Promoting Peace Amidst Group Conflict: An Intergroup Contact Field Experiment in Nigeria

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Abstract

In this paper we test the ability of intergroup contact-based interventions to contribute to peace between groups involved in violent conflict. Intergroup conflict occurs when groups cannot negotiate to resolve disagreements. Negotiation requires trust that the other side will abide by its agreements, but groups in conflict share mutual distrust, which sabotages negotiations. Interventions based on intergroup contact can help groups build intergroup trust by giving each group the opportunity to update perceptions of the other side. Improved intergroup trust should allow the conflicting groups to settle disagreements and establish or maintain peaceful relations. We test the ability of contact-based interventions to promote peace between violently conflicting groups with a field experiment in Nigeria, where farmer and pastoralist communities are embroiled in a deadly conflict over land use. We evaluate the program with surveys, behavioral observation, and a behavioral game. We find that the program increases intergroup contact, intergroup trust, and perceptions of physical security of group members. These results suggest that building trust between conflicting groups is possible, and that structured intergroup contact is a promising method to do so.

1 Introduction

Intergroup conflict is responsible for many of the worst displays of human nature. In Nigeria's Middlebelt, intergroup conflict between sedentary farmers and semi-nomadic pastoralists is causing dire consequences: 7,000 deaths in the past five years, 300,000 internally displaces peoples from their homes in 2018, and $13 billion of lost economic productivity annually (Akinwotu 2018; Daniel 2018; Harwood 2019; McDougal et al. 2015). In the most recent conflict escalation beginning in the 2010s, groups of anti-pastoralist vigilantes have mobilized to preempt pastoralists from encroaching on land claimed by farmers (Duru 2018; McDonnel 2017). These groups, dubbed the "livestock guard", ransack pastoralist settlements and violently drive pastoralists from their homes, often with the assistance of the local farming community. Likewise, pastoralist groups enact vigilante justice, raiding and burning down farming villages seen to encroach on land claimed by pastoralists.

Though farmer-pastoralist conflict is widespread, mass violence between these groups has not broken out in all Middlebelt communities, and some farmers and pastoralists even defend each other. When a group of livestock guard came for one pastoralist settlement, the neighboring farming village arrested them to protect the pastoralists. After the arrest, farmers and pastoralists convened to decide what should be done with the prisoners. They agreed that the group of livestock guard should not be punished, but should be disarmed and released home – a proposition proposed by *the pastoralists*. These farmers and pastoralists had struggled with conflict, and people on both sides had died in past violence over farmland and grazing land. But their recent disagreements had not escalated to the point that each side wanted the other removed by any means necessary. The groups had created structures

and relationships that allowed them to settle disputes, and the same structures and relationships allowed them to reach a solution about the livestock guard.

Why were some farmer and pastoralist groups able to keep peace whereas others were consumed by the escalating conflict? Why were some communities able to overcome their disagreements whereas others were destroyed by them? These questions are not unique to Nigeria – similar intergroup dynamics plagued South Sudan, Myanmar, and Bosnia before those conflicts escalated into war. To understand why disagreements between groups devolve into violent conflict, we use the framework of intergroup conflict as a bargaining failure, which highlights trust problems as the primary obstacle to peace between groups. Groups in conflict have few opportunities to build trust and many to degrade it. We argue that providing opportunities for trust-building through cooperative intergroup contact improves the prospects for peace. Intergroup trust ameliorates bargaining problems and increases the likelihood of the groups resolving disputes through bargaining instead of violence.

Treating intergroup conflict as a bargaining failure is common in conflict studies (Fearon 1994b; Powell 2006). Both groups want some resource – land, power, etc – and must decide how to distribute that resource. Groups can either bargain and split the resource, or groups can fight to claim all of the resource or to increase their later bargaining position. Fighting is costly, so both groups are better off finding a bargained solution than fighting. However, bargaining fails if neither group trusts the other side to be truthful or to honor bargained agreements (Kydd 2000; Rohner, Thoenig, and Zilibotti 2013, 2013). Without a reason to trust in the other side, groups are likely to fight despite the costs to both sides.

A number of psychological mechanisms make intergroup trust amidst conflict rare. First, conflicting groups have biased perceptions of their own behavior and the behavior of the other side (Ward et al. 1997). Groups perceive their own belligerent actions as defensive and justified, and perceive the defensive actions of the other side as belligerent and gratuitous. Second, groups over-generalize negative behaviors of outgroup members as representative of the entire outgroup and under-generalize positive behaviors as exceptional to the outgroup (Hewstone 1990). These over and under-generalizations create and reinforce negative outgroup stereotypes. Together these two psychological mechanisms sabotage intergroup bargaining by causing the groups to have inaccurate beliefs about each other and each other's willingness to make peace.

Many peacebuilding organizations utilize peacebuilding approaches focused on improving intergroup attitudes. One such approach, intergroup contact theory, hypothesizes that interactions in which group members cooperate to achieve shared goals will improve intergroup attitudes. Cooperative contact provides positive personal experience with the outgroup, and those experiences reshape outgroup attitudes (Allport 1954; Pettigrew and Tropp 2008). This type of structured face-to-face contact also provides groups the opportunity to send costly signals about their trustworthiness and preference for peace (Kydd 2000; Lupia, McCubbins, and Arthur 1998; Rohner, Thoenig, and Zilibotti 2013). Intergroup contact is especially good at reducing intergroup conflict when groups cooperate to achieve superordinate goals – goals that require the cooperation of both groups and benefit both groups – because groups experience the material benefits of cooperation (Gaertner et al. 2000; Sherif 1958).

Although research shows support for intergroup contact theory generally (Pettigrew and Tropp 2006), its efficacy to reduce animosity amid real-world conflict is an open question (Ditlmann, Samii, and Zeitzoff 2017). Negative experiences with outgroups worsen intergroup relations, and individuals with the most negative attitudes are most likely to interpret intergroup contact negatively (Gubler 2013; Paolini, Harwood, and Rubin 2010). Its impact on interracial and interethnic attitudes has also been challenged by recent reviews (Paluck, Green, and Green 2017). Despite a lack of evidence about

the effects of contact-based peacebuilding programs in violent contexts, and the risks of programs going badly, peacebuilding organizations implement numerous contact-based interventions in violent contexts each year (Ditlmann, Samii, and Zeitzoff 2017). These peacebuilding programs might defuse intergroup conflict, but these programs also might do more harm than good.

To determine if a contact-based peacebuilding intervention improved intergroup trust, we conduct a field experiment with conflicting farmer and pastoralist communities in Nigeria. We randomly assigned communities with ongoing farmer-pastoralist violence to receive the peacebuilding intervention or serve as a control group. The intervention formed mixed-group committees and provided them with funds to build infrastructure that would benefit both communities; committees then collaboratively chose and constructed infrastructure projects.[1] The program also provided mediation training to each community's leaders and held forums where the groups discussed the underlying drivers of conflict. To measure the effects of the intervention, we conducted pre- and post-intervention surveys, a post-intervention natural public goods behavioral game,[2] and twelve months of systematic observations in markets and social events during the intervention.

We find that the program increased intergroup trust, intergroup contact, and perceptions of physical security. Compared to the control group, the treatment group expressed more trust in outgroup members and more willingness to interact with outgroup members. The treatment group was also less affected by violence and more able to engage in routine tasks, such as working, going to the market, and getting water. We see signs of the positive effects in fieldwork as well as in the data – the opening story in which farmers defended pastoralists from the livestock guard was a treatment site. The results also show that the intervention affected communities as a whole, not just community members directly involved in the intergroup contact. Individuals who directly engaged in intergroup contact changed the most positively from baseline to endline, but we also observe positive spillovers of trust to group members for whom we did not exogenously increase intergroup contact.

This study expands our knowledge about intergroup conflict in several ways. First, this study teaches us about the capacity of contact-based peacebuilding programs to improve intergroup relations. To our knowledge this is the first field experimental test of a contact-based peacebuilding program implemented during an active conflict. Each of the groups in our study were part of an active and escalating conflict, with members of each side being killed within one year of the intervention's onset. We evaluated the program's effects on both attitudinal and behavioral outcomes. The results suggest that contact-based peacebuilding programs can effectively improve relationships between conflicting groups and is especially relevant to conflict resolution in the cases of intergroup and intercommunal conflicts.

Second, we contribute to the literature about informal institutions, such as social norms, in shaping attitudes and behaviors. In some contexts, formal institutions ensure intergroup trust by punishing groups and individuals who "defect" on agreements. In many contexts, however, no formal institutions exist to encourage good behavior/solve collection action problems. This peacebuilding intervention sought to provide a structure in which groups can solve their own disagreements through negotiation, and that structure was informal rather than formal. Understanding how those informal structures form and shape attitudes, norms, and behaviors of the wider population addresses the questions of scale for these programs.

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[1]The communities built boreholes, market stalls, primary health care facilities, etc.

[2]In a public goods game (PGG), research subjects are given money and told they can keep the money or donate it to a public fund. Money donated to the public fund is multiplied by some amount and then shared with all subjects. Our PGG is *natural* because it was conducted in a natural setting, rather than a lab. The funding for the PGG came from the National Science Foundation under Grant No. 1656871.

Third, this paper teaches us about settling disputes between sedentary peoples and nomadic peoples. Violent conflict between settled peoples and nomadic peoples is on the rise throughout the world [chris: need cite]. This study focuses on the Fulani, the largest semi-nomadic people on Earth. Their way of life makes them targets for violence throughout Africa. Along with this conflict in Nigeria, Fulani in Mali have been the targets of violence so severe that researchers at Armed Conflict Location & Event Data Project called it "ethnic cleansing" (Economist 2019). Understanding how to prevent violent conflict between Fulani and settled peoples can help prevent violence that targets other nomadic and semi-nomadic peoples, such as the Tuaregs in West Africa, Uyghurs in Central Asia, Kochi in Afghanistan, and Khoisan of Southern Africa. Preventing such violence could help preserve a dying way of life.

In the next section we provide a theoretical framework for how and why opposing groups struggle to solve their disagreements through bargaining and negotiation, and elucidate how contact-based peacebuilding interventions help these groups resolve disagreements by improving intergroup trust. We then discuss Nigeria's farmer-pastoralist conflict, our experimental intervention, and two designs to evaluate the effect of the intervention. Last we present the results of the study and conclude by connecting these findings to psychological and economic theories of group conflict.

2 Theory

2.1 Intergroup Conflict as a Bargaining Problem

Intergroup conflict is most often conceptualized as a bargaining problem (Fearon 1994b; Powell 2006), and most solutions to reducing intergroup conflict strive to help the groups overcome those bargaining problems [Di Salvatore and Ruggeri (2017); chris: this cite is just for peacekeeping/intervention]. Intergroup conflict is a bargaining problem because both groups want some resource – land, power, etc – but cannot reach an agreement about how to distribute that resource peacefully. Because fighting is costly, the groups are better off reaching a bargained compromise and not fighting. However, two bargaining problems prevent this: information problems and commitment problems. To successfully bargain, the groups need (1) accurate information about each other's strengths and preferences, and/or (2) the assurance that each side will abide by its agreements.

An *information problem* arises because neither group possesses accurate information about the other, and both groups have an incentive to deceive the other in order to achieve an advantageous bargaining outcome. Groups have an incentive to portray themselves as stronger, more willing to fight, and less willing to make concessions than they truly are (Fearon 1995). This causes bargaining failures because neither group knows what agreements the other side is willing to accept or what their side should receive from bargaining. A *commitment problem* arises because neither group can credibly commit to honor bargained agreements if bargaining power shifts in the future. If bargaining power shifts, one side will have an incentive to renege on the status quo agreement to achieve a better agreement. Neither group can commit to honor agreements made today when both groups know that bargaining power may shift tomorrow.[3] Without the ability to commit to agreements, bargaining will not be successful.

Groups in conflict overcome these bargaining problems in several ways. Groups can overcome information problems through fighting, as they learn about each others capacity and willingness to

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[3]Power between the groups can shift due to factors that affect each group's preferences and capabilities. Internally, one group may grow in power or size, one group may disarm before the other, the groups may have factions that reject the agreement, the groups may change leaders, or group members attitudes may change for other reasons. Externally, the groups may gain or lose de facto or de jure state support, other external actors may switch allegiances, or some other shock may change each group's power relative to the other [Fearon (2004); Reed et al. (2016); chris: need to cite and add more]. Anything that will change group power in the future can cause commitment problems in the present.

fight (Smith and Stam 2003). Groups can also overcome information problems through mediation. An interested third party mediator with no stake in the conflict can provide accurate information to both sides, helping each side reach a bargain (Beber 2012; Kydd 2006; Ott 1972) Even if groups overcome information problems, commitment problems could prevent groups from reaching an agreement. The main way that groups overcome commitment problems is through strong third parties that add large costs to reneging on agreements (Doyle and Sambanis 2000; Fearon 1998; Powell 2006). Though each group may have an incentive to defect on its agreement if bargaining power changes in a vacuum, the groups have no incentive to defect if a strong third party is capable of and willing to punish defection from bargained agreements. With a third party punishing defection, the groups can bargain in good faith knowing that the other will abide by its word.

If we know how to resolve intergroup conflict, why does conflict persist? International mediation and intervention are dogged by two issues of motivation. First, mediators are often motivated for peace. This motivation implies that mediator's provide information that is biased towards encouraging the groups to negotiate a peace agreement. This means that peace-biased mediators do not solve information problems. For mediators to reduce information problems, groups engaged in bargaining must believe that mediators provide accurate, unbiased information. Since both groups know that mediators are biased towards peace, mediators may not help groups achieve peace (Fey and Ramsay 2010; Kydd 2006; Smith and Stam 2003). This same argument prevents mediators who are biased for or against disputants from solving information problems (Kydd 2006).[4]

Second, international actors may lack the motivation to mediate or to intervene into the conflict, even if one group reneges on its agreement. Intervention is costly and many international actors either cannot credibly commit to intervene into many conflicts or have no interest in intervening into many conflicts (Beber 2012; Fey and Ramsay 2010; Kydd 2006). This lack of motivation is especially relevant for intergroup conflict between groups within a state. Most international actors and strong third parties lack an incentive to intervene into intrastate intergroup conflicts, and these disputes tend to take place within states that lack the capacity to compel both sides themselves. Since intervention is costly, strong third parties have an incentive to intervene only *after* fighting escalates, so intervention will generally not be used to prevent conflict from escalating or to reduce the persistent, smaller-scale violence that plague many countries. Where external actors are motivated to intervene, intervention is a short-term peace solution and its effects do not endure with the departure of the external actor (Beardsley 2008; Rohner, Thoenig, and Zilibotti 2013; Weinstein 2005). Once the external actor leaves, the groups' commitment problem returns: with no one to punish defection, the groups have no reason to trust each other.

Rather than rely on third parties to mediate or punish defection, groups in conflict can achieve peace by building mutual trust. Reputations for trustworthiness are how groups overcome bargaining problems in the absence of formal enforcement mechanisms (Kydd 2000, @rohner2013war; Ostrom 2000; Ostrom and Walker 2003).[5] Mutual trust overcomes bargaining problems because information and

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[4]Whether mediation is benefited from biased or unbiased information is still a matter of debate. Some scholars believe bias improves mediation. The primary mechanisms proposed are that biased mediators are more likely to have relevant private information (Savun 2008) and that a biased mediator who tells his *favored* group to compromise will be heeded (Kydd 2003; Svensson 2009). We tend to side with Beber (2012), Rauchhaus (2006), Crescenzi et al. (2011), and Kydd (2006) and believe that unbiased mediation improves mediation outcomes. Kydd (2006) and Beber (2012) provide compelling theoretical arguments: effective mediators must be both unbiased and motivated, but that motivation and bias often overlap. We are also amenable to the argument of Fey and Ramsay (2010) that mediator success actually has less to do with information provision and more with agenda setting, offering carrots/threatening sticks, and serving as a back channel.

[5]Reputations based on previous behavior work because each group wants to be known as a trustworthy partner. As a

commitment problems are both, at their heart, problems of trust. For information problems, groups do not trust the information they receive from the other side. For commitment problems, groups do not trust the other side to abide by its agreements. Cultivating a reputation as a trustworthy partner in previous interactions gives a bargaining partner confidence that you are trustworthy in the present interaction.

However, groups in conflict are unlikely to build trusting relationships. Intergroup conflict fuels and is fueled by intergroup animosity, and animosity makes peace difficult to attain (Allport 1954; Sherif 1958). Groups in conflict dehumanize the outgroup (Bandura 1999; Haslam and Loughnan 2014; Leyens et al. 2007; Opotow 1990), view the outgroup as innately immoral (Brewer 1999, 435; Parker and Janoff-Bulman 2013; Weisel and Böhm 2015), do not naturally feel empathy for outgroup members (Gutsell and Inzlicht 2010), are unlikely to forgive outgroup transgression (Tam et al. 2007), and believe outgroup members to be untrustworthy and dishonest (Eidelson and Eidelson 2003; LeVine and Campbell 1972). With this set of attitudes, outgroups are unlikely to develop reputations as trustworthy partners, even if both groups prefer mutual cooperation to war. The groups are trapped in a mutually-defecting Prisoner's Dilemma.

2.2 How Intergroup Animosity Perpetuates Conflict

Pre-existing intergroup animosity prevents peaceful resolution of conflict in multiple ways. First, and most obviously, animosity directly exacerbates bargaining problems . Mutual distrust creates information and commitment problems. Animosity also changes the payoff that each group receives from peace and war through non-material rewards and costs, called internal evaluations (Ostrom and Walker 2003). Second, animosity biases perceptions of ingroup and outgroup behavior and preferences. These biases increase the likelihood that each group misperceives the other side's intentions and prevents groups from developing reputations for trustworthiness.

Intergroup animosity prevents peace by directly exacerbating bargaining problems. First, information and commitment problems are more likely to occur because groups are less likely to trust information they receive from the other side or any peace commitment they get from the other side. Second, animosity may change each groups preferences for peace and war. Individual group members might receive psychological benefits from "beating" the other side and from social differentiation with the outgroup (Wood 2000). Many groups define "us" by positive differences with a "them", and an individual can derive self-esteem from positively comparing their group identity to a rival group (Brewer 1999; Tajfel 1981). When group members derive self-esteem from feeling superior to an outgroup, group members may reject actions that recognize the outgroup as equals and rhetoric about group similarity due to cognitive dissonance. With these internal evaluations of peace and war, any outcome in which the other side achieves *any* utility could be viewed as a loss. Groups that see the other side as immoral may even receive some internal benefit from *harming* the outgroup (Weisel and Böhm 2015).

Along with psychological benefits, group members may receive social benefits for strong anti-outgroup stances and social sanctioning for cooperative behavior. The utility a group members gets for attitudes and behaviors depends largely on how those attitudes and behaviors are received by their ingroup

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trustworthy partner, they are likely to (1) attract other trustworthy partners, and (2) elicit trusting behavior from partners. Though defecting may be beneficial in one specific instance, getting a reputation for defection harms a group's ability to achieve agreements in the future. By relying on reputation and the knowledge that groups desire good reputations, groups can coordinate in the absence of a strong third party. The reputation argument is generally mobilized for contexts in which many groups observe the behavior of each other group. Because there are many potential partners in the future, a good reputation has high payoff in the form of many potential cooperative partners in the future. In our case, there are two main sides forming perceptions about the reputation of each other. This closely mimics repeating prisoner's dilemma interactions as shown in Axelrod (1980a) and Axelrod (1980b).

(Wood 2000). If group members perceive outgroup animosity as socially desirable, they may profess attitudes and engage in behaviors that signal outgroup animosity. These social *benefits* also entail reciprocal social *costs* that constrain the actions of group members and group leaders. Individuals who cooperate with the outgroup, as opposed to taking a hard stance against the other side's perceived transgressions, might be accused of betraying the outgroup for cooperating (Dreu 2010). Individuals in these groups might not engage in ingroup policing, a strong, costly signal to the other side that your group will uphold its peace agreements (Fearon and Laitin 1996). While cooperation and ingroup policing might be punished, aggressive actions may be seen as righteous self-defense of the ingroup and rewarded.

Leaders are also constrained by animosity among their group. Groups are known to punish leaders for cooperating or compromising with the outgroup (Fearon 1994a), so the set of peace agreements available to the leader of one group is likely unacceptable to the other.. Leaders of hostile groups also cannot credibly commit to keep their group members in check, as some subgroups may feel confident enough to disobey agreements made by group leaders. Due to increased (1) likelihood of information and commitment problems, (2) internal psychological evaluations that favor competition over cooperation, and (3) social sanctioning for group members and leaders perceived as betraying the ingroup, animosity reduces the likelihood of successful bargaining and makes violent conflict more likely.

Animosity also sabotages peace in indirect, pernicious ways. Indirectly, intergroup animosity biases interpretations of ingroup and outgroup behavior and prevents accurate perceptions about the attitudes and preferences of the outgroup. Ingroups will perceive their own belligerent actions as defensive and justified, and are more likely to perceive outgroup actions as aggressive, negatively motivated, and unjustified (Amir 1969; Hewstone 1990; Hunter, Stringer, and Watson 1991 chris: also cite confirmation bias, anchoring bias). The perceived negative behavior may be seen as *defining* the group, whereas any perceived positive behavior may be seen as the *exception* to the group (Allison and Messick 1985; Pettigrew 1979). Even positive intergroup interactions may be re-interpreted as negative to avoid cognitive dissonance (Festinger 1962; Gubler 2013; Paolini, Harwood, and Rubin 2010). Interpreting interactions negatively saps the power of each group to reassure the other with costly signals of willingness to cooperate in future interactions (Kydd 2000, @rohner2013war). It also adds to information problems as groups will hold inaccurate views about each other's willingness to cooperate and likelihood of upholding agreements. As Axelrod (1980a) shows, perceived untrustworthy behavior by one side often begets a cycle of mistrust.

The indirect effect of animosity on intergroup bargaining poses a major obstacle to groups overcoming bargaining problems through trustworthy reputations. Groups tend to ascribe negative traits to the outgroup, and also tend to remember negative events that corroborate their negative beliefs (Brewer 1991; Klein and Kunda 1992; Tajfel 1981, @brewer1999ingroupOutgroup). Groups in conflict are given many events to justify their negative perceptions. Initial negative perceptions, and the biased interpretations they beget, make it very difficult for a group to develop a positive reputation with a group they are in conflict with, even when both groups are motivated to end the conflict. This bias likely pushes each group's perception of the other side's willingness to make peace further from their true willingness to make peace and so reputations hinder, rather than aid, intergroup bargaining processes.

Reputations for trustworthiness are also hampered by a lack of opportunities for groups to observe each others behavior and update perceptions of the outgroup's trustworthiness. Compounding that problem, few of the outgroup's interactions will be with groups that are relevant for predicting the outgroup's behavior towards the ingroup, providing fewer opportunities for updating. This means

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that the main opportunity to observe outgroup behavior and learn their reputation is the ingroup's own interactions with the outgroup. For groups in conflict, these opportunities are likely rare and almost always adversarial.

2.3 Peacebuilding Interventions to Improve Intergroup Attitudes

The problems of negative intergroup attitudes suggests that improving those attitudes could lead to peace-promoting behaviors and reduce conflict. One approach to improving intergroup attitudes comes from intergroup contact theory (Allport 1954). Intergroup contact theory hypothesizes that intergroup relations can be improved through interactions in which group members (1) cooperate (2) with equal status (3) to achieve shared goals (4) with the support of elites.[6]. Improving relations – especially improving trust – can help groups overcome bargaining problems and reduce the likelihood of violence.

The effectiveness of intergroup contact has been demonstrated in a variety of contexts and using a variety of methodological approaches (Paluck, Green, and Green 2017; Pettigrew and Tropp 2006). Notably, intergroup contacted programs improved relations between white people and black people in the U.S. South Africa, and Norway (Burns, Corno, and La Ferrara 2015; Finseraas and Kotsadam 2017; Marmaros and Sacerdote 2006), Jews and Arabs (Ditlmann and Samii 2016; Yablon 2012), and Hindus and Muslims in India (Barnhardt 2009). In Nigeria, a recent study found that intergroup contact between Muslims and Christians decreased discrimination relative to a group that experienced *intragroup* contact, suggesting that intergroup contact can work by countering the adverse effects of ingroup-only experiences (Scacco and Warren 2018).

Intergroup contact is proposed to affect a myriad of intergroup attitudes. Here we focus on six: (1) increased trust, (2) reduced anxiety and threat, (3) reduced social distance (4) expansion of ingroup to include the former outgroup, and (5) perceptions of material benefit from cooperation.

Intergroup contact gives groups an opportunity to learn about each other and update opinions based on personal experience. This updating can increase trust and decrease feelings of threat and anxiety (Hewstone et al. 2006; Page-Gould, Mendoza-Denton, and Tropp 2008). Intergroup trust increases because contact gives groups the opportunity to signal trustworthiness and preferences for cooperation to the other group (Kydd 2000, @rohner2013war). Threat and anxiety reduce as familiarity with outgroup members increases. Feelings of threat and anxiety often arise from fear of the unknown, and through intergroup contact the two groups to get to know each other.

Intergroup contact can show the groups how their values and interests align, making the groups feel closer. The increased closeness can manifest as reduced social distance and even a new collective identification that includes both groups. Groups in conflict often use the outgroup to define the ingroup – the outgroup's _bad_ness helps define the ingroup's _good_ness (Allport 1954; Brewer 1999; Tajfel 1981). Contact can make salient many similarities between the groups, reducing feelings of social distance and even helping to craft a joint identity that encompasses both groups (Gaertner and Dovidio 2014).

Intergroup contact can also show the groups how their material status benefits from cooperation. Group animosity often arises due to the competition for resources that both groups claim or desire (Sherif 1958). Intergroup contact to achieve a goal that benefits both groups (1) alleviates material deprivation and (2) associates intergroup cooperation with positive material outcomes. By cooperating

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[6]Under other conditions – incidental contact, intergroup competition, interactions in which one group has power over the other, elite disapproval of intergroup contact – the structure of the contact may *not* improve relations (Enos 2014; Forbes 1997).]

for joint benefit in the present groups can see how cooperative behavior in the future will benefit both groups.

3 Context

Farmer-pastoralist conflict in Nigeria's Middle Belt provides a context to learn about intergroup conflict. Nigeria's Middle Belt divides the country between north and south, and houses a blend of various ethnic groups, with no clear majority. The south comprises primarily Christian farmers from various ethnic groups, while Muslims from the Hausa and Fulani ethnic groups — including the mostly Fulani pastoralists — dominate the north of the country. These religious, ethnic, and occupational identities intersect and create deep fault lines between communities. Historically, these communities interacted through trade and shared access to land. However, in recent years, interconnected factors have made these interactions more contentious. The Middle Belt has been stressed by climate change, population booms, migration, and government policies perceived to favor some groups over others. These stressors have sparked violent conflict between farmers and pastoralists in recent years.

Climate change contributes to the conflict in two ways. First, changing climate has reduced available water sources and land conducive to farming or grazing. As the Sahara expands southward (Thomas and Nigam 2018) and water sources dry (Okpara et al. 2015), farmers and pastoralists have to share fewer resources. Second, changing climate pushes more pastoralists southward into the Middle Belt.[7] Their southward migration of pastoralists who formerly resided in northern Nigeria causes even more demand for land and water as those resources are becoming scarce.

Land scarcity is exacerbated by Nigeria's population boom. Nigeria's population increased from 73 million people in 1980 to an estimated 200 million people in 2019. The rapidly growing population means increased demand for farming and grazing land, simultaneous with the decreasing supply of farming and grazing land. The dual pressures of increasing demand and decreasing supply have fueled farmer-pastoralist conflict in recent years (Unah 2018). Sharing land is easier when people are scarce and land is plentiful; it is not so easy when land is scarce and people are plentiful.

Land scarcity and new migrants jeopardize traditional agreements that have managed farmer-pastoralist interactions for decades. Farmers and pastoralists residing in Nigeria's Middle Belt developed agreements about seasonal land sharing, exchanges for crop residue and animal manure, compensation for damage to crops by livestock, and other arrangements that helped them share resources and avoid conflict. As land scarcity increased, these traditional agreements were increasingly broken (Cotula et al. 2004; Kuusaana and Bukari 2015). These agreements were also less likely to be implemented by the pastoralists migrating into the Middle Belt, who were unaware of these agreements and not involved in forging them. Their use of land beyond these traditional agreements has further ignited tensions.

Grievances related to access land and water points are compounded by government policies perceived to favor farmers. Land privatization enacted in recent decades encouraged farmers to plant crops that occupy land continunously, like orchards, and effectively nullified farmer-pastoralist land sharing agreements (Bassett 2009). Official cattle routes and reserves for moving herds are rarely enforced by the government, leading farmers to plant crops in once-protected areas, which further limits pastoralists' available grazing space. The "indigene versus settler" policy limits land ownership and other rights, including political representation, to certain ethnic groups in each state (Network 2014). Certain communities – often pastoralists, who are seen as "settlers" – are denied the right to run for public office, limiting the incorporation of their views into local policies.

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[7]In addition to the role of resource scarcity, Hoffmann and Mohammed (2004) also suggests that southward transhumance by Tuareg groups pushes Fulani pastoralists further south.

Compounding matters, the government of Benue State enacted an anti–open grazing law in November 2017, sparking more violence because many pastoralists reasonably viewed the law as biased against their way of life. Benue mobilized state-sanctioned vigilante groups called "livestock guard" to enforce the law, but the livestock guard have sometimes sought out pastoralists, rather than guard farmland.[chris: Duru (2018) benue police arresting livestock guard and benue courts releasing the guard; cite other news articles about livestock guard]

These factors – climate change, increasing population, migration, and government policy – have broken the agreements that previously governed interactions between farmers and pastoralists. These factors have challenged the interdependence among the groups and the benefits and costs of reaching agreements. As farmers in Nigeria began to raise their own livestock (Hoffmann and Mohammed 2004), the need for manure from pastoralists decreases. As governments allocate private property to settled people, pastoralists increasingly destroy crops when using ancestral grazing routes. And as demand for agriculture products rise, prices for crop destruction must increase to account for lost revenue. These changes could seem like "defecting" on previous agreements, suggesting to each side that the other is untrustworthy. Perceived untrustworthy behavior begets a cycle of distrust, culminating in the violent farmer-pastoralist conflict of recent years.

This persistent violence continues to have debilitating effects on Nigerians and the economy. First, it has taken many lives. In 2013 alone, Plateau, Kaduna, Nasarawa, and Benue states registered more than 100 incidents of violent conflict, accounting for more than 1,050 deaths (Mercy Corps 2018). The more recent violence left 300,000 displaced (Akinwotu 2018) and more than 1,476 dead in 2018 (Harwood 2019). The Middle Belt is considered Nigeria's "food basket" and is central to key value chains throughout the country, including beef, dairy, and cash crops such as cassava. This violence has impeded food production and threatens to create a food shortage (Hailemariam 2018). Before the latest surge in violence, the conflict was costing the Nigerian economy $13.7 billion a year (McDougal et al. 2015). As one reporter noted, "The countryside is littered with the charred ruins of homes, schools, police stations, mosques and churches." (McDonnel 2017).

Farmer-pastoralist conflict in the Middle Belt is not dissimilar from current and past conflicts in other parts of the world. Throughout Sahel – farmer-pastoralist clashes are a persistent problem throughout the Sahel and savannah areas of Africa, including Mali, the Ivory Coast (Bassett 1988, 2009), Niger (Thebaud and Batterbury 2001), and Ghana (Tonah 2002). Farmer-pastoralist clashes are destabilizing to these countries politically, socially, and economically. In South Sudan, Myanmar, Bosnia. "Range wars" between farmers and ranchers in 19th and early 20th century American West. Can learn about intergroup conflict generally from farmer-pastoralist conflict in Nigeria's Middle Belt. These conflicts are primarily rural and the state does not project power to these areas. It is often viewed as biased for or against one group.

3.1 Intervention

The intervention formed mixed-group committees and provided them with funds to build infrastructure that would benefit both communities; committees then collaboratively chose and constructed infrastructure projects. It started with a series of community meetings, beginning with separate farmer and pastoralist meetings that built up to joint decision-making meetings with the two groups together. Each joint project committee included an even number of farmers and pastoralists, as well as women and youth representatives, and totaled between 12 and 15 members. Each committee received two grants, one for quick-impact projects, of approximately $2,000, and one for joint projects, of approximately $25,000.

The quick-impact projects were conceived as a trust-building initiative, intended to let community

members see that cooperation was possible. Projects, managed by both farmers and pastoralists, included hand pumps, construction or rehabilitation of market stalls and schools, rehabilitation of health centers, and construction of fences along grazing routes to protect farmlands. The joint economic development projects aimed to address an underlying issue related to the conflict: sharing of resources that impact livelihoods. Pollution of water, affecting both farming and livestock, was the primary issue people raised. As a result, each site received a new borehole well, with farmer and pastoralist youth helping to construct the wells.

The program also provided mediation training to each community's leaders and held forums where the groups discussed the underlying drivers of conflict.

These projects were designed with the conditions of Contact Theory in mind. Groups (1) cooperated with (2) equal status to achieve (3) shared goals with (4) support of local authorities. These projects were meant to help the groups solve some underlying resource problems that drove conflict. Collectively, these project give groups the opportunity so send costly signals about their willingness to cooperate (Kydd 2000, @rohner2013war).

Will these cooperative interactions allow each group to trust the other?

References

Akinwotu, Emmanuel. 2018. "Nigeria's Farmers and Herders Fight a Deadly Battle for Scarce Resources." *New York Times*. https://www.nytimes.com/2018/06/25/world/africa/nigeria-herders-farmers.html.

Allison, Scott T, and David M Messick. 1985. "The Group Attribution Error." *Journal of Experimental Social Psychology* 21(6): 563–79.

Allport, Gordon. 1954. "The Nature of Prejudice." *Garden City, NJ Anchor*.

Amir, Yehuda. 1969. "Contact Hypothesis in Ethnic Relations." *Psychological bulletin* 71(5): 319.

Axelrod, Robert. 1980a. "Effective Choice in the Prisoner's Dilemma." *Journal of conflict resolution* 24(1): 3–25.

———. 1980b. "More Effective Choice in the Prisoner's Dilemma." *Journal of Conflict Resolution* 24(3): 379–403.

Bandura, Albert. 1999. "Moral Disengagement in the Perpetration of Inhumanities." *Personality and social psychology review* 3(3): 193–209.

Barnhardt, Sharon. 2009. "Near and Dear? Evaluating the Impact of Neighbor Diversity on Inter-Religious Attitudes." *Unpublished working paper*.

Bassett, Thomas J. 2009. "Mobile Pastoralism on the Brink of Land Privatization in Northern côte d'Ivoire." *Geoforum* 40(5): 756–66.

Beardsley, Kyle. 2008. "Agreement Without Peace? International Mediation and Time Inconsistency Problems." *American journal of political science* 52(4): 723–40.

Beber, Bernd. 2012. "International Mediation, Selection Effects, and the Question of Bias." *Conflict Management and Peace Science* 29(4): 397–424.

Brewer, Marilynn B. 1991. "The Social Self: On Being the Same and Different at the Same Time." *Personality and social psychology bulletin* 17(5): 475–82.

———. 1999. "The Psychology of Prejudice: Ingroup Love and Outgroup Hate?" *Journal of social issues* 55(3): 429–44.

Burns, Justine, Lucia Corno, and Eliana La Ferrara. 2015. *Interaction, Prejudice and Performance. Evidence from South Africa.* Working paper.

Cotula, Lorenzo, Camilla Toulmin, Ced Hesse, and others. 2004. *Land Tenure and Administration in Africa: Lessons of Experience and Emerging Issues.* International Institute for Environment; Development London.

Crescenzi, Mark JC, Kelly M Kadera, Sara McLaughlin Mitchell, and Clayton L Thyne. 2011. "A Supply Side Theory of Mediation 1." *International Studies Quarterly* 55(4): 1069–94.

Daniel, Soni. 2018. "Anti-Open Grazing Law: Nass, Benue, Kwara, Taraba Tackle Defence Minister." *Vanguard.* https://www.vanguardngr.com/2018/06/anti-open-grazing-law-nass-benue-kwara-taraba-t

Di Salvatore, Jessica, and Andrea Ruggeri. 2017. "Effectiveness of Peacekeeping Operations." *Oxford Research Encyclopedia of Politics.*

Ditlmann, Ruth K, and Cyrus Samii. 2016. "Can Intergroup Contact Affect Ingroup Dynamics? Insights from a Field Study with Jewish and Arab-Palestinian Youth in Israel." *Peace and Conflict: Journal of Peace Psychology* 22(4): 380.

Ditlmann, Ruth K, Cyrus Samii, and Thomas Zeitzoff. 2017. "Addressing Violent Intergroup Conflict from the Bottom up?" *Social Issues and Policy Review* 11(1): 38–77.

Doyle, Michael W, and Nicholas Sambanis. 2000. "International Peacebuilding: A Theoretical and Quantitative Analysis." *American political science review* 94(4): 779–801.

Dreu, Carsten KW de. 2010. "Social Value Orientation Moderates Ingroup Love but Not Outgroup Hate in Competitive Intergroup Conflict." *Group Processes & Intergroup Relations* 13(6): 701–13.

Duru, Peter. 2018. "Court Stops Inspector General from Proscribing Benue Livestock Guard." *Vanguard.* https://www.vanguardngr.com/2018/11/court-stops-ig-from-proscribing-benue-livestock-gua

Economist, The. 2019. "Malicious Malitias: States in the Sahel Have Unleashed Ethnic Gangs with Guns." *The Economist.* https://www.economist.com/middle-east-and-africa/2019/05/04/states-in-the-sahel-have-unleashed-ethnic-gangs-with-guns.

Eidelson, Roy J, and Judy I Eidelson. 2003. "Dangerous Ideas: Five Beliefs That Propel Groups Toward Conflict." *American Psychologist* 58(3): 182.

Enos, Ryan D. 2014. "Causal Effect of Intergroup Contact on Exclusionary Attitudes." *Proceedings of the National Academy of Sciences* 111(10): 3699–3704.

Fearon, James D. 1994a. "Domestic Political Audiences and the Escalation of International Disputes." *American political science review* 88(3): 577–92.

———. 1994b. "Ethnic War as a Commitment Problem." In *Annual Meetings of the American Political Science Association*, 2–5.

———. 1995. "Rationalist Explanations for War." *International organization* 49(3): 379–414.

———. 1998. "Commitment Problems and the Spread of Ethnic Conflict." *The international spread of ethnic conflict* 107.

———. 2004. "Why Do Some Civil Wars Last so Much Longer Than Others?" *Journal of peace research* 41(3): 275–301.

Fearon, James D, and David D Laitin. 1996. "Explaining Interethnic Cooperation." *American political science review* 90(4): 715–35.

Festinger, Leon. 1962. 2 *A Theory of Cognitive Dissonance*. Stanford university press.

Fey, Mark, and Kristopher W Ramsay. 2010. "When Is Shuttle Diplomacy Worth the Commute? Information Sharing Through Mediation." *World Politics* 62(4): 529–60.

Finseraas, Henning, and Andreas Kotsadam. 2017. "Does Personal Contact with Ethnic Minorities Affect Anti-Immigrant Sentiments? Evidence from a Field Experiment." *European Journal of Political Research* 56(3): 703–22.

Forbes, Hugh Donald. 1997. *Ethnic Conflict: Commerce, Culture, and the Contact Hypothesis*. Yale University Press.

Gaertner, Samuel L, and John F Dovidio. 2014. *Reducing Intergroup Bias: The Common Ingroup Identity Model*. Psychology Press.

Gaertner, Samuel L et al. 2000. "Reducing Intergroup Conflict: From Superordinate Goals to Decategorization, Recategorization, and Mutual Differentiation." *Group Dynamics: Theory, Research, and Practice* 4(1): 98.

Gubler, Joshua R. 2013. "When Humanizing the Enemy Fails: The Role of Dissonance and Justification in Intergroup Conflict." In *Annual Meeting of the American Political Science Association*,

Gutsell, Jennifer N, and Michael Inzlicht. 2010. "Empathy Constrained: Prejudice Predicts Reduced Mental Simulation of Actions During Observation of Outgroups." *Journal of experimental social psychology* 46(5): 841–45.

Hailemariam, Adium. 2018. "Nigeria: Violence in the Middle Belt Becomes Major Concern for President Buhari." *Frontera*. https://frontera.net/news/africa/nigeria-violence-in-the-middle-belt-becom

Harwood, Asch. 2019. "Update: The Numbers Behind Sectarian Violence in Nigeria." *Council on Foreign Relations*. https://www.cfr.org/blog/update-numbers-behind-sectarian-violence-nigeria.

Haslam, Nick, and Steve Loughnan. 2014. "Dehumanization and Infrahumanization." *Annual review of psychology* 65: 399–423.

Hewstone, Miles. 1990. "The 'Ultimate Attribution Error'? A Review of the Literature on Intergroup Causal Attribution." *European Journal of Social Psychology* 20(4): 311–35.

Hewstone, Miles et al. 2006. "Intergroup Contact, Forgiveness, and Experience of 'the Troubles' in Northern Ireland." *Journal of Social Issues* 62(1): 99–120.

Hoffmann, Irene, and Isiaka Mohammed. 2004. "THE Role of Nomadic Camels for Manuring Farmers'FIELDS in the Sokoto Close Settled Zone, Northwest Nigeria." *Nomadic Peoples* 8(1): 99–112.

Hunter, John A, Maurice Stringer, and RP Watson. 1991. "Intergroup Violence and Intergroup Attributions." *British Journal of Social Psychology* 30(3): 261–66.

Klein, William M, and Ziva Kunda. 1992. "Motivated Person Perception: Constructing Justifications for Desired Beliefs." *Journal of experimental social psychology* 28(2): 145–68.

Kuusaana, Elias Danyi, and Kaderi Noagah Bukari. 2015. "Land Conflicts Between Smallholders and Fulani Pastoralists in Ghana: Evidence from the Asante Akim North District (Aand)." *Journal of rural studies* 42: 52–62.

Kydd, Andrew. 2000. "Trust, Reassurance, and Cooperation." *International Organization* 54(2): 325–57.

———. 2003. "Which Side Are You on? Bias, Credibility, and Mediation." *American Journal of Political Science* 47(4): 597–611.

Kydd, Andrew H. 2006. "When Can Mediators Build Trust?" *American Political Science Review* 100(3): 449–62.

LeVine, Robert A, and Donald T Campbell. 1972. "Ethnocentrism: Theories of Conflict, Ethnic Attitudes, and Group Behavior."

Leyens, Jacques-Philippe et al. 2007. "Infra-Humanization: The Wall of Group Differences." *Social Issues and Policy Review* 1(1): 139–72.

Lupia, Arthur, Mathew D McCubbins, and Lupia Arthur. 1998. *The Democratic Dilemma: Can Citizens Learn What They Need to Know?* Cambridge University Press.

Marmaros, David, and Bruce Sacerdote. 2006. "How Do Friendships Form?" *The Quarterly Journal of Economics* 121(1): 79–119.

McDonnel, Tim. 2017. "Why It's Now a Crime to Let Cattle Graze Freely in 2 Nigerian States." *National Public Radio (NPR).* https://www.npr.org/sections/goatsandsoda/2017/12/12/569913821/why-its-now-a-crime-to-let-cattle-graze-freely-in-2-nigerian-states.

McDougal, Topher L et al. 2015. "The Effect of Farmer-Pastoralist Violence on Income: New Survey Evidence from Nigeria's Middle Belt States." *Economics of Peace and Security Journal* 10(1): 54–65.

Network, Nigeria Research. 2014. "Indigeneity, Belonging, and Religious Freedom in Nigeria: Citizens' Views from the Street." *5. NRN Policy Brief.*

Okpara, Uche T, Lindsay C Stringer, Andrew J Dougill, and Mohammed D Bila. 2015. "Conflicts About Water in Lake Chad: Are Environmental, Vulnerability and Security Issues Linked?" *Progress in Development Studies* 15(4): 308–25.

Opotow, Susan. 1990. "Moral Exclusion and Injustice: An Introduction." *Journal of social issues* 46(1): 1–20.

Ostrom, Elinor. 2000. "Collective Action and the Evolution of Social Norms." *Journal of economic perspectives* 14(3): 137–58.

Ostrom, Elinor, and James Walker. 2003. *Trust and Reciprocity: Interdisciplinary Lessons for Experimental Research.* Russell Sage Foundation.

Ott, Marvin C. 1972. "Mediation as a Method of Conflict Resolution: Two Cases." *International Organization* 26(4): 595–618.

Page-Gould, Elizabeth, Rodolfo Mendoza-Denton, and Linda R Tropp. 2008. "With a Little Help from My Cross-Group Friend: Reducing Anxiety in Intergroup Contexts Through Cross-Group Friendship." *Journal of personality and social psychology* 95(5): 1080.

Paluck, Elizabeth Levy, Seth Green, and Donald P Green. 2017. "The Contact Hypothesis Revisited."

Paolini, Stefania, Jake Harwood, and Mark Rubin. 2010. "Negative Intergroup Contact Makes Group Memberships Salient: Explaining Why Intergroup Conflict Endures." *Personality and Social Psychology Bulletin* 36(12): 1723–38.

Parker, Michael T, and Ronnie Janoff-Bulman. 2013. "Lessons from Morality-Based Social Identity: The Power of Outgroup 'Hate,' Not Just Ingroup 'Love'." *Social Justice Research* 26(1): 81–96.

Pettigrew, Thomas F. 1979. "The Ultimate Attribution Error: Extending Allport's Cognitive Analysis of Prejudice." *Personality and social psychology bulletin* 5(4): 461–76.

Pettigrew, Thomas F, and Linda R Tropp. 2006. "A Meta-Analytic Test of Intergroup Contact Theory." *Journal of personality and social psychology* 90(5): 751.

———. 2008. "How Does Intergroup Contact Reduce Prejudice? Meta-Analytic Tests of Three Mediators." *European Journal of Social Psychology* 38(6): 922–34.

Powell, Robert. 2006. "War as a Commitment Problem." *International organization* 60(1): 169–203.

Rauchhaus, Robert W. 2006. "Asymmetric Information, Mediation, and Conflict Management." *World Politics* 58(2): 207–41.

Reed, William, David Clark, Timothy Nordstrom, and Daniel Siegel. 2016. "Bargaining in the Shadow of a Commitment Problem." *Research & Politics* 3(3): 2053168016666848.

Rohner, Dominic, Mathias Thoenig, and Fabrizio Zilibotti. 2013. "War Signals: A Theory of Trade, Trust, and Conflict." *Review of Economic Studies* 80(3): 1114–47.

Savun, Burcu. 2008. "Information, Bias, and Mediation Success." *International studies quarterly* 52(1): 25–47.

Scacco, Alexandra, and Shana S Warren. 2018. "Can Social Contact Reduce Prejudice and Discrimination? Evidence from a Field Experiment in Nigeria." *American Political Science Review* 112(3): 654–77.

Sherif, Muzafer. 1958. "Superordinate Goals in the Reduction of Intergroup Conflict." *American journal of Sociology* 63(4): 349–56.

Smith, Alastair, and Allan Stam. 2003. "Mediation and Peacekeeping in a Random Walk Model of Civil and Interstate War." *International Studies Review* 5(4): 115–35.

Svensson, Isak. 2009. "Who Brings Which Peace? Neutral Versus Biased Mediation and Institutional Peace Arrangements in Civil Wars." *Journal of conflict resolution* 53(3): 446–69.

Tajfel, Henri. 1981. *Human Groups and Social Categories: Studies in Social Psychology*. CUP Archive.

Tam, Tania et al. 2007. "The Impact of Intergroup Emotions on Forgiveness in Northern Ireland." *Group Processes & Intergroup Relations* 10(1): 119–36.

Thomas, Natalie, and Sumant Nigam. 2018. "Twentieth-Century Climate Change over Africa: Seasonal Hydroclimate Trends and Sahara Desert Expansion." *Journal of Climate* 31(9): 3349–70.

Unah, Linus. 2018. "In Nigeria's Diverse Middle Belt, a Drying Landscape Deepens Violent Divides." *Christian Science Minitor*.

Ward, Andrew et al. 1997. "Naive Realism in Everyday Life: Implications for Social Conflict and Misunderstanding." *Values and knowledge*: 103–35.

Weinstein, Jeremy M. 2005. "Autonomous Recovery and International Intervention in Comparative Perspective." *Available at SSRN 1114117*.

Weisel, Ori, and Robert Böhm. 2015. "'Ingroup Love' and 'Outgroup Hate' in Intergroup Conflict Between Natural Groups." *Journal of experimental social psychology* 60: 110–20.

Wood, Wendy. 2000. "Attitude Change: Persuasion and Social Influence." *Annual review of psychology* 51(1): 539–70.

Yablon, Yaacov B. 2012. "Are We Preaching to the Converted? The Role of Motivation in Understanding the Contribution of Intergroup Encounters." *Journal of Peace Education* 9(3): 249–63.