Intergenerational impacts of trauma and hardship through parenting

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Background: Millions of people worldwide experience severe trauma in their lifetime. Trauma has immediate and long-term effects on emotional wellbeing. Moreover, the experiences of one generation may influence subsequent generations via social and biological pathways. Poor mental health and emotion dysregulation associated with trauma may affect parenting behaviours, which may have long-lasting effects on children's development. **Methods:** We use longitudinal data from a unique sample of 732 caregivers of children aged 6–36 months living in extremely poor rural households in Rwanda to examine associations of caregiver lifetime trauma, recent daily hardships, mental health, and emotion dysregulation with parenting behaviours reflecting parental acceptance and rejection of their offspring. **Results:** Cumulative trauma exposure ($\beta = .234$, $p < .001$) and recent daily hardships ($\beta = .323$, $p < .001$) are associated with higher levels of internalising symptoms. Trauma ($\beta = .257$, $p < .001$) and daily hardships ($\beta = .323$, $p < 0.001$) are also associated with post-traumatic stress disorder (PTSD) symptoms. Internalising symptoms predict more rejection ($\beta = .177$, $p = .001$), but show no association with acceptance. Caregiver PTSD symptoms predict more rejection ($\beta = .277$, $p < .001$) and less acceptance ($\beta = -.190$, $p = .003$). Both internalising symptoms ($\beta = .557$, $p < .001$) and PTSD symptoms ($\beta = .606$, $p < .001$) are strongly associated with poor emotion regulation. Indirect effects suggest that caregiver trauma and hardships affect parenting indirectly via elevated caregiver internalising symptoms and PTSD and that some of these effects are accounted for by emotion dysregulation. **Conclusions:** Caregiver internalising and PTSD symptoms are important mechanisms through which caregiver trauma and hardship affect parenting behaviours. Emotion dysregulation is a shared mechanism linking caregivers' mental health problems with parenting behaviours that reflect acceptance and rejection of the child. Emotion regulation is indicated as a key target for prevention of adverse effects of caregiver trauma on mental health and child wellbeing. **Keywords:** Parenting; trauma; post-traumatic stress disorder; internalising disorder; emotional dysregulation.

Introduction

Every day millions of people worldwide experience severe trauma. Common traumatic experiences include collective experiences such as community violence, war, and natural disasters as well as individual trauma such as personal assault, gender-based violence, and domestic violence. Effects of trauma on health and emotional wellbeing can be long-lasting, and increase the risk of depression, anxiety, and post-traumatic stress disorder (PTSD) (Espié et al., 2009). Beyond the immediate devastating consequences to the individual, trauma may also affect the wider family system and impact the development and emotional wellbeing of subsequent generations. Studies of war-affected populations have found that the mental health of parents correlates with the mental health of offspring who were not directly exposed to war. A study from Rwanda found that offspring of genocide-exposed mothers exhibited high rates of PTSD symptoms and that children of mothers with more severe trauma exposure had the highest rates of PTSD (Mutuyimana et al., 2019). A study from Sierra Leone found that

internalising disorder in war-exposed caregivers was associated with internalising symptoms in their offspring (Betancourt, McBain, Newnham, & Brennan, 2015), and a study of Holocaust survivors found that parental PTSD was associated with offspring PTSD, while parental trauma was associated with offspring depression (Yehuda, Halligan, & Bierer, 2001). We proposed to examine psychosocial pathways whereby trauma and stress affect caregivers' mental health and emotion regulation, which in turn affects parenting behaviours and contributes to the intergenerational transmission of trauma.

Caregiver mental health problems are associated with poorer emotional and developmental outcomes in children and this association has been attributed, in part, to differences in the ways in which caregivers with or without depression interact with their offspring. Mothers who experience depression are more likely to be irritable, less engaged, express less warmth, and initiate fewer playful interactions with their children, compared with nondepressed mothers (Lovejoy, Graczyk, O'Hare, & Neuman, 2000). Insensitivity and absence of caregiver–child interactions impede on children's opportunities to develop cognitive and language skills and to practise self-regulation and social engagement with caregivers.

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Effects of parental PTSD on parenting are less widely investigated, but studies of previously deployed military parents have found that parental PTSD is associated with poor child outcomes including increased internalising problems such as depression (Herzog, Everson, & Whitworth, 2011) and poor socioemotional adjustment (Lester et al., 2016). A recent review highlighted three categories of PTSD symptoms that may interfere with responsive parenting: caregiver avoidance symptoms that interfere with participation in parent-child activities, emotional disturbances such as blunted positive emotions and increased anger, conflict, and distress that interferes with affective engagement and expression of warmth (Creech & Misca, 2017).

In this paper, we use a unique sample of caregivers from rural Rwanda who belong to the poorest socioeconomic stratum according to Rwanda's poverty ranking system, many of whom were children or young adults during the 1994 genocide. We explore a theoretical model whereby lifetime trauma and current hardship may impact parenting behaviours both directly and indirectly via poor caregiver mental health and emotion dysregulation (Figure 1). We model effects of exposure to severe lifetime trauma events as well as more common recent daily hardships since both distal and recent experiences of profound stress may influence the mental wellbeing and emotion regulation of caregivers living in severe poverty. The distinction between lifetime trauma and recent daily hardship is important because such experiences may have differential effects on caregiver mental health. For example, lifetime trauma may be more likely to cause PTSD symptoms while recent daily hardship may be more likely to cause internalising symptoms. We also explore whether effects of lifetime trauma, recent daily hardships, and mental health problems on parenting behaviours are driven by caregiver emotion dysregulation that interferes with caregivers' ability to engage in warm parenting behaviours. Emotion dysregulation has been proposed as a unifying behavioural symptom underlying both internalising disorders and PTSD within the National Institute of Mental Health's Research Domain Criteria (RDoC) framework, which seeks to identify basic dimensions of symptoms that function as cross-cutting mechanisms underlying mental illness (Fernandez, Jazaieri, & Gross, 2016).

Understanding specific mechanisms through which adverse experiences of one generation may influence the next generation can help guide treatment and policies to support individuals exposed to severe trauma and hardship, such as those living in severe poverty, displaced as refugees, or directly exposed to violent conflict. Identification of emotion regulation as a unifying symptoms is of particular interest because emotion regulation can be addressed using common-elements of evidence-based intervention models tested with traumatised populations.

Methods
Sample and procedures

We use data from control (i.e., untreated) families enrolled in a cluster randomised effectiveness trial for Sugira Muryango, a family-based home-visiting intervention to promote early childhood development among families in Rwanda (Betancourt et al., 2020). All participating families belonged to the most extreme level of poverty in the Rwandan government's household-ranking system and had at least one child aged 6–36 months. We focus on caregivers from the control families because the intervention is expected to influence variables included in the models. The analytic sample consisted of $n = 732$ primary and secondary caregivers. We define caregivers as those who are most involved in parenting practises, including parents, grandparents, and others. Primary caregivers ($n = 508$) are those who stated that he or she knows the child best, most often the biological mother (89%). Secondary caregivers ($n = 224$) were caregivers who resided with the primary caregiver, most commonly the biological father (95%). Of the $n = 732$ caregivers enrolled at baseline, 715 (98%) were retained at the second wave. All caregivers gave informed consent to participate. All procedures were approved by the Harvard T. H. Chan School of Public Health and Boston College Institutional Review Boards, the Rwanda National Ethics Committee, National Institute of Statistics of Rwanda, and the Rwandan National Commission for Science and Technology.

Measures

Data were collected over two waves; baseline 'T1' and a follow-up 'T2' conducted four months later. Questionnaires were drawn from pilot work and translated from English to Kinyarwanda following forward- and back-translation protocols (Betancourt et al., 2011) and administered through oral interviews. Results from all Confirmatory Factor Analyses are provided in Appendix S1.

Lifetime trauma. Lifetime trauma events were assessed using items from an events checklist previously used to access war-related trauma in Rwandese refugees living in Uganda (Onyut et al., 2009). We assessed exposure to five trauma events at T1 using retrospective reports of lifetime occurrences. Trauma exposures were summarised into a cumulative score ranging from 0–5. Prevalence rates for specific events and distributions across the cumulative score are found in Table 1.

Recent daily hardships. Recent daily hardships were assessed using seven items from an adapted version of the Post-War Adversities Index, developed to assess daily hardships facing youth in postconflict settings (Layne, Stuvland, Saltzman, Djapo, & Pynoos, 1999). Daily hardships at T1 referred to a 6-month recall period and a 3-month recall period at T2. Daily hardships were summed into a cumulative score ranging from 0–7. See Table 1 for details.

Caregiver internalising symptoms (anxiety and depression). Internalising symptoms were measured at T1 using the 25-item Hopkin's Symptoms Check List (HSCL), which has previously been used and validated in Rwanda (Bolton, 2001). The HSCL assesses the severity of symptoms related to anxiety and depression using items on a four-point scale ranging from 'Not at all' to 'Extremely'. The scale showed good internal reliability ($\alpha = 0.892$). Severity of internalising symptoms was modelled as a latent variable.

Caregiver post-traumatic stress symptoms. Caregivers' PTSD symptoms were assessed at T1 using the PTSD
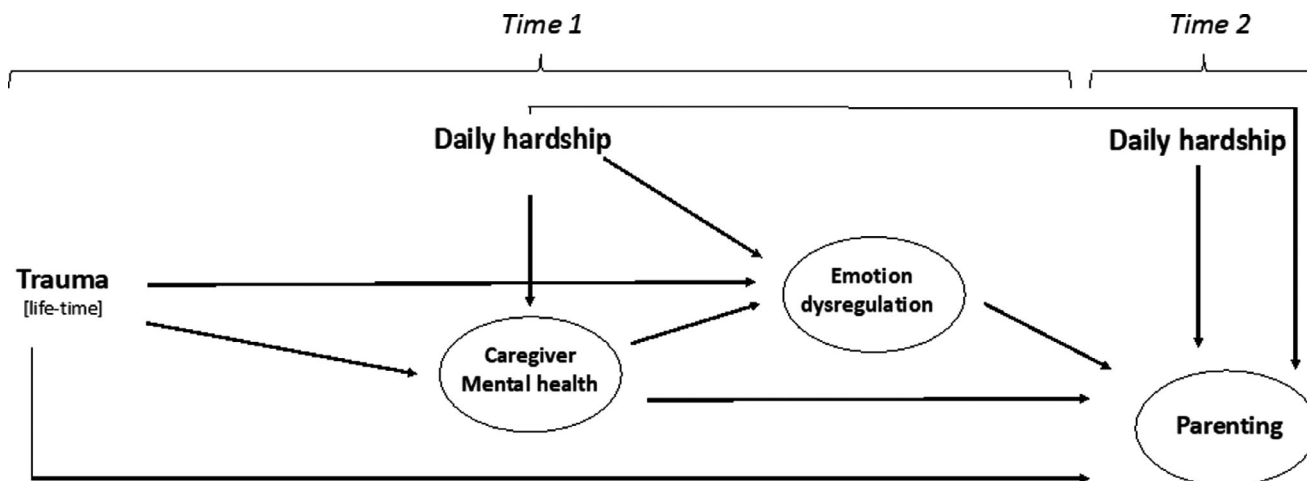
Figure 1 Theoretical model

Checklist-Civilian Version (PCL-C) (Conybeare, Behar, Solomon, Newman, & Borkovec, 2012), which has been validated in Rwanda (Fodor, Pozen, Ntaganira, Sezibera, & Neugebauer, 2015). The PCL-C is a 17-item measure that assesses DSM-IV defined PTSD symptoms. It uses a five-point scale ranging from 'not at all' to 'extremely'. The scale showed good internal reliability (α = .919). Severity of PTSD symptoms was modelled as a latent variable.

Emotion dysregulation. Emotion dysregulation was assessed at T1 using an abbreviated version of the Difficulties in Emotion Regulation Scale (DERS) (Gratz & Roemer, 2004), which assesses difficulties in emotion regulation related to poor awareness and understanding of emotions, poor acceptance of emotions, difficulties engaging in goal-directed behaviour, difficulties refraining from impulsive behaviour when experiencing negative emotions, and poor access to effective emotion regulation strategies. We used a 24-item version that excluded items that had been found to show low item-total correlations in our pilot study in Rwanda. This version excluded all positively worded items and represents all subscales except for the 'awareness' subscale, which is in line with several other studies that have found the awareness subscale to be least associated with the overall DERS score (Bjureberg et al. 2017; Neumann, van Lier, Gratz, & Koot, 2010). The response scale indicates how frequently an item applies to the respondent using a five-point scale ranging from 'almost never' to 'almost always'. The abbreviated DERS showed good internal reliability (α = .955). We created a latent variable for emotion dysregulation.

Parenting—acceptance and rejection. Parenting behaviours were assessed using the short (24-item) parent-report version of the Parental Acceptance-Rejection Questionnaire (PARQ) (Rohner & Khaleque, 2005). The PARQ measures expressions of acceptance and rejection in parents' behaviours towards their offspring. The PARQ was selected because of good alignment with parenting constructs assessed qualitatively in Rwanda. The core dimensions of the PARQ have been found to represent a parenting style that consistently predicts adverse child outcomes, including socioemotional maladjustment, internalising and externalising problems, and poor school performance (Ali, Khaleque, & Rohner, 2015; Khaleque & Rohner, 2012; Putnick et al., 2015). For each item, parents report on their behaviour towards the child using a four-point scale ranging from 'almost never true' to 'almost always true'. The PARQ is traditionally used to create a total summative score reflecting a continuum of caregiver 'acceptance-rejection'

but also has four subscales referred to as 'warmth/affection', 'hostility/aggression', 'indifference/neglect' and 'undifferentiated rejection'. We tested a one-, two- and four-factor structure using confirmatory factor analysis and found that the best-fitting model was a two-factor solution with positively worded items loading on one factor and negatively worded items loading on another. Fit information for the one- and two-factor solutions is provided in Appendix S1. A similar two-factor structure has been reported previously and suggested to reflect separate dimensions for 'acceptance' and 'rejection' (Rohner & Khaleque, 2005). The constructed acceptance and rejection scales also showed acceptable internal reliability (α = 0.698 and α = 0.727, respectively), and each construct was modelled as a latent variable.

Data analysis

Longitudinal models predicting parenting behaviours were estimated using structural equation modelling (SEM) in Mplus version 7.4 (Muthén & Muthén, 2015). We used full information maximum likelihood estimation with robust standard errors (MLR) to account for data missingness and non-normality across the indicators. We included respondents with missing data because listwise deletion of cases with incomplete data can increase sample bias (Enders, 2010). Model fit for the measurement models and SEMs was assessed using the following criteria: χ^2 p > .05, RMSEA < 0.06, SRMR < 0.08 and CFI > 0.90 (Hu & Bentler, 1999; Kline, 2011). We note that across all models, the χ^2 was found to significant (p < .05), which is likely attributable to the large sample size.

Model building strategy. Given the overlapping nature of symptoms assessed in the HSCL (internalising) and PCL-C (PTSD), we estimated two sets of models defining caregiver mental health problems as either internalising symptoms (Figure 2) or PTSD symptoms (Figure 3). The following model building strategy was applied for each model: (Step a) an SEM examining effects of lifetime trauma and daily hardship on caregiver mental health (internalising or PTSD symptoms) and parenting behaviours (acceptance and rejection). (Step b) extended SEM with emotion dysregulation added as a link between caregiver mental health and parenting behaviours. Indirect effects are outlined in Table 3 and were modelled using the MODEL INDIRECT command in Mplus. Because parenting behaviours of parental caregivers may differ from that of other caregivers we ran sensitivity analyses in which we excluded the 53 grandparents.

Table 1 Descriptive statistics for study population

	Descriptive statistic
Caregiver characteristics	
Age: [m ean (*SD*)]	36.13 (10.95)
Female: [count (%)]	506 (69.1%)
Relationship to child: [count (%)]	
Mothers	457 (62.4%)
Father	217 (29.6%)
Aunts/Uncles/step parents/adoptive parent	5 (0.6%)
Grandparent	53 (7.2%)
Less than primary education [count (%)]	510 (69.6%)
Married/cohabitating [count (%)]	475 (64.9%)
Child characteristics	
Age [Mean (*SD*)]	21.0 (8.2)
6–12 [count (%)]	90 (16.1%)
12–18 [count (%)]	128 (22.9%)
18–24 [count (%)]]	106 (19.0%)
24–30 [count (%)]	136 (24.3%)
30–36 [count (%)]	99 (17.7%)
Female: *[count* (%)]	262 (46.9%).
Lifetime trauma events reported at T1 [count (%)]	
Trauma 1: House destroyed?	193 (26.4%)
Trauma 2: Forced to flee?	101 (13.8%)
Trauma 3: Self or close family member experienced sexual violence?	51 (7.0%)
Trauma 4: Experienced lack of security?	212 (29.0%)
Trauma 5: Been wounded?	69 (9.4%)
Lifetime trauma events (cumulative trauma score) [Mean (*SD*)]	0.856 (1.06)
0 trauma exposures [count (%)]	355 (48.5%)
1 trauma exposures [count (%)]	212 (29.0%)
2 trauma exposures [count (%)]	99 (13.5%)
3 trauma exposures [count (%)]	42 (5.7%)
4 trauma exposures [count (%)]	17 (2.3%)
5 trauma exposures [count (%)]	4 (0.5%)
Daily hardships reported at T1 [count (%)]	
Daily hardship 1: Was very ill	258 (35.2%)
Daily hardship 2: Death of someone close	322 (44.0%)
Daily hardship 3: Separation from spouse/partner	85 (11.6%)
Daily hardship 4: Lost job or source of income	256 (35.0%)
Daily hardship 5: Major financial crisis	670 (91.5%)
Daily hardship 6: Someone close had a serious illness or injury	241 (32.9%)
Daily hardship 7: Someone close was physically attacked or assaulted	96 (13.1%)
Daily hardships (cumulative daily hardship score): Mean (*SD*)	2.63 (1.46)
0 daily hardships [count (%)]	18 (2.5%)
1 daily hardships [count (%)]	140 (19.1%)
2 daily hardships [count (%)]	195 (26.6%)
3 daily hardships [count (%)]	134 (18.3%)
4 daily hardships [count (%)]	91 (12.4%)
5 daily hardships [count (%)]	51 (7.0%)
6 daily hardships [count (%)]	26 (3.6%)
7 daily hardships [count (%)]	3 (0.4%)
Prevalence mental health problems at T1 [count (%)]	
Screen positive for internalising problems	331 (45.2%)
Screen positive for PTSD	136 (18.6%)

Results
Descriptive statistics

Descriptive sample information and correlations among study variables are shown in Tables 1 and 2. The majority of caregivers were biological mothers (62%) and fathers (30%). A small fraction were grandparents (7%) or aunts/uncles/step parents (<1%). The most common lifetime trauma event was "experienced lack of security", reported by almost 30% of the caregivers. The most common recent daily hardships were experiencing a major financial crisis (92%), experiencing death of someone close (44%), and losing a job or source of income (35%). Using standard cut-offs, 45% of the caregivers screened positive for possible internalising problems and 19% screened positive for possible PTSD.
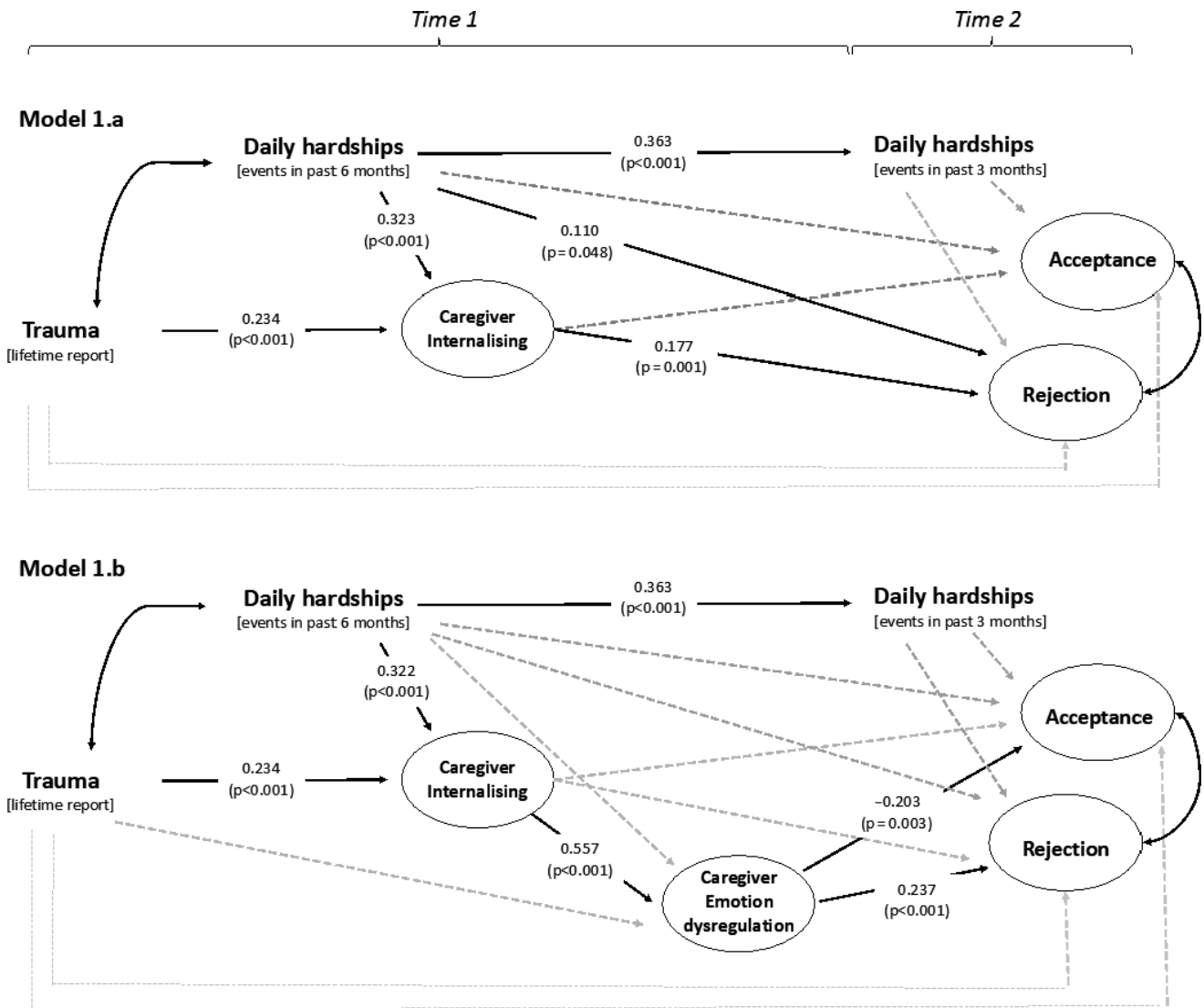
Figure 2 Structural equation models with caregiver internalising. Diagram shows only the estimates and *p*-values (in parentheses) for significant effects. Dashed, grey lines indicate that the path was estimated but not significant (*p* < .05). All estimates can be found in Appendix S2

Correlations

As expected, most variables entered into the models were somewhat to moderately correlated. Lifetime trauma experiences correlated with all other variables except the two parenting outcomes. Recent daily hardships correlated with all variables, except acceptance. Caregiver internalising, PTSD, and emotion dysregulation correlated with all variables.

Model 1.a: Caregiver anxiety and depression (not accounting for emotional dysregulation)

Model fit for Model 1.a (Figure 2A) indicated acceptable model fit: RMSEA = 0.022, SRMR = 0.041, CFI = 0.949. The chi-square (χ^2 = 1676.095, df = 1,230) had a *p*-value < .05. Lifetime trauma and recent daily hardships were positively associated with internalising symptoms. Internalising symptoms and recent daily hardships at T1 were

prospectively associated with more rejecting parenting. No variable in the model significantly predicted acceptance. There were no effects of lifetime trauma on either acceptance or rejection. The model explained 18.5% of the variance of internalising symptoms, 2.1% of the variance of acceptance, and 7.8% of the variance of rejection.

Model 1.b: Caregiver anxiety and depression accounting for emotional dysregulation

Model fit for Model 1.b indicated acceptable model fit: RMSEA = 0.021, SRMR = 0.044, CFI = 0.951. The chi-square (χ^2 = 3575.784, df = 2,692) had a *p*-value < .05. The positive associations of lifetime trauma and recent daily hardship with internalising symptoms remained significant when emotion dysregulation was added to the model. Caregiver internalising was strongly and positively associated with emotion dysregulation. With emotion dysregulation
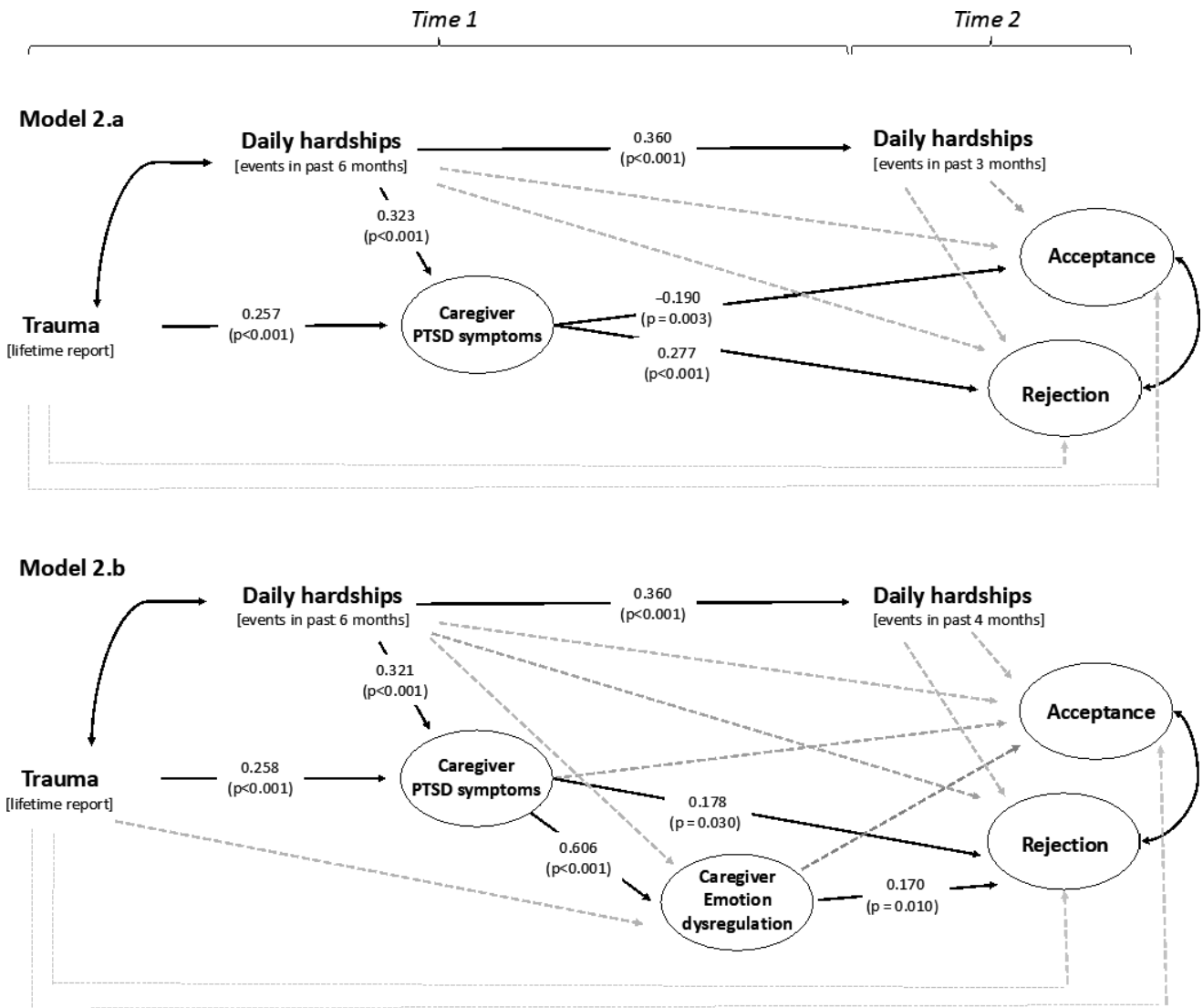
Figure 3 Structural equation models with caregiver PTSD. Models show only the estimates and *p*-values (in parentheses) for significant effect. Dashed grey lines indicate that the path was estimated but not significant (*p* < .05). All estimates can be found in Appendix S2

Table 2 Estimated correlations among study variables

	Trauma	Daily hardship T1	Daily hardship T2	Internalising/ PTSD	Emotion dysregulation	Rejection
Model 1						
Daily hardship T1	0.174					
Daily hardship T2	0.063	0.363				
Internalising symptoms	0.290	0.363	0.132			
Emotion dysregulation	0.167	0.250	0.091	0.574		
Rejection	0.072	0.210	0.155	0.232	0.298	
Acceptance	−0.061	−0.094	−0.036	−0.140	−0.218	−0.605
Model 2						
Daily hardship T1	0.173					
Daily hardship T2	0.062	0.360				
PTSD symptoms	0.314	0.366	0.132			
Emotion dysregulation	0.167	0.252	0.091	0.610		
Rejection	0.074	0.207	0.137	0.311	0.300	
Acceptance	−0.062	−0.091	−0.023	−0.202	−0.220	−0.605

Table 3 Estimated indirect effects of trauma and hardship on parenting

Indirect effects via caregiver mental health	Estimate	SE	p-Value	95% CI (Bootstrapped)	
				LL	UL
Via internalising					
Trauma → **Intenalising** → Rejection	0.011	0.013	.395	−0.013	0.040
Trauma → **Intenalising** → Acceptance	−0.001	0.016	.957	−0.034	0.028
Daily hardship → Intenalising → Rejection	0.016	0.018	.385	−0.019	0.054
Daily hardship → **Intenalising** → Acceptance	−0.001	0.022	.957	−0.044	0.041
Via internalising and emotion regulation					
Trauma → **Intenalising** → **Emotion dysregulation** → Rejection	0.031	0.009	.001	0.016	0.054
Trauma → **Intenalising** → **Emotion dysregulation** → Acceptance	−0.027	0.010	.007	−0.052	−0.010
Daily hardship → **Intenalising** → **Emotion dysregulation** → Rejection	0.043	0.012	<.001	0.022	0.071
Daily hardship → **Intenalising** → **Emotion dysregulation** → Acceptance	−0.037	0.013	.005	−0.049	−0.014
Via PTSD					
Trauma → **PTSD** → Rejection	0.046	0.022	.036	0.005	0.092
Trauma → **PTSD** → Acceptance	−0.026	0.024	.269	−0.071	0.021
Daily hardship → **PTSD** → Rejection	0.057	0.027	.038	0.006	0.116
Daily hardship → **PTSD** → Acceptance	−0.033	0.030	.276	−0.096	0.024
Via PTSD and emotion regulation					
Trauma → **PTSD** → **Emotion dysregulation** → Rejection	0.027	0.011	.018	0.008	0.056
Trauma → **PTSD** → **Emotion dysregulation** → Acceptance	−0.024	0.014	.087	−0.074	0.000
Daily hardship → **PTSD** → **Emotion dysregulation** → Rejection	0.033	0.014	.015	0.010	0.066
Daily hardship → **PTSD** → **Emotion dysregulation** → Acceptance	−0.030	0.017	.082	−0.070	0.000

in the model, we found that the association between caregiver internalising and rejecting parenting behaviours disappeared. Instead, we now observed a significant negative prospective association between emotion dysregulation and acceptance, and a positive prospective association between emotion dysregulation and rejection. This seems to suggest that the effect of caregiver internalising on rejecting parenting behaviours was largely accounted for by emotion dysregulation (Model 2.b). The model explained 18.5% of the variance of internalising symptoms, 33.1% of the variance of emotion regulation, 5.0% of the variance of acceptance, and 11.7% of the variance of rejection. Examination of the indirect effect estimates confirmed the presence of indirect pathways by which more lifetime trauma and more recent daily hardships predicted lower acceptance and higher rejection via internalising symptoms and emotion dysregulation (Table 3).

Model 2.a: Caregiver PTSD (not accounting for emotional dysregulation)

Model 2.a (Figure 3A) met the criteria for acceptable model fit: RMSEA = 0.024, SRMR = 0.045, CFI = 0.946. The chi-square (χ^2 = 1211.041, df = 861) had a p-value < .05. Lifetime trauma and recent daily hardships were positively associated with PTSD symptoms, which in turn were prospectively associated with more rejection and lower acceptance. There were no effects of lifetime trauma or recent daily hardships on either rejection or acceptance. The model explained 20.0% of the variance of PTSD symptoms, 3.9% of the variance of acceptance, and 10.9% of the variance of rejection.

Model 2.b: Caregiver PTSD accounting for emotional dysregulation

Model 2.b also showed acceptable model fit: RMSEA = 0.022, SRMR = 0.045, CFI = 0.950. The chi-square (χ^2 = 2901.473, df = 2,131) had a p-value < .05. As expected, we found that lifetime trauma and daily hardships were positively associated with PTSD symptoms, yet neither showed association with emotion dysregulation. Caregiver PTSD symptoms, however, were strongly associated with emotion dysregulation. With regard to parenting behaviours, we found that the association between PTSD symptoms and acceptance was attenuated, whereas the association between PTSD symptoms and rejection remained significant when emotion dysregulation was added to the model. Emotion dysregulation was associated with more rejection, but showed no association with acceptance. These results suggest that the effect of PTSD symptoms on parental rejection is partially independent of emotion dysregulation. The model explained 19.8% of the variance of PTSD symptoms, 37.4% of the variance of emotion regulation, 5.6% of the variance of acceptance, and 13.0% of the variance of rejection. We found that both lifetime trauma and daily hardships were indirectly associated with more rejection via PTSD symptoms and emotional dysregulation (see Table 3).

Sensitivity analyses

Models that excluded grandparents did not yield different results from those that included all caregivers (see Supplemental information).

Discussion

In this prospective study of Rwandan caregivers living in severe poverty and many of whom experienced the genocide in 1994, we examined effects of lifetime trauma, recent daily hardships, mental health, and emotion dysregulation on parenting behaviours that may have long-lasting impacts on children's development and wellbeing. We find that both lifetime trauma and recent daily hardships are common. The most common trauma event is having experienced 'lack of security', broadly understood in Rwanda as a fear of harassment or lack of safety coming from another person or the community and may be experienced as either physical or emotional, reported by 29% of the caregivers. Experiencing a financial crisis is the most common recent daily hardship, reported by 92% of the sample. Although there is some conceptual overlap between lifetime trauma and recent daily hardships, we note that these show low levels of correlation suggesting that caregivers' current level of stress exposure, much of which is likely associated with living in severe poverty, is largely independent of their lifetime trauma experiences which, in this sample, may partially reflect their experiences during the genocide. We also note that despite low correlation, lifetime trauma and recent daily hardships show roughly similar associations with caregiver mental health symptoms and parenting. This is of interest because it suggests that both lifetime and recent adverse experiences influence parenting behaviours and that caregivers with a lifetime history of trauma and/or affected by current hardship may benefit from the same type of mental health and emotion regulation focused intervention. PTSD is a trauma and stressor-related disorder, and a diagnosis requires direct exposure to or witnessing a traumatic event involving 'actual or threatened death, serious injury or sexual violence' (American Psychiatric Association, 2013). One may have expected that lifetime trauma would be more strongly associated with PTSD symptoms, compared with daily hardships. The equally strong association of daily hardships and trauma with PTSD symptoms may suggest that accounting for lifetime trauma, the stress related to living in severe poverty can cause PTSD-like symptoms in caregivers.

Our theoretical model hypothesised that caregivers' experiences of trauma, daily hardships, and mental health problems are independently and interactively associated with parenting behaviours related to low acceptance and high rejection. We also hypothesised that these effects are partially accounted for by caregiver emotion dysregulation, which may have emerged as a consequence of trauma and recent hardship.

We used the PARQ to measure parenting behaviours. The theory underlying PARQ proposes that parental behaviours reflecting feelings of acceptance and rejection are play an important role in shaping children's socioemotional development and wellbeing given the deep-rooted human need for affection and acceptance from attachment figures. Our analyses found that the best fitting model was a two-factor solution where items representing warmth and attention loaded on one factor ('Acceptance'), whereas items reflecting parental rejection, inattention and harsh behaviours loaded on a second factor ('Rejection'). This distinction between two different dimensions of parenting is supported by the PARQ theory, and previous studies (Rohner & Khaleque, 2005). It is important to note, however, that while this two-dimensional nature of PARQ parenting behaviours is statistically and theoretically sound, such distinction may be methodologically confounded because all positively worded items load on the 'acceptance' factor while all negatively items load on the 'rejection' factor. In support of the existence of two underlying constructs reflecting distinct parenting behaviours, we do, however, find that caregiver internalising symptoms predict rejection only, whereas caregiver PTSD predicts both acceptance and rejection.

Although we find limited evidence for direct effects of lifetime trauma and recent daily hardship on parenting, we do find that caregivers' experiences of trauma and daily hardships are associated with higher levels of internalising and PTSD symptoms which, in turn, are associated with parenting behaviours related to acceptance and rejection. We also find that caregiver internalising and PTSD symptoms are positively associated with emotion dysregulation which, in line with the hypothesis, accounts for some of the effects of caregiver mental health problems on parenting behaviours. Finally, we find support for the hypothesised indirect effects whereby lifetime trauma and recent daily hardships affect parenting behaviours indirectly via poor caregiver mental health and emotion dysregulation.

Overall, findings suggest that caregivers' mental health problems are important mechanisms through which caregivers' experiences of lifetime trauma and recent or ongoing daily hardship may affect younger generations via parenting. The fact that only PTSD is associated with both parental rejection and acceptance seems to suggest that PTSD symptoms have broad, wide-ranging effects on parenting. This notion is further supported by the pervasiveness and independence of the effect of PTSD symptoms on parental rejection when emotion dysregulation is added to the model. These findings support the idea that PTSD, in itself, is associated with caregiver behaviours such as avoidance and emotional disturbances (e.g., blunted positive emotions and anger) that may interfere with caregivers' ability to express warmth and thus may lead to lower acceptance behaviours which encompass behaviours reflecting warmth (Creech & Misca, 2017).

Our findings highlight the potential value of screening and treatment of mental health problems in populations exposed to high levels of lifetime

trauma and ongoing hardship. The identification of emotion dysregulation as a shared underlying mechanism accounting for large portions of the effects of poor caregiver mental health on parenting behaviours is important because it identifies a key target for intervention that may benefit a wide range of caregivers experiencing mental health problems. While interventions exist to address specific mental health disorders, such as depression, in low-resource settings, disease-specific approaches create the need for availabiloity of a broad selection of interventions, many of which require specialised training. This challenge has led to the rise of stabilisation-focused common-elements approaches whereby one intervention can be used to treat an array of mental health problems (Murray & Jordans, 2016). The findings of emotion dysregulation as an important cross-cutting mechanism linking caregiver internalising and PTSD with adverse parenting behaviours support the utility of common-elements-based therapy where cross-cutting symptoms can be targeted in relatively simple and inexpensive interventions that can be delivered by well-trained and well-supervised community-based lay workers (Newnham et al., 2015). Findings also support the utility of the RDoC framework, which is centred around basic dimensions of symptoms that function as cross-cutting mechanisms underlying mental illness (Insel et al., 2010).

The results of this study should be interpreted considering certain limitations. First, like many studies relying on self-report data, our analysis carries the risk of common methods bias, which is to say that the method of measurement itself may account for some of the relationship of the variables in our model. While this, no doubt, is a possibility, there are several features of the study that lessen the possible role of methods bias. Our parenting outcomes (rejection and acceptance) are observed at a later timepoint than our predictors, thus reducing the influence of short-term mental/emotional state in providing survey responses. Furthermore, in contrast to typical studies in which such bias is observed, where a single response scale is used across items, our items use diverse response scales. It is also of note that our lifetime trauma exposure variable, set prior to the date of the first interview, is practically uncorrelated with the recent daily hardship variables assessed at the occasion of each interview. A second limitation is that trauma experiences were assessed as lifetime occurrences meaning that the traumatic event(s) may have happened several decades prior to the study. Such time lag may affect symptoms levels, especially PTSD symptoms which may attenuate over time as observed in longitudinal studies of PTSD symptoms in war-affected youth (Betancourt, Newnham, McBain, & Brennan, 2013). Such attenuation may be part of the reason why recent daily hardships appear to be as strongly associated with PTSD and internalising

symptoms as does lifetime trauma. A third limitation is that wein this study, account for five types of trauma events selected from previous work on trauma exposures among Rwandan refugees in Uganda (Onyut et al., 2009). We recognise that our sample may have had broader trauma exposure, yet we were unable to ask specific questions about experiences directly related to the genocide given the sensitive nature of this topic. The list of traumas included here was developed in collaboration with our local partner and based on local perspectives on what would be appropriate to ask. A fourth limitation is that while the HSCL and PCL-C are widely used instruments in screening for internalising and PTSD symptoms, and both have been validated in Rwanda postgenocide (Bolton, 2001; Fodor et al., 2015), we did not use a clinical assessment. We therefore cannot speak to possible effect of clinical versus nonclinical symptoms levels. A fifth limitation is the short interval of four months between the assessment of caregiver mental health (T1) and parenting behaviours (T2) means that we cannot expect parenting behaviours to have changed dramatically. We therefore cannot draw any firm conclusions about causality.

Conclusion
This study highlights the importance of screening and treatment of mental health problems among populations exposed to high levels of lifetime trauma and ongoing daily hardship. This includes populations living in poverty and living in or fleeing countries characterised by political instability, conflict, and war. We identify emotion dysregulation as a potential target for interventions that stand to benefit caregivers suffering from diverse metal health symptoms. We thereby add to the growing evidence for transdiagnostic and common-elements-based interventions to address cross-cutting symptom domains such as emotion dysregulation through simple and relatively inexpensive treatment models.

Supporting information
Additional supporting information may be found online in the Supporting Information section at the end of the article:

Appendix S1. Confirmatory factor analyses.
Appendix S2. Structural equation models.

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Key points

- Parental expressions of rejection and acceptance are known to predict long-term emotional outcomes in children.
- Among economically vulnerable caregivers in Rwanda, caregivers' mental health is associated with parenting practises related to the expression of acceptance and rejection. Moreover, these associations are partially accounted for by caregiver emotion dysregulation.
- Parenting-focused intervention services delivered to vulnerable caregivers who have experienced trauma and/or financial hardship should incorporate active elements to reduce mental health problems and emotion dysregulation in order to achieve more positive parenting practises and break intergenerational transmission of emotional problems.

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