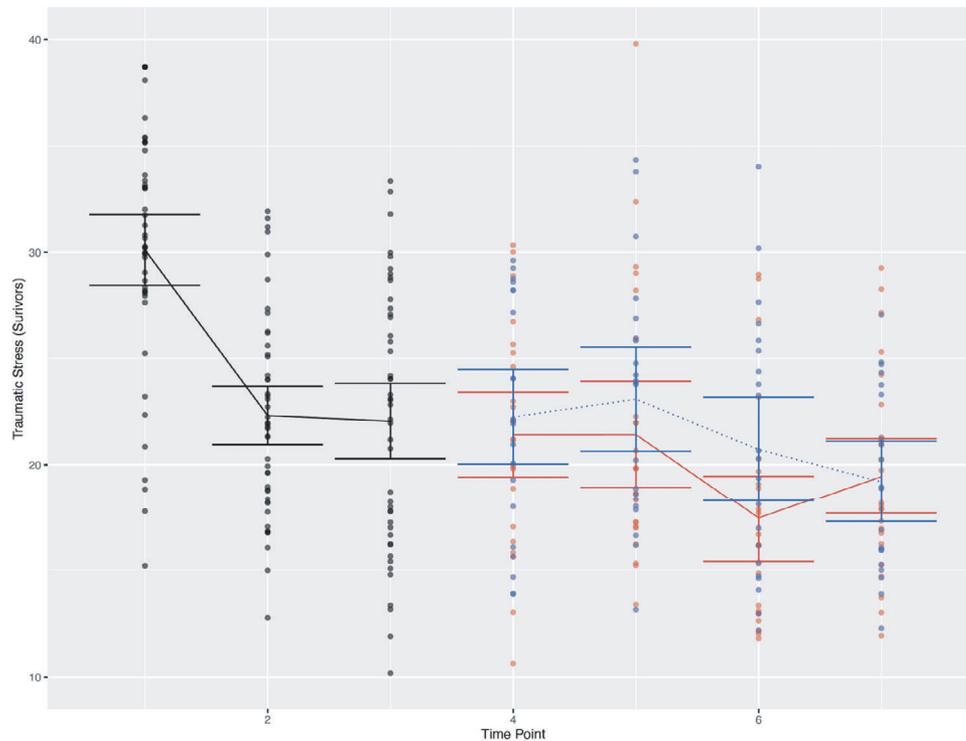
Fig. 1 Survivor Readiness to Reconcile Time Point Means and Confidence Intervals (T1–T7). Note. Red: Cow + Cell Group; Blue: Cell Group. Data points were jittered for visibility.

Outcomes for participants in cell groups who received cows ($n = 49$; 24 survivors and 25 génocidaires)⁵ in month 8 of the intervention (cooperative cow raising) were compared to those in cell groups who did not receive cows ($n = 42$). The génocidaires who received cows were all males and the survivors were divided between female ($n = 14$) and males ($n = 11$). The results from this period (T4 to T7) indicated no change in outcomes for survivors and génocidaires who jointly raised a cow. This suggested that changes reported after the workshop and cell groups were maintained. There were however three exceptions. First, survivors who participated in cooperative cow raising were more ready to reconcile compared to their cell group counterparts who did not receive cows (CI = 1.46, 7.93). Second, génocidaires in cell groups who did not receive cows reported less shame and more self-forgiveness than génocidaires who received cows—an unexpected finding. The third exceptional finding during this period (T4 to T7) was that traumatic stress

symptoms declined for génocidaires regardless if they received a cow. This was not the case for survivors.

Figures 1–3 are examples of how outcomes change over the course of the intervention (T1 to T7) by depicting mean scores and CI for select measures - readiness to reconcile (for survivors) and traumatic stress symptoms (for survivors and génocidaires). Several observations from these examples are noteworthy. First, although survivors and génocidaires reported favorable changes after 22 months (T7–T1), the changes followed a less straightforward course between T1 and T7. Consider, for example, that despite survivors' increased readiness to reconcile with génocidaires after 22-months (T7–T1) as shown in Fig. 1, their readiness *decreased* significantly when they participated in cell groups (T4–T2), after initially *increasing* after the workshops (T2–T1). Second, outcomes for survivors and génocidaires followed a different course between T1 and T7. Figures 2 and 3, for example, showed that traumatic stress significantly decreased after workshops (T2–T1) for survivors but not for génocidaires. In contrast, génocidaires reported significantly less traumatic stress after cell groups (T4–T2) while no significant change was evidenced by survivors.

⁵ Although one survivor who received a cow did not complete all the interviews, the génocidaire in this dyad was included in the analysis.



Note: Red Straight Line: Cow + Cell Group; Blue Dotted Line: Cell Group. Data points were jittered for visibility

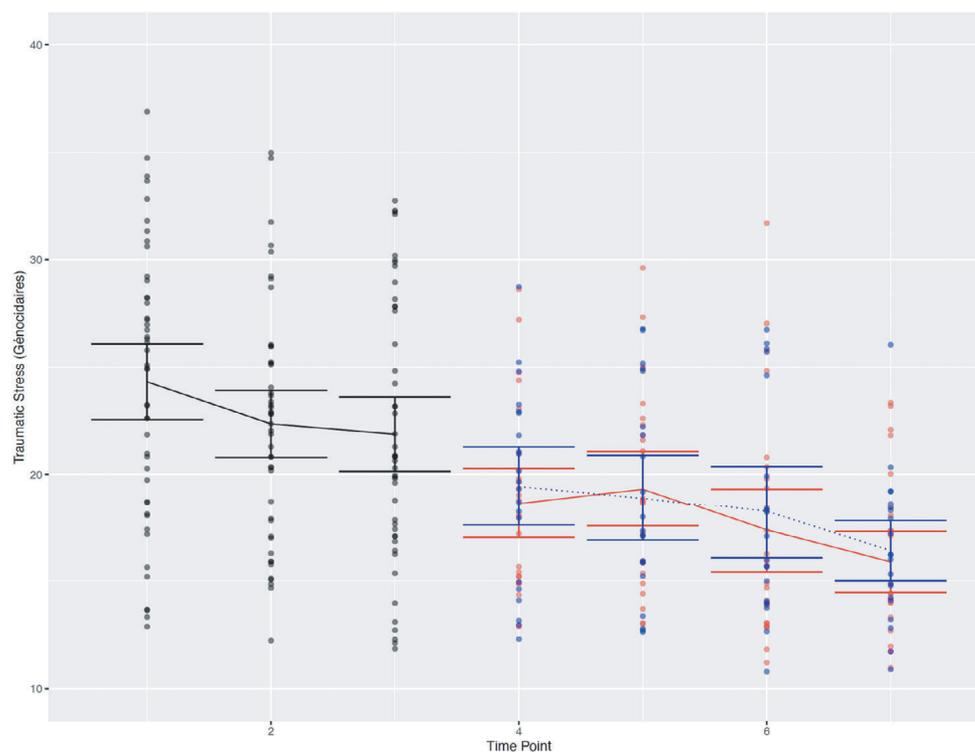
Fig. 2 Survivor Traumatic Stress Time Point Means and Confidence Intervals (T1–T7). Note. Red: Cow + Cell Group; Blue: Cell Group. Data points were jittered for visibility.

Discussion

The well-established need to reduce vestiges of conflict in communities long after a genocide calls for evaluating the outcomes for peace-building programs over time (Maoz, 2004). To address this, we measured the outcomes of a peace-building intervention among 46 génocidaires and 45 survivors at 7-time points over the course of 22 months. Our findings showed that fostering purposeful interactions among génocidaire-survivor dyads decades after the *1994 Genocide Against the Tutsi* with the goal of reducing intergroup conflict required developing individual skills and practically applying those skills in common cooperative work situations. Also highlighted was that the trajectories of individual and interpersonal outcomes differed for survivors and génocidaires, thus emphasizing the importance of considering the course or “shape” of change for participants. Several findings regarding the outcome trajectories are noteworthy.

First, survivors and génocidaires regarded themselves and those who directly impacted them during the genocide more positively after 22-months of interacting with each other in various ways—meeting and formally recognizing

their respective roles in the genocide for the first time during the workshops, cell group meetings in their communities, and cooperative cow raising. A notable long-term outcome was less traumatic symptoms regardless of participants’ role in genocide events. Despite their different trajectories, both survivors and génocidaires experienced significant decline in trauma symptomatology, suggesting that the deleterious effects of trauma do not necessarily disappear with the passage of time. The violence and uprooting of whole populations irrevocably altered the social fabric of Rwanda such that everyone directly exposed to the genocide—as survivors, génocidaires, or bystanders—are *susceptible* to some form of post-traumatic stress response. This was supported by previous studies that indicated PTSD rates ranging from 14% among survivors to 46% among génocidaires (Schaal & Elbert, 2006; Schaal et al., 2012). Although the overall intervention under study was not trauma focused per se, it was notable that varying types and degrees of purposeful contact between survivors and génocidaires over time lowered the frequency of trauma symptoms. This builds upon emerging research that supports the coupling of cognitive-behavioral and social networking of continuous



Note: Red Straight Line: Cow + Cell Group; Blue Dotted Line: Cell Group. Data points were jittered for visibility

Fig. 3 Génocidaires Traumatic Stress Time Point Means and Confidence Intervals (T1–T7). Note. Red: Cow + Cell Group; Blue: Cell Group. Data points were jittered for visibility.

trauma-focused interventions (Ibrahim, Ashby, Omidy, & Lewandowski, 2015)—the implications of which warrant further investigation in a Rwandan context.

Second, survivors and génocidaires responded to programmatic components (workshops, cell groups, cooperative cow raising) differently, as evidenced by positive outcomes at varied time points. Shortly following the workshop (Time₂), for example, génocidaires did not report any significant decline in trauma symptoms, shame, or self-forgiveness. However, significant change was evident much later after they had participated in cell groups for 4-months (Time₄). This contrasted with the trajectory of outcomes for survivors who reported positive outcomes (i.e., higher readiness to reconcile, more positive beliefs, less trauma, and more willing to interact with génocidaires) after the workshops (Time₂). Collectively these findings suggested that intergroup contact could affect inter- and intra-group differently for those in conflict, indicating a “contact threshold” or temporal point at which positive outcomes of intergroup contact are optimal (MacInnis & Page-Gould 2015). Of relevance to this point is Litz et al.’s (2009) concept of moral injury that proposed how transgression of “deeply held moral beliefs and expectations” (p. 700) heightens perpetrators’ guilt and shame. Moral injury interventions therefore focus on

fostering corrective interactions with others that allow perpetrators to re-appraise their punitive self-perceptions.

Previous empirical studies on intergroup contact further suggested that the duration and quality of contact coupled with individual characteristics bear significantly on the outcomes when conflicting groups interact with each other (West & Dovidio, 2013). In the current study, interacting with individuals they harmed potentially stirred dormant feelings for génocidaires that required more time to process—time that was afforded during the cell group meetings. These feelings included a willingness to forgive themselves as well as situations and others. This reasonably explained significantly lower scores on dispositional forgiveness among génocidaires after the workshops (Time₂). During the workshops, many génocidaires’ interactions with survivors conceivably triggered bitterness about broader socio-political circumstances that influenced their regrettable actions during the genocide and resulted in their prison sentence (Scull et al., 2016).⁶ Similarly for survivors, after an impressive increase in their willingness

⁶ Items on the *Heartland Forgiveness Scale* that captured this included “If I am disappointed by uncontrollable circumstances in my life, I continue to think negatively about them”; “I eventually make peace with bad situations in my life.”

to reconcile with *généocidaires* immediately after the workshops (Time₂), there was evidence of a significant decline after their participation in cell groups for 4-months—nearly to their baseline scores (Time₁). Overall, both these findings empirically highlight that fostering contact between survivors and *généocidaires* over time can agitate different negative thoughts and feelings without necessarily changing the new narrative of forgiveness and reconciliation (Thompson et al., 2005). This raised a third noteworthy finding about the outcome trajectories.

Cell group interactions *sustained* some positive outcomes after the workshops and *further improved* others. Specifically, significant changes in *généocidaires*' dispositional and perceived forgiveness of others, and survivors' beliefs about and willingness to interact and reconcile with *généocidaires* after the workshop were sustained for 20 months. However, *généocidaires*' self-forgiveness *continued to increase* in addition to evidence of decreased trauma symptoms for both survivors and *généocidaires* over the course of their 20-month participation in cell groups. Collectively, these findings suggest the importance of preparing survivors and *généocidaires* with requisite awareness and skills to meaningfully interact and participate in communal life. Merely bringing groups in conflict together without a framework for engagement may curtail potential benefits. In our study, the workshops focused on raising awareness and building skills to cope with trauma contextualized in a Judeo-Christian framework of forgiveness of self and others. Further studies are advised to similarly identify a tailored skillset (cognitive and skills) that will prepare groups for planned contact interventions that is contextualized to specific circumstances.

Lastly, survivors who participated in cell groups and raised cows with *généocidaires* demonstrated further willingness to reconcile compared to survivors who participated in cell groups alone. The immediate benefits of raising a cow on their property may have partially explained this finding. However, the lack of support for the additive impact of cooperative cow raising for survivors and *généocidaires* underscored the importance of participant roles and motivation in contact interventions. Not having immediate access to the cow and the delayed award of receiving a newborn calf may have dampened benefits for *généocidaires*, which conceivably lessened the average quality of intergroup interactions (MacInnis & Page-Gould, 2015). In fact, survivors and *généocidaires* reported less contact with each other when taking care of their cow than we anticipated. Previous studies also emphasized the importance of “symmetrical contact” characterized by equal and evenly shared power between participants when they pursued a common goal (Maoz, 2004). In our study, survivors in the dyad arguably wielded more power than *généocidaires* because they could

extend or withhold forgiveness of their direct perpetrator (Karremans & Smith, 2010; Yao & Chao, 2019). Does such a power imbalance, albeit slight, influence how survivors and *généocidaires* interact with each other (Barnes-Ceeney, Gideon, Leitch, & Yashuhara, 2019)? If so, what is optimal engagement when contact is not symmetrical based on gender (half of the dyads who received cows were cross-gender) or the roles one played in the genocide? Can the lack of additive benefit be accounted for by a “saturation” point when the demands of cooperative cow raising become too overwhelming given the cost and limited availability of land (Hahirwa & Karinganire, 2017; Kayigema & Rugege, 2014)? Moreover, will these demands possibly strain interactions between the dyads over time or “inoculate” them from negative outcomes?⁷ Our findings invite further exploration of these questions.

Limitations

Several limitations of this study are noteworthy. First, our quantitative findings did not adequately capture the participants' experiences of the encounters with depth. This lack of “thick description” limited our understanding of the wide range and quality of encounters between survivors and *généocidaires* in cell groups and joint cow-raising activities. A bottom-up approach to highlighting participants' perspectives on contact is imperative to capture the nuances of ordinary human contact and how it shapes interpersonal outcomes (Dixon, Durrheim, & Tredoux, 2005).

This raised a second study limitation related to outcome selection. Statistics/confidence intervals regarding outcomes with questionable reliabilities (i.e., State Shame and Guilt and Beliefs About Outgroup) should be interpreted with caution. Moreover, the primary outcomes of our study focused on individual attitude and perceptions of outgroup. We agree with Dixon et al. (2005) that “broader patterns of intergroup relations” (p. 9) are necessary to capture the nuance of transforming conflict through contact. Building on the findings of this study, future research can address the potential reach of conflict reduction on participants' families and communities. How are members of a survivor's household, for example, affected when a *généocidaire* visits their home to help build a cow shed? Similarly, how do families of *généocidaires* respond when they receive cow milk from the survivor? Do neighbors' perceptions of survivors and *généocidaires* shift when they witness cell group members gathering each month?

Another pattern of intergroup relations to consider is the “gendering of the Rwandan genocide” (p. 89, Jones,

⁷ Posed by an anonymous reviewer for this article (March 2020)

2002). Traditional masculine gender roles, the disproportionate number of females who survived the genocide, and the subsequent increase in female-headed households carry significant implications for understanding how gender possibly shapes the course and relational outcomes of interactions between survivors and génocidaires. In this study, nearly half of the survivors in the dyads were female and all the génocidaires were male. The extent to which intervention outcomes may differ between cross- and same-gender dyads warrants further exploration with a more substantive sample.

The third limitation of our study is the non-experimental design. Inclusion of a randomly selected comparison group would have allowed us to determine impact estimates of our intervention with more accuracy and control for potential extraneous variabilities. However, our longitudinal matched-pairs study design allowed for the reduction of person-to-person variability and different individual biases between survivors and génocidaires (Wackerly, Mendenhall, & Scheaffer, 2014).

Notwithstanding these limitations, this longitudinal study contributes to an impressive corpus of research on intergroup contact theory by empirically demonstrating the long-term benefits of a local peace-building intervention. Our findings support the merits of promoting varied forms of intergroup interactions long after a period of intense violence. As a result, the positive outcomes of collective skills building were sustained at minimal and strengthened at best for select outcomes. Collectively, our findings underscored that peace-intervention outcomes and its trajectories are both essential for refining program and theory.

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Conflict of Interest

Authors have no potential conflict of interest pertaining to this submission to *American Journal of Community Psychology*.

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