

Wartime Violence, Empathy, and Intergroup Altruism: Evidence from the Ivoirian Refugee Crisis in Liberia

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May 2015

Abstract

This paper presents new theory and evidence on the link between intergroup violence and altruism in diverse post-conflict context. Theory from political science and psychology predicts that intergroup conflict causes ingroup solidarity and outgroup aggression that may persist after conflict's end. In contrast, we argue that empathy born from violence can cause greater ingroup and outgroup altruism: the experience of hardship and trauma during violence increases empathetic concern; empathetic concern transcends identity boundaries and motivates altruistic behavior toward both ingroup and outgroup others. We test our theory in the context of the 2010-2011 Ivorian refugee crisis in Liberia using observational and survey experimental data on the support provided by host communities to a diverse population of refugees. In contrast to theories of parochial altruism, we find that individuals and communities with high levels of exposure to violence during the Liberian civil war are less biased against outgroup refugees and more responsive to refugee distress. We also find that violence-affected individuals and communities host more refugees, do so for longer, host more outgroup refugees — even those co-ethnic to their wartime rivals — and host a higher share of refugees with health problems or fleeing direct violence. Lastly, we provide support for the generalizability of the mechanism by using external data to show that past experience of violence is associated with greater altruism within diverse communities in rural Liberia.

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†Benjamin S. Morse, MIT Department of Political Science. Email: bmorse@mit.edu. Acknowledgements: This project was conducted in collaboration with the Norwegian Refugee Council, the Food and Agriculture Organization, and the Danish Refugee Council. We thank Greg Kitt the collaboration and David Lamah, Princess Kular and Prince Williams for invaluable research assistance. We received valued comments from Sebastian Schutte and seminar participants at MIT, the Households in Conflict Network (HiCN) Conference, the American Political Science Association annual meeting, and the Working Group of African Political Economy.

1 Introduction

Conflict exacts an immense toll on civilian populations. In addition to stunting human capital and destroying physical infrastructure, civil conflict fundamentally changes patterns of social relations (Hoeffler and Reynal-Querol 2003; Wood 2003, 2008). The social legacies of conflict, in turn, influence post-conflict reconciliation (Gibson 2004), political stability (Horowitz 1985), and economic activity (Cassar, Grosjean and Whitt 2013; Hjort 2014). Yet despite their importance, these legacies remain poorly understood (Blattman and Miguel 2010).

This paper presents new theory and evidence on the social legacies of civil conflict by studying the link between intergroup violence and altruism in a diverse post-conflict context. Existing social science theory does not provide clear predictions. Theory from political science and psychology predicts that intergroup conflict results in “parochial altruism” — the simultaneous evolution of ingroup solidarity and outgroup aggression during conflict (Choi and Bowles 2007). While predicated on processes that occur *during* conflict, a variety of theoretical and empirical research suggests that parochial altruism may persist into peacetime through persistent emotions of hate and resentment (Petersen 2011), ongoing low-scale intergroup conflict (McGovern 2011), or as the legacy of out-migration by asocial types during conflict (Gilligan, Pasquale and Samii 2014). However, many of these processes can be expected to fade overtime, especially as political institutions come to mediate resource contestation in lieu of violent group-based competition, or as opportunities for intergroup contact reduce outgroup prejudice (Forbes 1997; Gibson 2004; Samii 2013).

A burgeoning literature links violence to greater pro-social behavior after conflict, which suggests that violence may not always lead to a legacy of parochial altruism. However, these findings come almost entirely from homogeneous settings and do not consider intergroup behavior (Bateson 2012; Bellows and Miguel 2009; Blattman 2009). As a result, we do not know whether the link between violence and prosociality is evidence of persistent parochial altruism or a prosocial shift that transcends identity boundaries.

In this paper, we argue that violence can increase empathy and thereby motivate altruism toward ingroup and outgroup others in diverse post-conflict context. Our theory builds off of the empathy-driven altruism hypothesis, which positions empathy as the primary driver of altruistic behavior (De Waal 2008).¹ Violent conflict causes hardship and trauma among affected individuals and populations. When individuals experience hardship and trauma, their capacity to empathize with others increases, especially for those in need or suffering from similar afflictions. Empathetic concern transcends identity boundaries (Batson et al. 1997; Shechter and Salomon 2005), and thereby motivates altruistic behavior toward both ingroup and outgroup others (De Waal 2008).

We test our theory in the context of the 2010-2011 Ivorian refugee crisis in Liberia using observational and survey experimental data. In 2010, a disputed election initiated a short civil war and caused a diverse population of over 150,000 Ivoirians to seek refuge in eastern Liberia, a region itself deeply affected by civil conflict from 1990-2003. The ethnic composition of the refugee population maps onto the salient cleavages during the Liberia civil conflict.

The context of our study is advantageous in offering the opportunity for a real-world measure of altruistic behavior in a setting that is tragically common in the world's war-affected regions. In Africa alone, over 75 million civilians have fled their home countries due to violence since 1975 and the majority fled into regions that themselves suffered conflict in their recent past.² Because refugee crises are difficult to predict, highly variable, and occur in remote regions that may be at risk of spillover violence, local host communities are often called upon to provide support (Buhaug and Gleditsch 2008; Salehyan and Gleditsch 2006). In addition, due to the high incidence of ethnic groups divided by international boundaries, identity dynamics are likely to influence refugee-host relations (Michalopoulos

¹We define empathy as the experience of emotion congruent with another's situation, and provide a more extensive definition in Section 2. We define altruism as action taken to benefit another at the expense of one's own material welfare.

²Author calculations from UNHCR and UCDP PRIO data: Accessed via www.popstats.unhcr.org and www.prio.no/data. Of the 546 major refugee movements in Africa since 1975, 370 (67%) have sent refugees into regions previously affected by large-scale civil conflict within a generation.

and Papaioannou 2013).

Our theory of empathy born from violence predicts that, relative to their less-affected counterfactual, violence-affected individuals and communities will 1) host more ingroup and outgroup refugees, 2) exhibit stronger preferences for distressed refugees, 3) exhibit less bias against outgroup refugees, and 4) host a greater share of distressed refugees and outgroup refugees. To test these predictions, we analyze data from over 1500 respondents from 64 communities in the Liberia-Cote d’Ivoire border region. Our data include background information on conflict experiences, observational data on the number and identity of refugees hosted, and a conjoint survey experiment designed to assess the influence of material, identity, and empathetic motivations to host. To further test predictions (2) and (3), we employed an empathetic prime prior to the conjoint experiment by randomly assigning whether survey module on past conflict experience came immediately before or after the experiment.

In contrast to theories of parochial altruism — which predict that violence-affected communities will host ingroup refugees and discriminate against outgroup refugees — we find that individuals and communities with high levels of exposure to violence during the Liberian civil war are less biased against outgroup refugees and more responsive to refugee distress. Respondents primed prior to the survey experiment are also less biased against outgroup refugees and more responsive to refugee distress. Turning to actual hosting behavior, we find that violence-affected individuals and communities host more refugees, do so for longer, host more outgroup refugees — even those co-ethnic to their wartime rivals — and host a higher share of refugees with health problems or fleeing direct violence. More broadly, we document overwhelming generosity amidst extreme resource scarcity, consistent with a generalized empathetic response in our study population. Despite being one of the poorest regions in the world and amidst an early onset of the “hunger season”, the average Liberian in our sample hosted 9 refugees for 6.7 months. Qualitative interviews provide additional evidence linking the past experience of violence and hardship to greater empathy and support for refugees.

To test the generalizability of our theory outside the context of refugee-host relations, we draw on data collected in the same region in 2010 by Blattman, Hartman and Blair (2014) and show that wartime violence is linked to greater contributions to other villagers who are sick, and we show that this pattern is equally strong in diverse villages.

The primary contribution of our paper lies in articulating a novel logic by which violence affects altruism in diverse post-conflict settings, thereby filling a gap in the current literature. Whereas as parochial altruism provides clear predictions during conflict, it does not provide predictions for the post-conflict period. And while contact theory predicts that parochial altruism will fade overtime as opportunities for intergroup contact and economic exchange reduce prejudice and advance reconciliation, it does not provide differential predictions for violence-affected populations or individuals (Pettigrew 1998).

Our theory and findings also complement a burgeoning body of research linking violence to prosocial behavior while making several advancements (Bateson 2012; Bellows and Miguel 2009; Blattman 2009; Cassar, Grosjean and Whitt 2013; Gilligan, Pasquale and Samii 2014). This largely empirical literature has documented a robust positive correlation between past exposure to violence and political, prosocial or altruistic behavior across many settings (Bateson 2012; Bellows and Miguel 2009; Blattman 2009; Gilligan, Pasquale and Samii 2014; Hazlett 2013), but treats the process by which this occurs as a “black-box” or bundle of under-specified processes encompassed by post-traumatic growth theory (PTGT). As a consequence, we are left with the knowledge that violence can create prosociality, but we have little theoretical understanding of how this occurs. Moreover, this lack of theory equates to a dearth of empirical evidence on the mechanisms linking violence to prosocial behavior. In advancing empathy as a distinct mechanisms by which violence affects behavior, we join a growing body of research that aims to improve existing theories of political behavior by accounting for emotive influences (McDermott 2004). We also speculate that empathy may contribute to the broader set of findings that link violence to prosociality.

A third contribution is empirical. The majority of research linking violence to prosocial-

ity estimates the effect of violence within homogeneous settings, and therefore provides no guidance on intergroup legacies. Alexander and Christia (2011) and Mironova and Whitt (2014) provide notable exceptions, but these studies rely on behavioral games whose internal and external validity is unclear (Levitt and List 2007; Voors, Turley, Kontoleon, Bulte and List 2012).

From a policy perspective, we provide evidence on how the world’s most vulnerable and violence affected populations cope with violence-induced displacement in the absence of aid. We also inform a new approach to refugee management in which local integration of refugees serves as a flexible alternative to refugee camps (Maystadt and Verwimp 2014; UNHCR 2013). In emphasizing how the psychological legacies of violence, somewhat counterintuitively, can motivate intergroup cooperation in the post-conflict period, our findings carry significant implications for our understanding processes of reconciliation, economic exchange, and political stabilization in post-conflict countries.

2 Theoretical Background

The goal of this paper is not to explain why individuals are altruistic in the first place, but to explain how violence affects altruistic behavior. We take as given that individuals may act altruistically following instrumental calculations, norms of reciprocity, or empathetic concern, among other motivations. We also take as given that individuals may exhibit ingroup preferences and outgroup biases even in the absence of intergroup conflict (Lowe et al. 2015). Social norms of prosocial behavior and reciprocity serve as strong motivators of altruistic behavior within communities (Ostrom 2000), but may not operate as strongly outside the immediate community. Individuals may simply derive less utility from the welfare of outgroup members relative to ingroup members (Tajfel 1978), or altruism toward outgroups may be relatively more costly if they do not share “a reservoir of common cultural material — language, experience, and understandings about modes of interaction” (Habyarimana et al.

2007).

From this point of departure, we consider how intergroup violence may influence altruistic behavior. We first outline how intergroup violence can increase outgroup animosity and ingroup prosociality during conflict through “parochial altruism” — the simultaneous evolution of ingroup solidarity and outgroup aggression during conflict. This body of theory is of limited relevance to our setting because it is predicated on ongoing intergroup resource contestation, and does not provide clear predictions about the legacy of intergroup violence on altruistic behavior *after* conflict’s end.

We argue that this is an important gap relevant to all countries that transition from periods of intergroup conflict to stable governance where institutions mediate resource competition in the lieu of violent intergroup conflict. In these settings, what is the legacy of intergroup violence on altruistic behavior within and across group boundaries?

We next propose a theory to fill this gap. In doing so, we focus on the role of empathy in motivating altruistic behavior, the ability of past experience with hardship and violence to increase empathetic capacity, and the ability of empathetic emotion to transcend identity boundaries and motivate altruistic behavior across identity boundaries.

Lastly, we apply these theories to our empirical setting and derive hypotheses regarding how past experience with violence affects (1) the level of support provided to ingroup and outgroup refugees, and (2) preferences over refugee attributes indicating identity, need, and remunerative capacity in the context of scarce hosting capacity.

The legacy of violence after conflict: parochial altruism

Research in political science, psychology and evolutionary biology predicts that intergroup conflict results in “parochial altruism”: the hardening of outgroup biases and increased ingroup allegiance. Game theorists posit that parochial altruism conferred evolutionary advantages because outgroup aggression promoted defensive behavior while ingroup altruism promoted success by reducing the collective action problem in mobilizing for conflict (Choi

and Bowles 2007). Constructivist or instrumentalist arguments point to several processes by which this may occur. Ethnic identities may be manipulated by political entrepreneurs during wartime (Fearon and Laitin 2000; Lake and Rothchild 1996), as group elites act to foment ingroup allegiance and outgroup prejudice as a means to advance ingroup collective action in the mobilization against outgroups. When group victory is the strongest predictor of material welfare, individuals may also see ingroup allegiance the surest way to advance their security interests (Kalyvas and Kocher 2007). Combined with fear of association with the losing group, this may lead individuals to have greater ingroup attachment and outgroup animosity. In the context of intergroup competition, the greatest display of ingroup allegiance may be aggression towards the outgroup (Sambanis and Shayo 2013). The common theme underlying these arguments is that social norms change in response to conflict dynamics: ingroup allegiance and outgroup aggression are rewarded with social esteem.

A complementary force for polarization is the emotional response to group-based violence. Petersen (2011) argues that violence creates emotions of fear, anger, resentment, contempt, and hatred among violence-affected populations.³ These emotions predispose individuals to support vengeance and can be manipulated by political entrepreneurs for mobilization against outgroups in the pursuit of ingroup goals.

While parochial altruism and related mechanisms provide predictions for intergroup behavior during conflict, a more recent literature predicts that violence may also cause persistent parochial altruism. Most notably, emotions may persist into the post conflict period, low-scale conflict may persist into the post-conflict period as fundamental issues of resource allocation may remain unresolved (McGovern 2011), or violence may cause the out-migration of asocial types (Gilligan, Pasquale and Samii 2014).

Yet these mechanisms are likely to fade overtime, especially as intergroup contact and exchange reduce prejudice (Pettigrew 1998). Absent contestation, elites will no longer face

³We use the term violence-affected to refer to individuals and communities that suffered direct or indirect violence during the the Liberian civil war. We intentionally avoid the terms victims and victimization because we do not believe this terminology is consistent with the resiliency, personal growth, and activation of violence-affected populations that has been documented in this paper and related work.

the imperative of group-based mobilization. As time passes, emotions of fear, anger, and resentment that make individuals susceptible to elite mobilization will fade.

Theories of parochial altruism, therefore, do not provide predictions for how violent conflict affects intergroup behavior in post-conflict context where governing institutions mediate resource competition, and where intergroup hostilities no longer pervade everyday social relations. This gap in theory is significant. Many states experience periods of intergroup conflict followed by transitions to democratic political competition characterized by limited intergroup hostility in everyday life and frequent economic exchange between groups. This gap also applies to our empirical setting, where resource competition is mediated through cross-ethnic political parties, survey evidence suggests intergroup tensions are low (Vinck, Pham and Kreutzer 2011), and refugees are not involved in domestic political competition.

The legacy of violence after conflict: empathy-driven altruism

In light of these considerations, we posit an alternative set of factors that influence altruistic behavior in post-conflict contexts where group-based resource competition is no longer dominant.

Our explanation builds on the theory of empathy-driven altruism (Batson and Powell 2003; De Waal 2008). We propose that violent intergroup conflict can increase altruistic behavior across identity boundaries through the following steps: (1) conflict causes suffering among affected individuals and populations, (2) the experience of suffering increases empathetic capacity for others, particularly but not exclusively for those suffering from a similar experience, (3) empathy transcends identity boundaries, thereby motivating greater altruistic behavior to both ingroup and outgroup others. This logic applies at the individual level as well as among populations where a critical mass is affected by hardship. In the case of the latter, social norms may reinforce individual motivations in driving altruistic behavior across identity boundaries. In what follows, we first define empathy and establish how it motivates altruistic behavior, following (De Waal 2008); we then elaborate on each of the

steps above.

According to the theory of empathy-driven altruism, empathy is composed of three components, each of which motivates altruistic behavior. The first component is so-called emotional contagion or vicarious arousal, wherein a subject becomes emotionally distressed by the observation of another in need. Emotional distress provides egoistic motivation to help another as a means to reduce one’s own emotional discomfort. The second component of empathy is sympathetic concern, or “an affective response that consists of feelings of sorrow or concern for a distressed or needy other” (Eisenberg 2000, 677). Sympathy is other-oriented in that it involves feelings for the other, and thereby provides a genuinely other-regarding motivation for altruistic behavior distinct from egoistic motivations (Batson and Powell 2003, 274). The final component is perspective-taking, defined as the cognitive ability to correctly perceive another’s internal state. Perspective-taking reinforces emotional contagion (by enabling the subject to comprehend the state of another in need), and can increase sympathetic responses as well (De Waal 2008, 285).⁴

Violent conflict causes pain, hardship, and trauma. These experiences can increase empathetic capacity through several channels. The first channel is perspective taking, in which suffering leads to a greater capacity for a cognitive understanding of another’s condition and thereby increases the vicarious arousal or sympathetic components of empathy (Batson and Oleson 1991). A second channel is through perceived similarity with those affected by violence (Staub and Vollhardt 2008). When subjects perceive another as similar, they are more likely to feel sympathy and provide assistance (Dovidio 1984; Karylowski 1976; Krebs 1975). A final channel is through greater generalized sympathetic capacity. When individuals have suffered hardship in their past, they may simply be more likely to feel sympathy for those in need, independent of perceived similarity (Staub and Vollhardt 2008; Tedeschi and Calhoun 2004).

⁴There is debate as to which motivation is dominant and whether altruism is properly defined as such if motivated by egoistic concerns. For a review, see (Batson and Powell 2003, 485). The distinction is not relevant to our theory — what matters is that some components of empathy increase in response to experiences of hardship during violent conflict, be they emotional contagion, sympathy or both.

Note that the components of empathy activated by past experience of hardship fall into two groups: 1) mechanisms activated only when there is a correspondence between a subject's past experience of hardship and the other's current experience of need, and 2) mechanisms in which a correspondence is not required. Enhanced perspective-taking, for example, falls into the former category, while greater generalized sympathetic capacity is categorized in the latter. This implies that violence-affected populations and individuals will be likely to assist others suffering from hardship even if the context of their suffering is dissimilar to the one they experienced. However, to the extent that greater emotional contagion, greater sympathetic capacity, and enhanced perspective-taking are additive in their effects, we expect the effect of hardship on altruism to be larger when there exists a correspondence between experiences.

We also assume that greater hardship will lead to greater empathetic capacity. If so, we not only expect violence-affected populations to have greater empathetic capacity relative to less-affected populations, we also expect individuals with higher levels of exposure to violence within a violence-affected population to exhibit greater empathetic capacity relative to their less-affected peers.

An important characteristic of empathy is that it transcends identity boundaries, thereby providing motivation for outgroup altruism and reduced prejudice (Batson et al. 1997; Shechter and Salomon 2005). This occurs in several ways. Fundamentally, the capacity to feel sympathy for another's suffering is positive for outgroups, even if less sympathy is felt for those of outgroup status (Dovidio 1984; Karylowski 1976; Krebs 1975). In addition, the ability to empathize is increased by perspective-taking, which is independent of identity group status. Finally, to the extent that violence-affected individuals or populations feel solidarity with those currently in need, the shared experience of violence may come to serve as a cross-cutting tie that counteracts outgroup biases, just as cross-cutting economic or social ties can reduce the salience of ethnicity (Dunning and Harrison 2010).

Hypotheses

We now derive hypotheses regarding altruistic behavior towards refugees from our theory. Through the processes discussed above, we first test whether greater empathetic capacity increases the motivation to host refugees:

H1A Violence-affected populations and individuals will host more ingroup and outgroup refugees relative to their less-affected counterfactual.

In addition, the perspective-taking and vicarious arousal components of empathy are particularly operative when there is a correspondence of hardship experience between host and refugee. We expect this to provide additional motivation to host these types of refugees, resulting in the following observable implication:

H1B Violence-affected populations and individuals will host more refugees who are fleeing direct violence or exhibiting distress.

Signs of distress in refugees should elicit greater levels of empathy from survivors of violence, who have greater capacities for emotional contagion, sympathetic concern, and perspective taking:

H2A Violence-affected populations and individuals of violence will be more responsive to refugee distress and by extension, less responsive to refugee identity in deciding which refugees to host.

H2B Survivors of violence will host a higher percentage distressed refugees relative to their less-affected counterfactual

To the extent that distress is observed among refugees across identity boundaries, we expect to observe a higher percentage of outgroup refugees hosted as well.

This prediction may be somewhat at odds with our empirical setting, as it assumes that hosts are able to “choose” who to host from a large population of refugees with myriad

attributes, and that refugee attributes did not vary across time (or alternatively, that transaction costs are low). As is common in many such situations, in Liberia hosts accepted refugees from among those that arrived in their village, who may not have displayed the full set of attributes or arrived at the same time. The difficulty of inferring preferences from actual hosting behavior is the reason we use the controlled setting of the conjoint experiment to measure preferences.

Our theory of empathy-driven altruism in response to violent conflict is not limited to the experience of violence per se. The operative mechanisms are hardship, trauma, and victimization, which may be linked to many wartime experiences, including forced displacement, forced movement through hazardous terrain, lack of access to healthcare, or the innumerable deprivations of everyday life during civil conflict. The theory of empathy-driven altruism would imply that these experiences will have similar effects, suggesting additional observable implications of our theory.

We limit our analysis to the experience of violence for several empirical reasons. First, many hardship experiences are difficult to measure, and indeed are not included in our survey data. One exception is past experience with internal and external displacement, on which we have detailed data for our sample. However this variable is not appropriate to test our theory because it varies little in our sample (70% were once refugees, while 95% were once refugees or IDPs) and is a poor proxy for the experience of hardship or trauma. Many refugees fled Liberia at the outbreak of conflict, only to return following the war, and empirically violence and displacement are uncorrelated. Unlike exposure to violence, which we argue was conditionally independent of potential hosting outcomes, we can make no such claim for displacement, where movement is likely to be affected by difficult-to-observe prewar variables. Thus, we reject alternative measures of hardship as a valid test of the empathy-driven altruism hypothesis and focus solely on the effect of violence, which stands as among the most profound hardships faced by civilians during conflict.

Previous empirical research and our contribution

Our theory of empathy born from hardship is closely related to the concept of post-traumatic growth (PTGT), which posits broad-based positive change and personal growth in response to traumatic life events. According to PTGT, trauma may lead to personal development and growth when an individual engages cognitively with an experience that “shatters the individual’s understanding of the world and his or her place in it”. The traumatic experience becomes a turning point from which an individual develops new goals, improved interpersonal relationships, world views, wisdom, and a greater pro-social orientation (Tedeschi and Calhoun 2004). As a result, violence-affected individuals and communities may exhibit greater propensity to vote (Blattman 2009); greater engagement in community activities (Bellows and Miguel 2009); or greater altruism (Voors, Nillesen, Verwimp, Bulte, Lensink and Van Soest 2012).

While the concept of PTGT has been invoked to explain these recent findings, the concept as originally conceived by (Tedeschi and Calhoun 2004) does not identify the mechanisms by which behavioral change results from trauma. We build on PTGT by explicitly linking the past experience of hardship to greater altruism across identity boundaries through the mechanism of empathy. By offering a clearly-defined mechanism of positive behavioral change following trauma, our theory can be conceived as complementary to the concept of post-traumatic growth.

In addition to a theoretical contribution, we make an empirical contribution in presenting data on altruistic behavior across identity boundaries from a setting that is substantively important and common in the world’s war-affected regions. Our empirical approach complements existing studies that rely behavioral outcomes whose validity as a measurement tool is unclear (Levitt and List 2007; Voors, Turley, Kontoleon, Bulte and List 2012).

3 Background

Liberia is a West African nation of roughly 4.3 million people. Between 1990 and 2003, intermittent civil war and continuous political instability killed an estimated 250,000 people and displaced a large majority of the population.⁵ In 2003, a UN-brokered peace agreement brought peace to the country, established a UN peacekeeping mission, and set the stage for the restoration of peace and stability that persists to present. Throughout the civil war, Liberians sought refuge in neighboring countries, including Guinea, Sierra Leone and Côte d'Ivoire. With a population of 15 million, Côte d'Ivoire is historically one of the most economically successful African countries. However, since the late 1990s Côte d'Ivoire has also faced a protracted crisis, including violence that divided the country into an opposition-controlled North and a government-controlled South.

A variety of ethno-linguistic groups live in the Liberia - Côte d'Ivoire border region, many with strong cross-border economic, social and cultural ties that existed before the formation of the present day nation-states. On the Liberian side of the border, three groups make claim to indigenous status on the land, namely the Grebo, Krahn, and Gio. These groups, known as the Kroumen, Guere, and Yacouba in Côte d'Ivoire, live in the Southern, Central, and North portions of the region respectively and tend to self-identify as Christian or “traditional” in their religious beliefs (Holsoe and Lauer 1976).

Prior to the Liberian Civil War, the Liberian side of the border was intermixed between these ethno-linguistic groups and the Liberian Malinké, known in as Mandingo. The war was marked by targeted violence between the Mandingo and indigenous groups and today the border is largely homogeneous within sub-regions, with 80% of the population in each sub-region identifying with the region’s majority, indigenous ethnic group (DHS2007 N.d.).

The Ivorian side of the border is more diverse. Since the late colonial period, successive waves of economic migrants came to the region to work on cocoa and rubber plantations.

⁵During the Liberian war, 36% of Liberians were at one point refugees, and 74% were at one point internally displaced (Vinck, Pham and Kreutzer 2011).

Many of these migrants were Muslim Malinké (known as Doula or Jula) from Northern Côte d'Ivoire and elsewhere in French West Africa, and descendants of the Malian empire (Holsoe and Lauer 1976). They share an ethno-linguistic link with Liberia's Mandingo population. To a lesser extent, migrants also represent other ethno-linguistic groups from Central and Eastern Côte d'Ivoire. The indigenous population, who share an ethnic identity with Liberia's indigenous border populations, is now a large minority in the region. The pattern of economic development has generated economic and political competition over scarce resources between the migrant and the indigenous populations (McCauley 2013).

Most accounts of the civil conflict in Liberia begin with the rise to power of Sargent-Master Samuel Doe, a member of the Krahn ethnic group, who overthrew the Liberian government in a military coup. During the 1980s, Doe came to dominate the resources of the state. Other groups perceived that members of his Krahn ethnic group and Mandingo traders, with whom Doe formed an alliance, benefited unfairly (Sawyer 1992).

The late 1980s was marked but increasing tensions between the Liberian Krahn and their Mandingo allies and the Gio. On Christmas day of 1989, Charles Taylor invaded Liberia from Côte d'Ivoire into Nimba county, drawing on support of the county's Mano and Gio inhabitants (Conteh-Morgan and Kadivar 1995; Ellis 2001). Over the ensuing thirteen years, a variety of rebel factions, all of which held strong ethnic affiliations, struggled for access to natural resources and control of the state. Although factions and alliances changed over the years of conflict, the main cleavage in this region pitted the Gio against the Mandingo and Krahn ethnic groups. In the latter years of the conflict, fighting took place between ethnic factions representing the Krahn and Mandingo as well (ICG 2003).

Cross-border ethnic ties played a major role in the conflict. All of the major rebel groups in Liberia received external financial and logistical support through ethnic networks in Guinea or Côte d'Ivoire. Cross-border ethnic ties also provided shelter for Liberian citizens during the conflict. In our survey data, 80% of the sample were once refugees, the majority of whom stayed with hosts of the same ethnic identity. In 2002-2003, the conflict in Liberia

spilled-over into western Côte d'Ivoire as Liberian fighters were recruited to join their co-ethnics in the Ivoirian conflict between migrant “foreigners” and indigenous populations in the contest over land. The Liberian rebel group Movement for Democracy in Liberia (MODEL) continued to be active in Côte d'Ivoire following the end of the conflict in Liberia. According to news agency ReliefWeb, in 2004 it was “quite common to find French-speaking Ivorian fighters in areas held by MODEL in Anglophone Liberia” (ICG 2003)⁶

The Ivorian Refugee Crisis in Liberia

In November of 2010, a disputed election in Côte d'Ivoire between Alassane Ouattara, the preferred candidate of the migrant population in Western Côte d'Ivoire and the largely Muslim North, and Laurent Gbagbo, the preferred candidate of the indigenous groups in Western Côte d'Ivoire, initiated a short civil war that left over 3,000 dead and over 300,000 displaced. At least 150,000 fled into rural Liberia in 2011, with the majority fleeing in March-July of 2011. The fighting sent a diverse population of refugees representing both sides of the Ivoirian conflict into Liberia. Armed groups from both sides perpetrated “collective targeting” based on ethnic identity, causing massive displacement (Steele 2009). Migrants outside the border region largely fled to Northern Côte d'Ivoire. Travel was more dangerous for migrants in the mixed border region, who fled in significant numbers into Liberia. Indigenous groups in the border region also fled into Liberia, finding refuge with their co-ethnics across the border.

The international community was not prepared for a humanitarian crisis of such magnitude. The first refugee camps were not constructed until April of 2011, five months after the start of the refugee influx. After the onset of the crisis, refugee flows into Liberia remained variable and difficult to predict. As a result, a large burden of the hosting responsibilities fell to Liberian communities in the border region. NGO and news reports suggest that refugees were overwhelmingly welcomed by Liberian communities. We further explore the

⁶See also Human Rights Watch (2012) for coverage on the continued cross-border presence of armed actors in the Liberian Ivory Coast border region: <http://www.hrw.org/news/2012/06/06/liberia-ivorian-government-foes-wage-plot-attacks>.

motivations for this response in Section 4, below.

Host communities provided support to refugees in numerous ways. In this study, hosting a refugee is defined as welcoming a refugee family to “sleep under your roof and eat from your pot.” Under this definition, 80% of our sample hosted at least one refugee. On average, respondents hosted 6.5 refugees for an average of 9 months. Other forms of support included providing meals, water, or temporary refuge to refugees on their way to other communities or refugee camps.

Hosting did not confer material gains that outweighed the direct costs of hosting. Ivorian refugees fled with little resources with which to remunerate hosts, and humanitarian providers were unable to adequately provide support to communities hosting refugees, resulting in significant strains on host community food supplies, sanitation facilities and water sources, and an early onset of coping strategies associated with the hunger season (for example, eating seed rice) (Brady et al. 2012). In our sample, only 6% of respondents agreed that the refugees “brought benefits to your community,” and only 15% of refugee families remunerated their hosts, most commonly through farming (15%) or NGO-provided rations (6%).

There were three major security concerns in Liberia during the refugee crisis. First, there was concern rebels from either side of the Ivoirian conflict would seek harbor in neighboring Liberia, either in refugee camps or host communities. This was documented on several occasions (*IRIN News* 2012). Second, there was concern that rebels would recruit Liberian mercenaries through their cross-border co-ethnic networks (Blattman and Annan 2015). As a result of these cross border dynamics, there was considerable concern of spillover violence. Accordingly, international agencies located refugee camps and concentrated host community support in areas safely removed from the immediate border region. Given the history of ethnic-violence, active instances of cross-border recruitment and harbor, and very real fear of spillover of violence, the Ivoirian refugee crisis in many respects presents a “hard case” for our theory of empathy born from violence.

4 Data

Sample

We employ observational and survey experimental data from 64 communities in the Liberia-Côte d'Ivoire border region. Data collection was part of an evaluation of programs run by Norwegian Refugee Council, the Danish Refugee Council, and the Food and Agriculture Organization in the border region.⁷ Because our main analysis uses only within-village variation, the sample selection does not affect internal validity. Appendix 5 compares our sample to the remaining population of rural communities within each county using detailed pre-program village-level census data. In-sample communities are larger on average than the remaining population of communities (800 compared to 300), probably because the census includes even very small farming villages as distinct communities. The sample is otherwise balanced, thus increasing the external validity of our findings. In each community, we randomly sampled 20 citizens and purposively sampled four village leaders.

Observational data

Surveys were conducted from June 2013 to September 2013. The main outcomes for the observational analysis come from a detailed module on respondents' hosting experiences. The survey asked about the number and duration of refugees hosted, refugee well-being, ethnicity, and religion. Our key independent variables from the observational data are defined as follows:

- # Refugee Months Host: Calculated as refugee family size x duration of stay, summed across all families that were hosted
- Whether hosted an Ethnic Outgroup

⁷The NGO program sought to strengthen the economic recovery of host communities via the provision of agricultural tools and training. It selected communities using multiple criteria: (high) experience hosting refugees, high to moderate levels of poverty, and previous exposure to NGOs.

- Whether hosted a Religious Outgroup
- # Refugee Families Health Problems: The number of refugee families hosted that were exhibiting health problems upon arrival.
- # Refugee Families Food Insecure: The number of refugee families hosted that were “hungry” or “starving” upon arrival
- # Refugee Families Fleeing Violence: The number of refugee families hosted that were fleeing direct violence

The survey also included the conjoint experiment (conducted prior to the hosting module) and covered socio-economic characteristics, political attitudes, and exposure to violence during Liberia’s 1989-2003 war. On average, surveys lasted about one hour.

The module on individuals’ exposure to violence during the war included questions on violence against their self, family, village, property, as well as violence witnessed. We aggregate these survey questions (excluding displacement experiences) into a single additive index of 6 experiences of direct or indirect violence, *violvict*. The mean of *violvict* is 2.6. Alternative constructions using factor analysis or subsets of the input variables have no material effect on the results.

Conjoint survey experiment

We complement the observational data with a choice-based conjoint experiment designed to elicit host population preferences over refugee attributes. The method behind conjoint analysis is simple: respondents are asked to imagine themselves the town chief amidst a new refugee crisis in which the number of refugees seeking refuge is greater than the capacity of the community to host (much like the Ivorian refugee crisis of 2011-2012). The respondent is then asked to choose between two hypothetical refugee families (“profiles”) whose attributes are randomly assigned across five dimensions: gender of the household head, ethnicity, religion,

occupation, and whether the refugee is carrying food. These attributes were selected to correspond to empathetic, material, and identity-based motivations for hosting refugees. Responses to these survey questions provide insights into the respondents’ preferences about hosting refugees. Each attribute consists of two attribute levels, as listed in Table 1, and each level is randomly assigned within each pair of refugee profiles. Religion and ethnicity are used as key indicators of identity. Indicators of need and vulnerability used by humanitarian actors commonly include whether a displaced person arrives carrying food and the gender of the head of a refugee household. Possessing farming skills was taken to be a key indicator of remunerative capacity, since the economy in the Liberia-Côte d’Ivoire border region is a subsistence farming economy.

Table 1: Refugee Attributes

Attribute	Level 1	Level 2
Gender of HH	Male	Female
Ethnicity	Co-Ethnic	Not Co-Ethnic
Religion	Christian	Muslim
Occupation	Farmer	Not Farmer
Food	Have food	Do not have food

The conjoint survey experiment is particularly well-suited to a context in which the host population must make difficult decisions regarding who to host, optimizing a multi-dimensional choice problem in weighing refugee identity, need, remunerative capacity, and other variables. The design allows an estimation of the relative weight of each of the included refugee attributes, as well as how these weights change as a function of respondent background characteristics. Does identity matter more than refugee distress? How does their relative influence vary as a function of respondent background characteristics, such as wartime exposure to violence displacement?

We imposed a restriction on the randomization protocol to rule out highly implausible profiles. If a respondent belongs to an ethnic group that predominantly identifies with a

single religion then, then coethnic, not coreligious profiles are eliminated. For example, the Grebo of Southern Côte d'Ivoire and Eastern Liberia almost entirely self-identify as Christian. Therefore profiles in which a Grebo respondent is presented a coethnic, Muslim family are eliminated. By contrast, the Gio are predominantly Christian in Liberia but both Christian and Muslim in Côte d'Ivoire. Therefore, pure randomization is used for Gio respondents.

Because the host population is largely illiterate (50% self-reported in the sample), hosting questions used pictographs to display attributes. The pictographs were designed to depict only the relevant attribute level while maintaining neutrality on other dimensions such as aesthetic appeal. Appendix 2 outlines the implementation in detail. Pictographs were printed as 3 x 3 inch cards, and laminated. Enumerators presented the attributes for each profile side by side, and stated the attribute level as it was laid down to ensure clear interpretation. After both profiles were laid down, respondents were asked to repeat both profiles to ensure full comprehension. Randomization was conducted via the survey software, and the order in which attributes were presented was randomly assigned to rule out attribute ordering effects. Each respondent successively evaluated three pairs of refugees, choosing one refugee family each time.

Empathetic prime

As mentioned, the survey included 6 questions on an individual's exposure to violence during the war and 4 questions on their displacement histories. This section was randomly assigned to come before or after the conjoint experiment. The enumeration of these questions is likely to tap into the core components of empathy, thereby making it a valid empathetic prime (Bargh and Chartrand 2000). By increasing the emotional and cognitive salience of past experiences, the prime is likely to increase the vicarious arousal, sympathy, and perspective-taking during the conjoint experiment.⁸

⁸The survey took several steps to responsibly enumerate these questions. First, the survey questions were the same as those used in several previous studies conducted in the same region without any incidents

If the prime indeed increases empathetic capacity and affects preferences over refugee attributes in a manner consistent with Hypothesis 2A, we can take this as evidence in favor of the empathy-driven altruism in response to violence hypothesis.

Semi-structured interviews

To help understand the survey data and to adjudicate between different mechanisms, we also conducted a series of interviews with local leaders from the host communities. Interviewees included town chiefs, quarter chiefs⁹, youth leaders, and other community members who hosted refugees during the Ivorian crisis. A total of 16 semi-structured interviews covered the experience of hosting refugees, how leaders and citizens personally made decisions to host refugees, and the logic behind their decision-making. In the results section, we explore how these interviews help to clarify the results from the survey data.

5 Results

5.1 Preferences

Following Hainmueller, Hopkins and Yamamoto (2014), we estimate the probability that a hypothetical refugee family is hosted via the following equation:

of respondent distress. Second, in the consent form, respondents were informed that the survey would ask them about their experience during the war as part of a broader study of post-conflict recovery patterns. Immediately prior to the “war experiences” section, respondents were reminded that participation was voluntary and they could decline to respond to any question. Less than 4% of responses in this module were “refuse or prefer not to answer”. Enumerators were trained to monitor the respondent for distress, and instructed to end the interview in the event of adverse reactions to any survey question. No such incidents occurred during the survey.

⁹A quarter is a neighborhood within a community, typically associated the ancestral homes of several lineage groups within a community.

$$\begin{aligned}
\text{Hosted}_{ijk} &= \beta_0 + \gamma_1 \text{female}_{ikj} + \gamma_2 \text{farmer}_{ikj} + \gamma_3 \text{hunger}_{ikj} \\
&+ \gamma_4 \text{EthnicIngroupReligiousOutgroup}_{ikj} + \gamma_5 \text{EthnicOutgroupReligiousIngroup}_{ikj} \\
&+ \gamma_6 \text{EthnicOutgroupReligiousOutgroup}_{ikj} + \epsilon_i \quad (1)
\end{aligned}$$

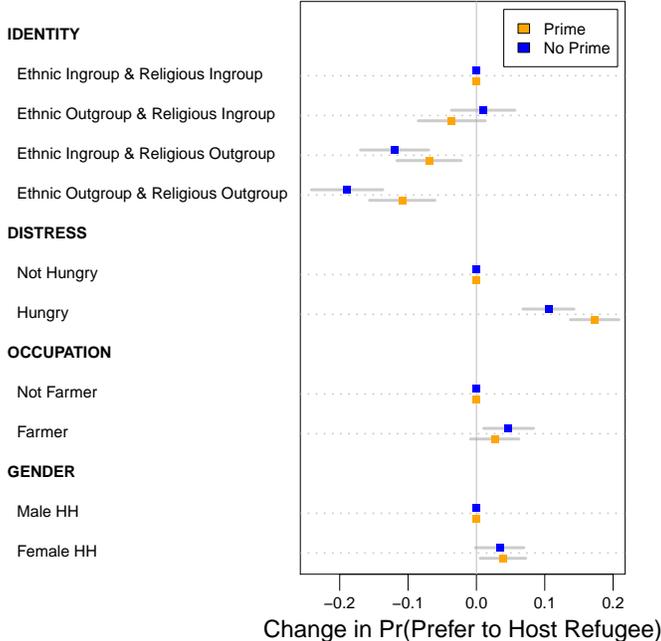
where i denotes the respondent, k the round or “choice task”, and j the depicted refugee family. In our experiment, $i \in \{1, 2, \dots, 1230\}$, $k \in \{1, 2, 3\}$, and $j \in \{1, 2\}$. Note that each respondent i yields 6 observations in this analysis: 3 rounds, and 2 choices per round. The unit of analysis is the hypothetical refugee family, the outcome is a binary indicator for whether the family is selected, and the explanatory variables are the family’s attributes. Standard errors are clustered by individual. For full details, see Hainmueller, Hopkins and Yamamoto (2014). Each attribute is randomly assigned and therefore orthogonal to all other attributes. Thus, equation (1) returns unbiased estimates of the average effect of each attribute on the probability that a refugee family is hosted. Because both outcome and independent variables are binary, the equation is non-parametrically estimated via OLS.

Conjoint analysis returns the *Average Marginal Component Effect* (AMCE), which is interpreted as the marginal effect of a particular attribute averaged over the joint distribution of the remaining attributes. In the case of restricted randomization where implausible profiles are eliminated, the AMCE is averaged over a restricted joint distribution. As discussed in Section 3, we employed complete randomization except for the subset of our sample where complete randomization would return profiles that are highly unlikely to be encountered in the real world. Specifically, respondents in Maryland, River Gee, and Grand Gedeh counties (constituting about 45% of the sample) are highly unlikely to have $\{\text{Ethnic Ingroup}, \text{Religious Outgroup}\}$ kin across the border. Accordingly this category is eliminated for the randomization that sample. Thus, the coefficients $\gamma_4 \dots \gamma_5$ can be interpreted as the ACME averaged over the remaining attribute combinations that are plausible in the real-world —

a set that includes $\{Ethnic\ Ingroup, Religious\ Outgroup\}$ only for the subset of the ethnic groups for which this category is likely to exist.

Figure 1 displays the results from the conjoint experiment among individuals in the empathetic prime control and treatment groups. Under the control condition, we observe substantial biases against religious outgroup refugees that are modestly ameliorated by co-ethnicity, strong preferences for distressed refugees, and modest preferences for female headed households and refugees with farming skills. To provide a substantive interpretation, “distressed” refugees without food are 11% more likely to be hosted than refugees with food, ceteris paribus, while refugees who are both ethnic and religious outgroups are 19% less likely to be hosted than refugees who are coethnic and coreligious to the host population.

Figure 1: Effect of Refugee Attributes on Whether Hosted



Note: This plot shows estimates of the effects of refugee attributes on the probability of being hosted across prime vs. no-prime sub-samples. Estimated by OLS with standard errors clustered by individual; horizontal bars represent 95% confidence intervals.

In the empathetic prime treatment group, preferences for distressed refugees are stronger and bias against religious outgroups is lower, as predicted by Hypothesis 2A.

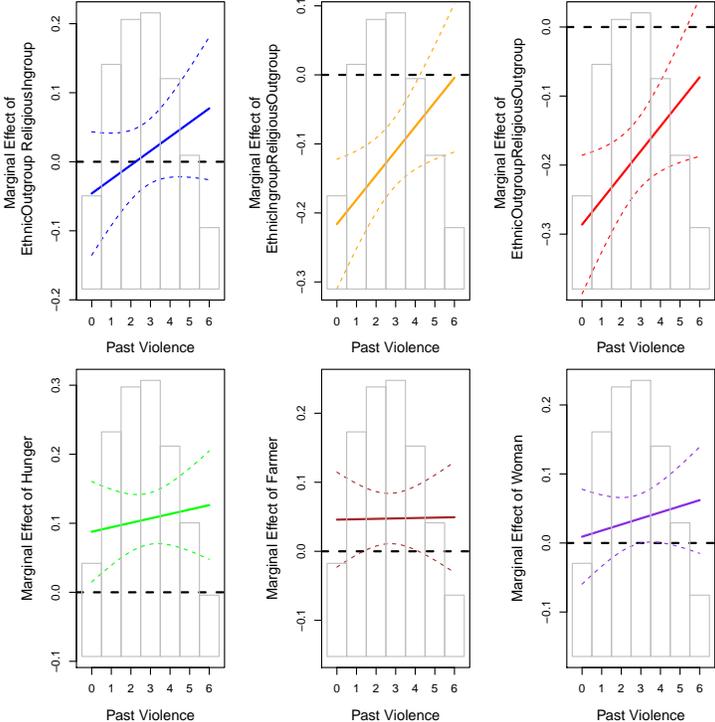
We find additional support for the theory of empathy born from violence in examining

heterogeneous preferences by past experience with violence. Figure 2 displays the marginal effects by past violence exposure graphically among those not primed prior to the conjoint experiment (since the prime effect may crowd-out heterogeneous responses).¹⁰ Figure 2 is remarkably clear: those with high levels of past exposure to violence are less biased against religious outgroups. The consistency of Figure 1 and Figure 2 provides validity to the empathetic prime and provides further evidence that past experience with violence causes a preference shift consistent with the theory of empathy born from violence.

We find no support that reciprocity, as proxied by past experience as a refugee, results in preference shifts (Appendix 3).

¹⁰Replication code for Figure 3 shows that estimates of the marginal effects are substantively unchanged when controlling for interactions with prewar variables that may affect selection into violence (X_{ij}^T from equation 2, below, and community fixed effects), though confidence intervals are about twice as large. Selection into violence is discussed below, and in detail in Appendix 4.

Figure 2: Marginal Effects by Past Wartime Violence Exposure



Note: This plot shows estimates of the marginal effects of the randomly assigned refugee attributes on the probability of being hosted by past wartime violence exposure. Estimated by OLS with standard errors clustered by individual; horizontal bars represent 95% confidence intervals. The density of wartime violence exposure is displayed in the background.

5.2 Altruism toward refugees

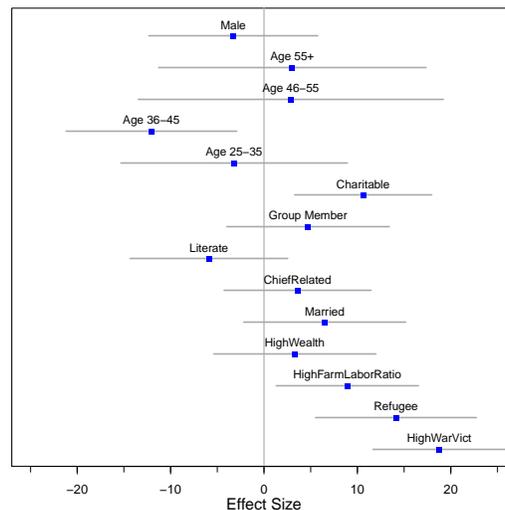
The results from the conjoint analysis suggest that Liberians’ past experience with violence causes an empathetic preference shift consistent with the theory of empathy born from violence. We now further test this theory by examining actual support provided to refugees in the 2011-2012 Ivoirian refugee crisis.

Our theory predicts that past experience with violent conflict will be a strong predictor of support for refugees. To test this proposition, we assess the influence of past violence exposure relative to a set of binary covariates and binary proxies for instrumental, material, and reciprocity-based motivations. Results are displayed in Figure 3. Past experience with violence, dichotomized at the 50th percentile, is among the strongest predictors of support

for refugees. Alternative cut-points have no material effect on the results. We take this as the first piece of observational evidence that support for refugees is powerfully affected by past exposure to violence.

We also see that past refugee experience predicts support for refugees. This appears to be driven by respondents hosting within networks established during displacement during the Liberian civil war, consistent with a theory of reciprocity. We further explore this pattern in ongoing work. For the present purposes, it suffices that refugee experience is uncorrelated with past violence exposure.¹¹ The fact that high farm size to labor ratio predicts hosting behavior provides suggestive evidence that instrumental calculations also motivated hosting. Lastly, a variety of indicators that proxy for social standing and engagement in the community also correlate positively with support for refugees.

Figure 3: Correlates of # Refugee Months Hosted



Past experience with violence and past experience as a refugee are the strongest predictors of support to refugees. High Farm size to labor ratio also predicts hosting, as well as indicators of community engagement. The outcome variable is the number of refugee months hosted (e.g. 3 refugees for 3 months takes a value of 9), predictors are binary, and estimation is by OLS with villaged fixed effects (omitted from figure) and standard errors clustered by village.

We now turn to a causal inference framework to estimate the effect of past violence

¹¹The pairwise correlation of refugee experience and violence exposure is .026 after partialling out village, age, and gender effects (p-value=.29), and only weakly correlated in the uncontrolled correlation (cor=.06, p-value=.02). See replication file, “Additional Analyses” for full details).

experience on hosting behavior. We do so via the following estimation equation:

$$Y_{ij} = \alpha_j + \gamma \mathbf{violvict}_{ij} + X_{ij}^T \beta + \epsilon_{ij} \quad (1)$$

where j denotes the village, i the individual and X_{ij} is a vector of fixed and prewar covariates,¹² and $\mathbf{violvict}$ is an additive index of six violent experiences during the conflict (mean=2.6).¹³ The identification assumption is that exposure to violence was independent of potential hosting behavior conditional on prewar covariates and village fixed effects. Estimates of γ from equation 1, as well as analogs without X_{ij} , are presented in Table 2. The results show a robust relationship between past violence exposure and support for refugees consistent with Hypotheses H1A and H1B. Coefficient estimates change little with the inclusion of control variables that yield meaningful increases in R-squared values, suggesting that omitted variables are not biasing the estimation (Oster 2014). To provide a substantive interpretation, a one unit increase increase in exposure to violence is associated with 5.6 additional refugee-months of hosting (Table 2, Column 2). Violence-affected Liberians are also more likely to host ethnic or religious outgroup refugees (Table 2, Columns 4 and 6).¹⁴

We also observe that past experience with violence is associated with hosting greater numbers of refugees who had health problems or were food insecure upon arrival, as well as refugees fleeing direct violence. These latter effects are particularly consistent with the empathy-born from violence hypothesis, which predicts greater altruistic behavior when there is a correspondence of hardship experience between giver and receiver.

¹²We include five age dummies, whether related to chief prior to war, parental education, whether family owned livestock before the war, prewar family occupation dummies, prewar family business ownership, gender, and ethnicity

¹³The index includes property destruction, violence against their self, serious injury due to violence, violence against family member, death of a family member due to violence, and violence witnessed. Alternative constructions factor analysis, have no material effect on the results.

¹⁴We also operationalize and analyze ethnic and outgroup hosting as the number of refugee months hosting an ethnic or religious outgroup. However, these variables are highly skewed. While the results remain significant, point estimates are misleading due to the skew. Moreover, coding is unclear for multi-ethnic or multi-religious families. For these reasons we report results for the dichotomous variables.

Table 2: The effect of past exposure to violence on hosting behavior

	# Refugee Months Host		Hosted Ethnic Outgroup		Hosted Religious Outgroup	
violvict	5.85*** (1.31)	5.58*** (1.43)	0.02** (0.01)	0.02*** (0.01)	0.01* (0.01)	0.01** (0.01)
R ²	0.25	0.30	0.22	0.34	0.08	0.20
Num. obs.	1595	1318	1070	1053	1070	1053
Y Mean	61	61	11	11	4	4
Village FE	Y	Y	Y	Y	Y	Y
Ctrl Vars	N	Y	N	Y	N	Y

	# Refugee Families Health Problems		# Refugee Families Food Insecure		# Refugee Families Fleeing Violence	
violvict	0.07*** (0.01)	0.07*** (0.01)	0.06*** (0.02)	0.06*** (0.02)	0.08*** (0.02)	0.07*** (0.02)
R ²	0.16	0.19	0.18	0.20	0.15	0.17
Num. obs.	1070	1053	1070	1053	1070	1053
Y Mean	.5	.5	.7	.7	.4	.4
Village FE	Y	Y	Y	Y	Y	Y
Ctrl Vars	N	Y	N	Y	N	Y

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Past experience with violence predicts support for refugees. Estimates of equation 2, along with its analog without control variables are presented for each outcome. The survey was updated part-way through the survey to include additional outcomes. Sample sizes vary accordingly. Covariates include: 5 age dummies, whether related to chief prior to war, parental education, whether family owned livestock before the war, prewar family occupation dummies, prewar family business ownership, gender, and ethnicity.

Appendix 4 discusses selection into violence, examines its correlates using prewar and fixed covariates, and presents a sensitivity analysis to unobserved confounding variables. The results suggest that omitted variables bias, such as reporting biases or selection into violence, would have to be more several times more confounding than any of the observed covariates to reduce the estimated effect below conventional levels of significance, a condition we believe unlikely.¹⁵ Robustness to selective return migration is also considered, and the results found to be robust under conservative assumptions.

5.3 Empathetic preference shifts in response to violence

The observational results presented thus far suggest that past experience with violence causes individuals to host more refugees, including ethnic and religious outgroup refugees and refugees in distress. The results in Table 2 alone, however, do not present evidence of a *preference shift* towards distressed refugees as a consequence of violence born from empathy, as predicted by our theory and demonstrated in the conjoint analysis. For example, the results in Table 2 are consistent with a story in which the violence-affected host more refugees, but select refugee types in equal proportion to their less-affected counterfactual.¹⁶

To test for a preference shift consistent with the theory of empathy born from violence, specifically Hypothesis H2B, we examine the composition of refugee-types hosted. Results are presented in Table 3. In support of Hypothesis H2B, we see a large shift towards distressed refugees, as measured by having health problems at arrival, as well as towards refugee families that were fleeing direct violence. We do not see a shift towards more food-insecure refugees, but this could be due to lack of variation — 92% of refugees families were described as “very hungry” or “starving” upon arrival by their hosts.

We also do not see any evidence that preferences for distressed refugees served as a cross-cutting bridge to outgroup hosting. We interpret this as neither evidence for nor against

¹⁵Substantively similar conclusions are drawn using Oster (2014)’s framework (this can be inferred from the coefficient stability in Table 2), though we stick with the current framework for ease of interpretation.

¹⁶By refugee type, we mean a particular refugee profile, following 2.

Table 3: Preference Shifts

	% Refugee Families Health Problems at arrival		% Refugee Families Food Insecure at arrival		% Refugee Families Fleeing direct violence	
	0.05*** (0.01)	0.04*** (0.01)	0.02 (0.01)	0.01 (0.01)	0.05*** (0.01)	0.04*** (0.01)
violvict						
R ²	0.11	0.14	0.11	0.14	0.10	0.12
Num. obs.	763	752	763	752	763	752
Village FE	Y	Y	Y	Y	Y	Y
Ctrl Vars	N	Y	N	Y	N	Y

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

our theory because such inference would require assumptions about the timing of outgroup relative to ingroup refugee arrival, their attribute distributions at arrival (e.g. what % within each group are “distressed”), and the transaction costs to switching between refugees, none of which are warranted. For example, the null findings may be due to the fact that hosts were given limited opportunities to host outgroup refugees, or because outgroups came later when hosts were already hosting at capacity, or because outgroup refugees also demonstrated lower levels of distress than ingroup refugees. Indeed, this appears the case: outgroup refugees were less likely to be hungry or have health problems at arrival, and less likely to be fleeing direct violence.

5.4 Semi-structured interviews on individuals’ self-reported motivations to host

We find additional support for theory of empathy born from violence in our in-depth field interviews, which were intended provide insight into how host community leaders made decisions during the crisis. These interviews suggest that an individual’s past experiences with hardship during flight, exile and violence triggered an empathetic response during the refugee crisis. Respondents commonly described experiences associated with the three components of empathy including 1) an emotional response to refugees’ plight; 2) sympathy for refugees; and 3) reference to their own experience during the Liberian civil war in a way that suggests enhanced perspective taking and vicarious arousal.

First, during interviews, leaders commonly related experiences of emotional distress dur-

ing the refugee crisis. One leader explained that when we saw refugees he felt “sorrowful” and “mindful [of their] condition” (Interview, Nimba County, June 2014). This reaction led members of the host communities to act. When asked why they hosted refugees, a leader explained that when he saw a refugees in distress, it was hard if not impossible to “pass by” the individual in need (Interview, Nimba County, June 2014). Another leader explicitly linked feelings of sympathy and the emotional response to refugees’ plight to decisions to host. He stated: “If you go and find a group of people without shelter, with all of their possessions, near your house, it looks sorrowful. So you go there and offer to host them and bring them to your house” (Interview, Grand Gedeh, May 2014).

Leaders also described their decisions to host as specifically influenced the recollection of their own experience during the Liberian civil war. For example, when asked why Liberians hosted refugees, one leader stated “I recall what we experienced!” (Interview, Grand Gedeh, June 2014). Another explained: “We know what it is to be a refugee...when you are refugees you leave everything in your country...so when someone is a refugee, you who pass through it before...you know the pros and cons about it.” (Interview, Nimba County, May 2014). Experiences of hardship made it easier to identify with refugees regardless of their backgrounds. “We Liberians, we experienced war. So when they say war drove them, when they talked about their problems, that the same thing happened to us Liberians before. So we embraced them” (Interview, River Gee, June 2014). One leader described the question that passed through his head when the refugees came: “They are human beings, are their own of lives and our own not the same?” (Interview, Grand Gedeh, June 2014).

5.5 Alternative mechanisms

Our theoretical framework positions empathy as a distinct process within the broader set of responses to violence posited by PTGT. These changes include new goals, improved interpersonal relationships, broader worldviews, greater activism, and greater pro-social orientations (Tedeschi and Calhoun 2004). Our interest, therefore, lies in identifying empathy as a dis-

tinct process within the broader set of changes that exerts an independent effect on hosting behavior.

To assess the possibility that our findings are driven by generalized increases in *Prosociality* rather than greater empathy, we identify a set of outcomes that proxy for the broader set of PTG changes in rural Liberia. The survey included several questions related to pro-social behavior: contributions to public goods in community in the past 30 days, and community group membership and meeting attendance. We use these measures to construct an index of *Prosociality*.

We find little evidence that hosting behavior is driven by greater *Prosociality* rather than greater empathetic capacity. When included as a control in the context of equation (1), the effect of violence exposure on refugee hosting (γ) is unaffected, suggesting *Prosociality* is not the operative mechanism. This result is consistent across all measures of hosting behavior included in Table 2. We also note that Hypothesis 2 — empathetic preference shifts — is not explained by the broader set of changes predicted by PTGT.

Another alternative explanation holds that hosting refugees is not the result of individual agency, but rather the outcome of an assignment processes by the village leadership. We found no evidence for this in our qualitative field interviews and there is no evidence of village-level assignment processes would covary with past violence victimization. To further test this proposition, NGO partners asked about it in a 2014 follow-up to the survey. For each refugee family hosted, the respondent reported whether they found the refugee family on their own, or whether a “bigman” in the community, such as a chief, youth leader, or other authority, facilitated. Likewise, for each family we asked whether a bigman pressured them to host or whether other community members pressured them to host. The results show that for 93% of refugee families, the host found them herself; only 5% of families hosted were associated with pressure from bigmen and only 9% of families hosted were associated with pressure from other community members. Table 4 examines this empirically following equation (1), above. Violence victimization is not associated with: being assigned refugees

by village authorities (Column 1) or Pressure from the Community (Column 3), and only weakly and negatively associated with pressure by village authorities (Column 2).

Table 4: Individual agency and the decision to host refugees

	% of Families found Herself	% Families Pressured by Bigmen	% Families Pressured by Community
violvict	0.00 (0.01)	-0.01* (0.01)	0.00 (0.01)
R ²	0.17	0.11	0.17
Num. obs.	418	418	418
Ctrl Vars	Y	Y	Y

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Violence victimization is not associated with: being assigned refugees by village authorities (Column 1) or Pressure from the Community (Column 3), and only weakly and negatively associated with pressure by village authorities (Column 2). OLS regression, clustered standard errors following Equation (1) above.

5.6 Village-level analysis and the complementary role of social norms

An important limitation of our analysis is that it relies on claims to the individual-level rather than population-level counterfactual, and our causal analysis is limited to within-village variation between individuals. This analysis will not detect the many important mechanisms by which conflict affects hosting behavior via processes that vary at the community level. For example, during conflict elites may generate outgroup animosity among the population as a whole in response to violence, even if the violence-affected hold less outgroup bias (Fearon and Laitin 2000; Horowitz 1985; Sambanis and Shayo 2013). Thus it could be the case that our results simply reflect the tendency of violence-affected Liberians to be more altruistic and egalitarian than their less-affected neighbors, but as a whole, violence affected communities could be considerably less altruistic. Alternatively, individuals' increases in empathetic capacity may have complementary effects on hosting behavior, as individuals positively reinforce altruism toward refugees.

As a consequence of this ambiguity, it would remain an open question whether our individual-level results aggregate to the population level. This is important from a policy perspective as well: are conflict-affected populations more or less supportive of refugees,

and are they more or less biased against outgroups? To address this problem, we aggregate our individual data at the village level (N=64) to examine how village-level support for refugees is associated with village-level violence exposure during the war. By aggregating to the village level, our estimated effect will incorporate individual-level mechanisms as well as village-level mechanisms (such as manipulation by elites in response to violence). Our results mirror our individual level findings and remain robust to county fixed-effects (see Appendix 3).

These results also provide suggestive evidence that social norms reinforce individuals' empathetic motivations to host refugees. We present three additional pieces of evidence to support this claim. First, we revisit our analysis from Table 2 by including the mean community-level of violence exposure and replacing village fixed effects with county fixed effects. We find that the mean community-level of violence exposure exerts a significant, positive and independent effect on 3 of the 6 hosting outcomes listed in Table 2. In addition, in the follow-up survey, respondents reported whether their village ever publicly celebrated those who were "hosting plenty refugees" as well as whether their friends ever praised them for hosting refugees. We find that the community mean level of violence exposure positively predicts these outcomes. This suggests that community level violence exposure promotes altruism toward refugees through mechanisms other than individual experiences with violence, such as through social norms.

This interpretation is also supported by our semi-structured field interviews to portray host communities' responses to the crisis. During interviews, many community leaders made references to the community's decision to host refugees and how the community came together to take action to help those in need. For example, one leader explained that when the refugees arrived, "we the town leaders we got together and discussed and we gave them [the refugees] a welcome statement and told them to feel free" (Interview, Nimba County, May 2014). Another leader described the hosting as a collective decision taken by the community: "We all came from exile before...so later when the people [Ivoirians] started coming

Table 5: Suggestive evidence on the complementary role of social norms

	# Refugee Months Host	# Hosted Ethnic Outgroup	# Hosted Religious Outgroup
violvict	5.59*** (1.36)	0.02** (0.01)	0.01** (0.01)
violvict (comm. mean)	13.00* (6.89)	-0.02 (0.03)	0.01 (0.03)
R ²	0.15	0.14	0.07
Num. obs.	1319	1054	1054
	# Refugee Families w/ Health Problems	# Refugee Families Food Insecure	# Refugee Families # Fleeing Direct Violence
violvict	0.07*** (0.01)	0.06*** (0.02)	0.07*** (0.01)
violvict (comm. mean)	0.10 (0.07)	0.14* (0.08)	0.12* (0.06)
R ²	0.09	0.10	0.10
Num. obs.	1054	1054	1054

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Community-level violence predicts support for refugees, even after controlling for individual-level exposure. Covariates include: 5 age dummies, whether related to chief prior to war, parental education, whether family owned livestock before the war, prewar family occupation dummies, prewar family business ownership, gender, and ethnicity.

everybody [in the community] started hosting them” (Interview, Nimba County, June 2014).

5.7 Generalizability

Our theory predicts that empathy born from violence can motivate altruistic behavior in diverse post-conflict context. We test our theory in the context of refugee-host relations, and it therefore remains an open question as to whether empathy motivates altruistic behavior outside of our context. We highlight this as an important area of future research. To provide suggestive evidence that it does, we draw on data collected in the same region in 2009 and 2010 by Blattman, Hartman and Blair (2014), which includes many of the same survey questions on wartime violence exposure. Their survey also asked whether the respondent contributed to sick families in their village in the past month, which fits our definition of altruism as action taken to benefit another at the expense of one’s own material welfare. Finally, the survey includes the religion and ethnicity of the respondent. Using both 2009 and 2010 rounds of the data provide 40 randomly selected respondents per village. We then aggregate individual level responses to ethnicity and religion to construct measures of village level ethnic diversity and consider whether the effect of violence exposure is attenuated in

Table 6: Generalizability

	Contribute food or \$ to sick villagers in past 30 days			
violence.experienced (0-14)	0.021*** (0.002)	0.015*** (0.003)	0.020*** (0.003)	0.015*** (0.003)
Community ELF	0.511*** (0.048)	0.702*** (0.158)		
violence.experienced \times c ELF	-0.010 (0.009)	-0.010 (0.009)		
Community Religious ELF			1.271*** (0.088)	1.688*** (0.422)
violence.experienced \times c_r ELF			-0.005 (0.012)	-0.008 (0.013)
Village Fixed Effects	Y	Y	Y	Y
Controls	N	Y	N	Y
R ²	0.099	0.136	0.099	0.128
Num. obs.	4800	4466	4800	4466

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

This table presents an out-of-sample test of the link between violence and altruism. Using data from 240 communities in rural Liberia, we show that violence is associated with an increased probability of contributing money or food to other villagers who were sick in the past 30 days. This effect is equally strong in diverse villages. Covariates include: 5 age dummies, whether related to chief prior to war, parental education, whether family owned livestock before the war, prewar family occupation dummies, prewar family business ownership, gender, and ethnicity.

diverse settings. Table 6 displays the results, and shows that wartime violence is linked to altruism and that this effect is equally strong in diverse villages. This result suggests that the positive relationship between violence exposure and greater altruism toward ingroup and outgroup others generalizes beyond the Ivoirian refugee crisis in Liberia.

6 Discussion and conclusion

This paper is motivated by the need to better understand the social legacies of conflict, and thereby our understanding of post-conflict reconciliation, economic activity, and political stability. We consider how violence affects intergroup altruism in diverse post-conflict context, developing a theory by which empathy born from violence motivates altruistic behavior toward both ingroup and outgroup others. While we test our theory in the context of refugee-host relations in a conflict-affected region, we provide suggestive empirical evidence that empathy born from violence influences behavior within diverse post-conflict societies

more generally.

In highlighting empathy as mechanism by which violence affects intergroup behavior, we aim to refine existing theory on the legacies of violence. Empathy is a response to violence that is distinct from the broader set of changes enumerated by post-traumatic growth theory. Empathy born from violence can bridge identity boundaries and motivate ingroup and outgroup altruism, even in the poorest regions of the world with histories of extreme intergroup violence.

Our results raise the prospect that survivors of violence may play an important role in promoting reconciliation in post-conflict context where group-based competition is no longer salient. When these conditions are met, rather than harbor lasting animosities toward rival groups, violence-affected individuals and communities may have greater capacities for empathy that promote intergroup altruism, cooperation, and reconciliation after conflict.

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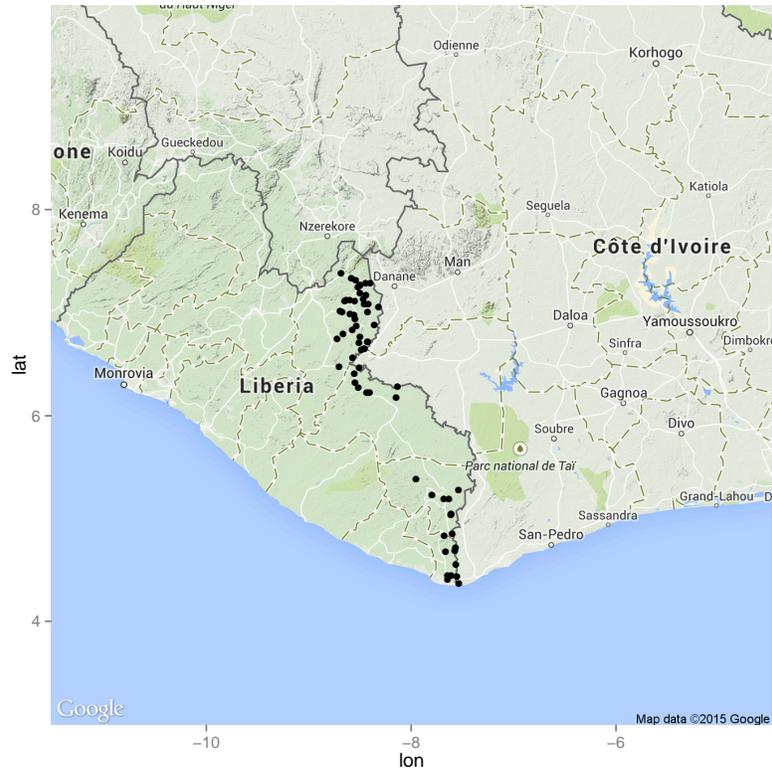
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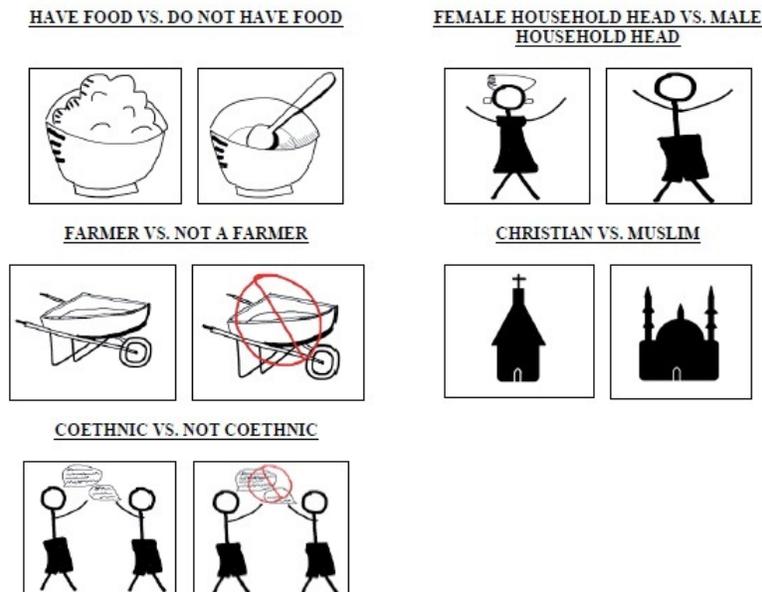
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1 Appendix: Border Region and Location of Communities



2 Appendix: Experimental Design



Pictographs were printed in black and white as 3 x 3 inch squares. Each attribute level was placed back-to-back with its conjugate, then laminated. Each enumerator thus had 10-double sided squares (5 for each profile), and would present them according to the instructions provided by the computer-assisted interview (CAI) device. The picture below displays practice survey enumeration during enumerator training. At the time, only four attributes were being used.



3 Appendix: Supplement to Main Results

3.A Past Experience as a Refugee and Hosting Preferences

Past Experience as a Refugee and Hosting Preferences

	Model 1
Intercept	0.47*** (0.04)
Woman HH	0.03 (0.03)
Farmer	0.05 (0.04)
Hunger	0.13*** (0.04)
EthnicOutgroupReligiousIngroup	0.02 (0.04)
EthnicIngroupReligiousOutgroup	-0.10** (0.05)
EthnicOutgroupReligiousOutgroup	-0.23*** (0.05)
Past Refugee	0.01 (0.05)
Woman HH:Past refugee	0.01 (0.04)
Farmer:Past refugee	-0.01 (0.04)
Hunger:Past refugee	-0.03 (0.04)
EthnicOutgroupReligiousIngroup:Past refugee	-0.02 (0.05)
EthnicIngroupReligiousOutgroup:Past refugee	-0.03 (0.06)
EthnicOutgroupReligiousOutgroup:Past refugee	0.07 (0.06)
R ²	0.05
Adj. R ²	0.05
Num. obs.	3352

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

OLS estimates of the effect of refugee attributes on the probability that a refugee family is hosted. Attributes are interacted with “Past Refugee”, a binary indicator for whether the respondent was previously a refugee. Sample restricted to the experimental control group. Standard errors clustered by respondent.

Community-Level Results

This section assesses whether individual-level results aggregate to the population level. We aggregate our individual data at the village level (N=64) to examine how village-level support for refugees is associated with village-level violence exposure during the war. The results, displayed below, mirror our individual level findings with the exception of outgroup hosting. This is likely because 1) this analysis does not exploit the within village variation and 2) the analysis is under-powered for these dichotomous variables.

Community-Level Results

	Comm Mean: # Months Hosted	Comm Mean: Hosted Ethnic Outgroup	Comm Mean: Hosted Religious Outgroup
Comm Mean: warvict	18.03** (8.90)	0.02 (0.04)	-0.01 (0.03)
R ²	0.19	0.59	0.22
Adj. R ²	0.13	0.56	0.17
Num. obs.	64	64	64
	Comm Mean: # Refugee Families Health Problems	Comm Mean: # Refugee Families Food Insecure	Comm Mean: # Refugee Families Fleeing Violence
cwarvict	0.16* (0.08)	0.19** (0.08)	0.18*** (0.06)
R ²	0.11	0.14	0.22
Adj. R ²	0.05	0.08	0.16
Num. obs.	64	64	64

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

4 Appendix: Selection into Violence Exposure and Sensitivity Analysis

Underlying our causal claim that previous exposure to violence affects hosting outcomes is the assumption that exposure to violence was independent of potential hosting behavior conditional on covariates. We first attempt to outline some reasons why this may be true. Second, we examine sources of selection empirically. Finally, we conducted a sensitivity analysis in the spirit of Imbens (2003).

The civil war was characterized by a high degree of indiscriminant violence by undisciplined fighters on all sides of the conflict (Ellis 2001; Lidow 2011). In addition, several factors limited civilians' ability to avoid violence. First, the flow of information during the conflict was extremely limited, with the total absence of modern information technologies. The limited-availability of reliable information mitigated the extent to which civilians could avoid violence. This was exacerbated by frequent changes in territorial control by various rebel groups (Ellis 2001; Lidow 2011). Second, travel for civilians was done by foot, and was extremely hazardous. This raised the cost of flight, keeping citizens in dangerous territories. Often, the process of fleeing had to be done through the bush rather than on the roads, lest they be found and accused of being "rebels" from another faction.

To be sure, there was also a significant degree of targeted violence. Individuals were targeted based on their ethnicity. Survival at checkpoints was often a matter of whether one could convincingly speak the rebel's dialect (Ellis 2001). Village chiefs and their kin, in particular, were targeted, as well as families of wealth or status. Having a "big belly" at a checkpoint was a distinct risk factor (Ellis 2001). Table 7 examines the correlates of violence exposure and indicates that, consistent with the discussion above, relation to the chief, household livestock ownership and formal sector employment is associated with higher levels of violence. These variables are weak predictors of hosting behavior and are unlikely to confound. We further control for these variables in our analysis using prewar covariates and fixed characteristic controls, and conduct sensitivity analyses to unobserved selection into violence that may correlate with contemporary outcomes.

Table 7: Determinants of Violence Exposure (0-6)

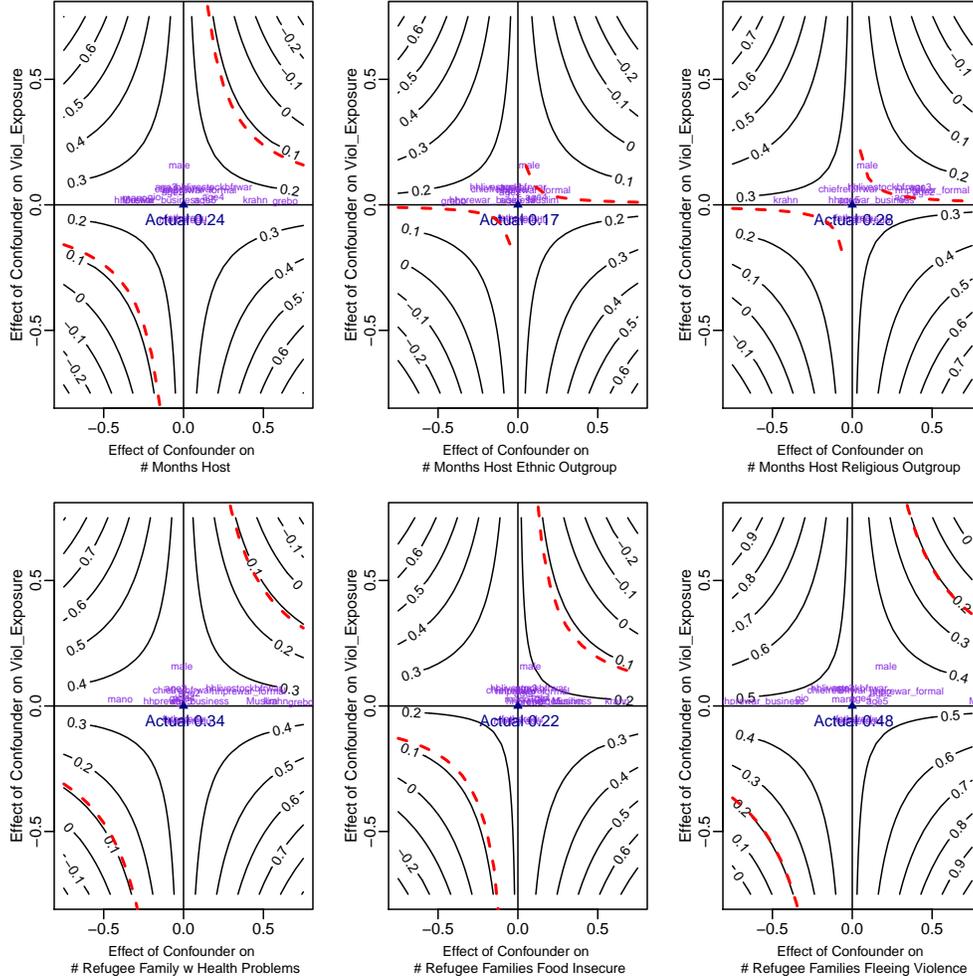
	Exposure to Violence
(Intercept)	1.91*** (0.34)
Age 25-35	0.25* (0.13)
Age 36-45	0.48*** (0.12)
Age 46-55	0.15 (0.17)
Age 55+	0.03 (0.17)
Related to chief (prewar)	0.19** (0.09)
Father edu	0.00 (0.01)
Mother edu	-0.01 (0.01)
HH owned livestock (prewar)	0.25** (0.11)
HH had formal job (prewar)	0.43** (0.18)
HH had business (prewar)	0.06 (0.35)
Muslim	0.35 (0.35)
gio ethnicity	0.64 (0.42)
grebo ethnicity	-0.24 (0.40)
krahn ethnicity	0.26 (0.29)
mano ethnicity	0.88 (0.58)
male	0.60*** (0.10)
R ²	0.16
Num. obs.	1319

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

OLS estimation with village fixed effects (omitted); standard errors clustered by village

We relax the assumption of conditional unconfoundedness via a sensitivity analysis in the spirit of Imbens (2003), following the adaptation by Hazlett (2013) and applied within a fixed effects framework. This approach poses the question: How big of an effect would a confounder have to have on *violvict* and the outcome to reduce the treatment effect below conventional levels of significance? Formally, consider the true model $y_{ij} = X_{ij}^T \beta + Z_{ij} \gamma + \epsilon_{ij}$, where X_{ij} is a matrix of covariates including the treatment variable *violvict* and after partialling out village fixed-effects, and Z_{ij} is an unobserved omitted variable or group of variables that varies within a village. Estimating the model via OLS using only observed variables X_{ij} yields $\beta = \hat{\beta} - \gamma(X'X)^{-1}X'Z$, where we recognize the latter term on the right-hand side as the correlation of X with Z multiplied by the effect of Z on Y. We can proceed via simulation to generate bounds on the treatment effect for pairwise values of γ and α , where α is the partial correlation of Z with *violvict* controlling for the other covariates in X. Figure 4 displays the results graphically.

Figure 4: Sensitivity to Unobserved Confounder



The “height” shown by contour lines gives the pairwise values of confounding with *violvict* (vertical axis) and the outcome (horizontal axis) needed to reduce the ATE of *violvict* to below significance at the $p=.05$ level using Equation (1). Both outcome and *violvict* are standardized for comparability across outcomes. Each contour provides the estimated ATE given pairwise levels of confounding. The origin provides the estimated ATE from Equation 1. The red contour indicates levels of confounding required to reduce the estimated ATE below levels of conventional significance. The pairwise correlations of binary observed covariates after partialling out village fixed effects are provided for comparison.

Figure 4 shows that the effect of *violvict* on the total number of months hosted, the number of months hosting refugee families with health problems or food insecurity upon arrival, or the number of refugee months hosted for families fleeing direct violence, is robust to confounding biases far greater than any of the observed covariates. Effects on ethnic and religious outgroups are below conventional levels of statistical significance in Table 2 of the main paper, though this is largely due to large standard errors rather than small point estimates. Figure 4 shows that observed variables do little to confound the point estimates.

Another source of potential bias is selective return migration. To understand this prob-

lem, consider the following table.

Table 8: Selective Migration

Attribute	Y_High	Y_Low
<i>violvict_high</i>	Population A	Population B
<i>violvict_low</i>	Population C	Population D

where each Population represents the original inhabitants of a community immediately prior to the war’s outbreak. Further imagine that Populations A, C, and D all return to the community after the war, but Population B, of unknown size, does not. In this case, our research design would falsely attribute *violvict* with higher levels of Y. In other words, violence exposure may simultaneously correlate with return migration and outcomes. Indeed, this problem would seem intractable — potential bias of unknown size and magnitude. Several points should alleviate our concerns. First, 80% of the sample was born in the community of survey enumeration, and violence is uncorrelated with being born in the community. Second, all results presented herein are substantively unchanged when restricting the sample to those born in the community. Finally, a similar survey conducted in 2008 and 2010 in the same region asked community leaders whether there were persons who lived in the community prior to the war and have not since returned, and this measure is uncorrelated with the mean level of violence exposure within a community (Blattman, Hartman and Blair 2014).

5 Appendix: Sample Selection

The 64 communities in our sample were selected purposively in the following manner: 32 were selected as part of the impact evaluation of the NGO programming — 16 to receive programming in 2014 and 16 comparison communities selected using pre-treatment census data and Mahalanobis matching (Sample 1). 32 communities were selected as part of an endline assessment of the well-being of Liberian host-communities 1.5 years after the height of the refugee crisis. 16 were designated host communities (DHC) by the Liberian government, and a matching 16 communities were selected for comparison (Sample 2). Sample 1 includes both baseline and endline data, collected in July-August 2013 and June 2014, respectively.

The table below uses 2008 Census data to compare in-sample communities to the remaining population of rural communities in Nimba, Grand Gedeh, River Cess, and Maryland counties. In sample communities are larger on average than the full population of communities, probably because the census includes small communities as distinct communities. The sample is otherwise balanced.

The DHC communities were part of a policy experiment conducted by the UNCHR in which local integration was used as a temporary means of service provision to refugees prior to the construction of refugee camps. Starting 2 months after onset of major refugee flows, refugees were directed to DHCs, where host structures were built and humanitarian support by NGOs and INGOs was concentrated. After the refugee camps were constructed, the DHCs continued to complement refugee camps. We might be concerned that this policy fundamentally changed patterns of refugee-host relationships, as DHCs were exposed to greater, more diverse numbers of refugees and greater humanitarian services. Three points may alleviate our concerns. First, our core outcome comes from survey questions that delivered in the same manner to all communities and specified a specific type of hosting that occurred across all communities. Second, our analysis uses village fixed effects. Third, the definition of hosting used in the survey (accepting refugees to “sleep under your roof and eat from your pot”) is distinct from support in DHCs, where separate structures were constructed for refugees. The main results use the full samples. Results are substantively unchanged after dropping the DHC sample.

Balance between insample communities and out of sample communities

	mean_insample	mean_outsample	mean_diff	pval
localitypop	775.36	312.58	462.77	0.00
cwealth	1.15	1.17	-0.02	0.75
ceduc	3.07	3.21	-0.14	0.43
cparent.death	0.56	0.56	-0.00	0.93

In sample communities are larger on average than the full population of communities, probably because the census includes small communities as distinct communities. The sample is otherwise balanced.