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Whom do people trust after a violent conflict? Experimental evidence from Maluku, Indonesia

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Adresse der Autorin:

Katharina Werner
Wissenschaftliche Mitarbeiterin am
Lehrstuhl für Volkswirtschaftstheorie
Wirtschaftswissenschaftliche Fakultät
Universität Passau
94030 Passau

Telefon: (0851) 509-2555
Telefax: (0851) 509-2552
E-Mail: katharina.werner@uni-passau.de

Für den Inhalt der Passauer Diskussionspapiere ist der jeweilige Autor verantwortlich.
Es wird gebeten, sich mit Anregungen und Kritik direkt an den Autor zu wenden.

Whom do People Trust after a Violent Conflict?

– Experimental Evidence from Maluku, Indonesia*

Katharina Werner ✉

Abstract

A long-standing – although not uncontested – view is that violent conflicts reduce average levels of trust. Other theoretical and empirical work emphasizes discriminatory effects, namely that conflicts may enhance in-group trust and erode out-group trust. The present study combines a trust game and a questionnaire to investigate the impact of direct and indirect conflict exposure on trust between Muslim and Christian students in post-conflict Maluku, Indonesia. Reduced average levels of trust are found for subjects who were indirectly exposed to the conflict. Discriminatory effects are related to direct exposure: Directly exposed subjects trust in-group members much more than out-group members. The rationale may be the following: Directly exposed subjects made negative experiences with out-group members, but also experienced solidarity within their group during the conflict. Indirectly exposed subjects, on the other hand, heard about negative experiences of others without being sufficiently involved to have made such distinct experiences with in-group and out-group members. Unable to distinguish friend from foe, they reduce trust toward everyone.

JEL Classification: C93; Z12; Z13

Keywords: Trust; conflict; direct exposure; indirect exposure; religion; discrimination.

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✉ Katharina Werner is a doctoral scholar at the University of Passau, Germany. Contact address: Innstrasse 27, D-94032 Passau, katharina.werner@uni-passau.de.

1 Introduction

Trust in other people is vital for the functioning of society and economic interactions. It is commonly defined as the expectation a person has about another person's cooperative behavior or willingness to reciprocate a favor. Trust is regarded as a key element of social capital and believed to foster cooperation (e.g. Dawes 1980; Gambetta 1988; Coleman 1990; Buchan et al. 2002; Uslaner 2002), economic growth (Arrow 1972; Knack, Keefer 1997; Zak, Knack 2001; Bjørnskov 2009) as well as civic engagement and democracy (e.g. Putnam et al. 1993; Fukuyama 1995; Knack and Keefer 1997; La Porta 1997; Knack 2000; Uslaner 2002; Bjørnskov 2012). After a violent conflict, trust is particularly important for peace reconciliation: Trust affects people's thinking and behavior in critical situations and is the basis for easing tensions by negotiating on conflicting issues. Only if trust is sufficiently pronounced, people can cooperate and come together to resolve disputes. While enabling mutually beneficial interaction and cooperation, trust involves vulnerability and the risk of being disappointed if the counterpart defects (Gambetta 1988, pp.217–219; Williamson 1993, p.46; Hayashi et al. 1999; Levi, Stoker 2000; Cox 2007; Reinke de Buitrago 2009). Unfortunately, a history of conflict and fear may increase the perceived risk that the counterpart defects and may hence hinder the levels of trust and dialogue that are necessary for reconciliation (Posen 1993; Pearson 2001; Colletta, Cullen 2000; Dent 2005; Whitt, Wilson 2007; Reinke de Buitrago 2009). This may lead to a vicious cycle of violence (Weingast 1998; Rohner 2013). Trust in a post-conflict environment can thus serve as an important indicator of the potential for peace reconciliation.

In the literature on conflicts, there are two diverging opinions on how violent conflicts affect trust and, consequently, a region's prospects for future development: A rather pessimistic view finds conflicts to generally hinder development which in turn increases the risk of further conflict (Collier et al. 2003). People lose their social networks and have a reduced sense of security because they experience destruction and violence. This can lead to general feelings of resentment and a state of distrust toward everyone, or may even further increase social divides and induce distrust toward out-group members. Such distrust can easily result in a vicious cycle of violence (Colletta, Cullen 2000; Ingelaere 2007; Whitt 2010; Rohner et al. 2012, 2013; Cassar et al. 2013). On the contrary, a relatively new line of literature shows that conflicts do not only have negative

consequences, but may also increase different forms of social capital: During conflicts, people may be forced to band together to defend themselves and to cope with their losses and sufferings (e.g. Lyons et al. 1998; Bellows and Miguel 2009; Blattman 2009; Voors et al. 2012; Gilligan et al. 2014). This may positively affect trust and related forms of pro-social behavior and thus support reconciliation.

Whether trust is positively or negatively affected may depend on the kind of experience people made in the conflict. Being directly and personally exposed to a conflict, for example in the form of getting injured during fights, may have different effects than being only indirectly involved by listening to the stories of friends involved in the conflict. An enhancement of trust as a consequence of having experienced solidarity in the form of collective coping and mutual defense is more likely to occur among people with direct exposure and mainly within groups. It is mostly the people with direct exposure who had to rely on each other's support and experienced such solidarity. Moreover, this mainly happens within groups. Therefore, directly exposed people are more likely to have developed higher trust in in-group members with whom they mainly banded together. But direct exposure is also likely to bring about negative experiences and fear, mainly related to out-group members. Direct exposure may thus also have eroded trust in out-group members. Indirectly exposed people, on the other hand, may have felt only the negative consequences of the conflict. They listened to other people's negative and frightening stories without making positive experiences of group solidarity. This could have reduced their trust in all other people.

This study experimentally investigates how a violent conflict between Muslims and Christians has affected trust in general and how the participants' conflict experiences have influenced trust toward members of the own and the other religious group. Lab-in-the-field experiments were combined with a post-experimental questionnaire and run in the region of Maluku, Indonesia, where a violent conflict between Muslims and Christians had struck the region for three years. Average trust levels are found to be slightly lower than in other trust game studies, but subjects do not generally favor the in-group over the out-group. In line with the ideas presented above, indirect conflict exposure significantly reduced average trust towards all groups. Direct exposure, on the other hand, had a strong and negative impact on trust in out-group members and a positive, but insignificant effect on in-group trust.

2 Trust between groups and the impact of conflict exposure

In the experimental literature, there are two dimensions that are relevant for the present study: The first dimension focuses on discrimination, i.e. differences between behavior toward the in-group and the out-group. The second dimension is centered on the relationship between trust and subjects' different degrees of conflict exposure. Existing experimental studies can be categorized into three groups, focusing either on the first dimension only, the second dimension only, or both (see table 1).

The first group studies discrimination in environments of conflict, i.e. whether the presence of a conflict fosters discrimination in different interaction situations. Rather than measuring subjects' individual levels of conflict exposure, these studies investigate the effects of the mere existence of a conflict on discriminatory behavior. While there are various studies on discriminatory trust that do not deal with conflicts[1], all of the studies that were run in environments of conflict focus on discrimination in other aspects of pro-social behavior rather than trust (with exemption of the study by Mironova and Whitt (2014) which will be introduced in the third group): In dictator games in post-war Bosnia, Whitt and Wilson (2007) and Whitt (2012) found discrimination in terms of altruism and fairness between ethnic groups. Schubert and Lambsdorff (2014) found a significant taste for discrimination by Palestinian responders against Israeli proposers in ultimatum games. In ultimatum and trust games in Israel, Gneezy and Fessler (2011) found higher costly altruistic punishment and rewards during wartime than before and after war. As subjects interacted only with in-group members, their behavior during wartime is interpreted as an attempt to improve their group's chance of victory. Trustor behavior was not the focus of their study, but the authors show in the appendix that in-group trust in wartimes did not differ from in-group trust before or after the war.

The second group of studies investigates the impact of different degrees of participants' conflict exposure on average levels of trust (and related types of pro-social behavior) without regard to discrimination. Becchetti et al. (2011) did not find any effect of conflict exposure on trust in Nairobi, but a negative effect on cooperation. Exposed subjects were also less likely to return to previous levels of trustworthiness after having

[1] Some of these found no differences between trust toward in-group and out-group (Willinger et al. 2003; Bahry and Wilson 2004; Bouckaert and Dhaene 2004; Walkowitz et al. 2004; Haile et al. 2008; Johansson-Stenman et al. 2009; Georgantzis et al. 2013), some found trustors to favor the in-group over the out-group (Fershtman and Gneezy 2001; Fershtman et al. 2005; Burns 2006, 2012; Simpson et al. 2007; Chuah et al. 2013), or even to favor the out-group over the in-group (Dakkak et al. 2007; Netzer and Sutter 2009). Due to

experienced free-riding in a public goods game. In dictator, ultimatum and trust games in Tajikistan, Cassar et al. (2013) found that conflict exposure reduced trust in people from the same village and reduced the willingness to engage in anonymous exchange among subjects with high exposure. At the same time, high exposure was related to increased pro-social behavior toward a person from a distant town. Gilligan et al. (2014) found higher altruism, trust and cooperation by individuals from highly affected conflict areas in Nepal. Voors et al. (2012) found conflict exposure to be correlated with increased altruism and social capital among neighbors in Burundi.

The third group which includes both dimensions, i.e. subjects' degree of conflict exposure and a comparison of in-group and out-group behavior, only comprises two studies. Both studies found discrimination to increase with exposure: Mironova and Witt (2014) found that Albanians and Serbs in Kosovo with high exposure to violence were less trusting of out-group members. They also found higher pro-sociality toward in-group than toward out-group members, with the gap between in-group and out-group further increasing with exposure to both physical violence and destruction of property. In different games in which children in the Republic of Georgia and Sierra Leone were able to choose between two ways of allocating tokens to themselves and another person, Bauer et al. (2014) found children to favor in-group over out-group members. This discrimination was more pronounced for highly exposed subjects[2].

matters of space, these studies are not mentioned in table 1, which only contains studies conducted in environments of conflict.

[2] Note that high exposure in Bauer et al. (2014) does not correspond to direct exposure (as it will be used in the present study): High exposure in the Bauer et al. (2014) study comprises to have witnessed fighting or have been internally displaced, but also to have experienced anyone from one's household being killed or injured during the civil war, which can be deemed a form of indirect exposure.

Table 1: Experiments in (post-) conflict environments

Authors	Degree of exposure	Discrimi-nation	Country	Game(s)	Main findings
Group 1: Discrimination in conflict environments					
Whitt, Wilson 2007	✗	✓	Bosnia	dictator	Higher altruism toward in-group than out-group after conflict.
Whitt 2012	✗	✓	Bosnia	dictator (third-party)	High number of fair distributions; some discrimination after conflict.
Schubert, Lambsdorff 2014	✗	✓	West Bank	ultimatum	Palestinian preference for discrimination against Israelis, in particular among those who favor a political role for Islam.
Gneezy, Fessler 2011	✗	✓ (in-group only)	Israel	ultimatum, trust	Higher costly pro-social punishment and rewards within a group during wartime than before/after war. No difference in trust.
Group 2: Degree of subjects' exposure					
Becchetti et al. 2011	✓	✗	Kenya	trust, public goods	No effect of conflict exposure on trust, negative effect on cooperation and trustworthiness learning.
Cassar et al. 2013	✓	✗	Tajikistan	dictator, ultimatum, trust	Injury or death in the family reduce trust in people from same village; increased pro-sociality toward a person from a distant town by highly exposed subjects.
Gilligan et al. 2014	✓ (community measure)	✗	Nepal	dictator, trust, public goods	Exposure is related to increased altruism, trust and cooperation within communities.
Voors et al. 2012	✓ (household measure)	✗	Burundi	social value orientation	Exposure is related to increased altruism and social capital within neighborhoods.
Group 3: Both dimensions					
Mironova, Whitt 2014	✓	✓	Kosovo	dictator, expectation, public goods, trust	Higher pro-sociality toward in-group than out-group members; gap increases with exposure. Highly exposed are less trusting of out-groups.
Bauer et al. 2014	✓	✓	Georgia, Sierra Leone	sharing & envy games	Children share more equally with in-group than out-group members; difference increases with exposure.

With exemption of group 3, the studies presented above cannot provide evidence on the relationship between the degree of participants' conflict exposure and their treatment of in-group and out-group members. Even the two studies in group 3 do not clearly distinguish direct and indirect exposure. However, in survey-based studies, this distinction was shown to be important as direct and indirect exposure were related to different levels of self-reported threat perceptions (see Hayes and McAllister (2001), Turnip et al. (2010) as well as Schmid and Muldoon (2013)). Moreover, there are usually much more indirectly than directly exposed people in a society and thus both groups deserve attention. As no experimental study known to the author has made this distinction, the present study aims at closing this gap. It will experimentally investigate whether indirect and direct exposure have different effects on in-group and out-group trust. Thereby, it will shed light on whether different policies are required for indirectly and directly exposed people and the presumably larger number of indirectly affected people.

Direct exposure comprises having been the victim of a violent event and consequently having suffered injury or experienced threat or intimidation (Hayes, McAllister 2001, p. 908). Directly exposed people may have made two different kinds of experiences: On the one hand, they felt their life was in danger. They were injured or hurt in the conflict, probably by an out-group member, or saw others being injured or killed. They experienced the frightening situation of being physically threatened. They are also likely to have watched out-group members loot and torch houses, shops and churches or mosques (Bertrand 2002, p.75; Spyer 2002, p. 25). On the other hand, directly exposed people are likely to have experienced people risking their lives to help others defend themselves (Tucker, Ferson 2008, p. 114). They experienced solidarity and felt the warm hug of people giving comfort to them when they lamented the death of a close relative or friend (Gilligan et al. 2014, pp. 615-616). They received support by others who gave them shelter when their own house was destroyed or who cared for them when they were injured. They experienced the strength of a group when it came to reconstructing houses and other buildings that were destroyed in the conflict (Barron et al. 2010). As people in a crisis usually approach those they are familiar with, such positive experiences are more likely to have taken place within families, neighborhoods or communities, i.e. probably with in-group members (e.g. Lyons et al. 1998; Colletta, Cullen 2000, pp. 74-75; Voors et al. 2012, p. 962).

Although directly exposed subjects only made such negative or positive experiences with some persons of the out-group or in-group, these experiences are likely to

have affected attitudes and behavior toward all members of the group. When people deal with somebody they do not know personally, they tend to assess the trustworthiness of that person based on categories like gender, ethnicity, or religion, and on perceived similarities or differences based on these categories (Fearon, Laitin 1996; Lazear 1999; Bahry, Wilson 2004; Bouckaert, Dhaene 2004; Dent 2005). Directly exposed people may thus extend the positive experiences they made with some members of the in-group to the entire group and reveal higher trust in all in-group members. On the other hand, they may distrust all members of the out-group and blame the entire group for the negative experiences. Hence, while average levels of trust need not be affected, direct exposure may lead to a gap between in-group and out-group trust. This is in line with the in-group/out-group hypothesis (Allport 1954; Stein 1976; Tajfel, Turner 1979; Brewer 1999) which states that conflicts may increase preferential treatment of in-group members and discrimination against out-group members. This view also receives support by evolutionary theories suggesting that inter-group conflict was an important factor in the development of human cooperation within groups and hostility towards outsiders (e.g. Darwin 1873; Choi & Bowles 2007; Bowles 2008).

Not only direct, but also mere indirect exposure to disasters, for example through friends, relatives or the media, can trigger symptoms of stress and perceptions of danger to life (Bandura 1986; Dixon et al. 1993; Slone 2000; Turnip et al. 2010, p. 10). Indirectly exposed people listened to reports of their friends' negative experiences, for example that somebody took their belongings, destroyed their houses, or that people were injured or killed. They also saw pictures of burning houses and heard rumors about violence that occurred even between former neighbors in the media. For example, Lee and Maslog (2005) show that media reports focused on the "here and now" of the Maluku conflict instead of its causes and consequences. They focused on visible effects like fatalities, injuries and damage to property instead of their impact on society and civic participation. While hearing such frightening reports, indirectly exposed people were often not close enough to the conflict to assess how dangerous the situation really was, to tell whom exactly to fear and whom to trust, or to distinguish friend from foe (Slone 2000). Spyer (2002, p.33) argues that media reports obfuscated the initiators of incidents, producing "a sense of phantom danger, which lurks both nowhere in particular and therefore potentially everywhere in general [...]". Indirectly exposed people are thus less able to identify the perpetrators. At the same time, they are likely to lack the positive experience of group solidarity and cohesion directly involved people may have made. They may not have

experienced people caring for them when they were injured. They may not have received the hugs of friends, relatives and neighbors to give comfort to them when a family member died. They are unlikely to have taken part in joint efforts to rebuild destroyed houses, churches or mosques. They are also unlikely to have heard a lot about these positive experiences. Research in psychology and behavioral science has shown that negative events receive more weight in language and communication (Baumeister et al. 2001. p. 331-332). Negative experiences may thus be reported more frequently to friends and relatives than positive experiences. Spyer (2002, p. 24-25, 27) as well as Lee an Maslog (2005) show that media reports as well as personal reports and rumors among citizens in Maluku indeed focused on the negative outcomes of the conflict. Hence, indirect exposure is expected to have an impact on trust, but possibly a rather negative impact on trust toward all, without any focus on certain groups.

3 The Maluku conflict

From 1999 to 2002, the Maluku islands were struck by a violent conflict. Spreading from one island to many others, the conflict resulted in the displacement of more than 700,000 people and caused between 5,000 and 10,000 fatalities (Spyer 2002; Lowry, Littlejohn 2006). Despite the Malino Peace Agreement in 2002 which officially terminated the conflict, tensions and deep resentments are perceptible until today and the conflict surged again several times (Lowry, Littlejohn 2006; Adam 2010; Braithwaite et al. 2010). The resentments partly go back to colonial times when Christians enjoyed a privileged status in Maluku, receiving better access to education and high-ranking positions, and their ensuing fear of losing their rights and power under President Suharto (Sukma 2005; Rabasa, Chalk 2001; Bertrand 2002; Spyer 2002; Sukma 2005; Lowry, Littlejohn 2006). Religious identities were increasingly politicized, in particular in the unstable times following Suharto's step-down in 1998 (Adam 2010). Christians feared to become a small minority in a Muslim-dominated country and Muslims feared that Christians would reestablish their local dominance in the Maluku region (Bertrand 2002).

The existing literature on the Maluku conflict mainly focuses on political causes of the conflict and has identified the Dutch colonial rule (Mearns 1999; Bertrand 2002; Spyer 2002), Suharto's authoritarian rule and his transmigration program (Mearns 1999; Rabasa, Chalk 2001; Spyer 2002; Brown et al. 2005; Sukma 2005; Lowry, Littlejohn 2006; Adam 2010), an increasing insecurity after Suharto's step-down and institutional failures (Rabasa,

Chalk 2001; Spyer 2002; Sukma 2005; Bertrand 2008; Adam 2010; Braithwaite et al. 2010), the intervention of external provocateurs and external forces (van Klinken 1999; Rabasa, Chalk 2001; Bertrand 2002; Spyer 2002; Adam 2010; Braithwaite et al. 2010) as well as the media (Spyer 2002) as important triggers of its escalation. However, the motives of ordinary citizens as individuals to start fighting with their neighbors and, more importantly, possible motivations to refrain from doing so in the future remain largely unexplained (Adam 2010; Lowry, Littlejohn 2006; Coleman 2008). With regard to Maluku, it is thus essential to investigate the impact of the conflict on people's attitudes and behavior to identify prospects for civil society to overcome prejudice and restore trust. More generally, the conflict is interesting as people lived peacefully together until, out of a sudden, ordinary people started to fight against previous neighbors. The fact that the conflict spread to many other islands makes Maluku a good region to investigate how direct and indirect conflict exposure may affect individuals' propensity to restore trust in people of the in-group and the out-group.

4 Experimental Design

To elicit trust, 364 students from a Muslim and a Christian university played a pen-and-paper-based standard trust game (Berg, Dickhaut and McCabe 1995). Subjects were matched into pairs and assigned either the role of the trustor or the trustee, such that half of the subjects in each religious group became trustors and the other half became trustees and that the share of Muslims and Christians in each treatment was equal. All subjects received equal information on the game: Both players would receive an initial endowment of IDR 30 000, from now on abbreviated RPK 30. The trustor, called Person A in the instructions, had the possibility to send an amount between RPK 0 and RPK 30, in RPK 3 increments, to Person B (the trustee). Any RPK sent to Person B would be tripled by the experimenter before being assigned to Person B. Person B was then be given the possibility to return any amount from RPK 0 up to a maximum of the amount possessed (the sum of the initial endowment of RPK 30 plus three times the amount sent by Person A) to Person A.

The unique subgame-perfect equilibrium implies no transfers because a payoff-maximizing trustee should not return anything and a rational trustor would anticipate this and thus transfer nothing. However, the efficient outcome which maximizes joint payoffs would require the trustor to transfer his total endowment as the transfer is tripled. A payoff-maximizing trustee has no incentive to transfer anything back. Positive back

transfers can thus be attributed to positive reciprocity and are used as a measure of trustworthiness. Positive transfers by trustors are usually interpreted as a measure of trust because the trustor has to believe that the trustee will pay him at least his transfer back in order to not make a loss. The transfer thus reflects the expectation that the other person will reciprocate, which enables an interaction that is beneficial to both players, but involves the risk that the counterpart defects.

5 Treatments

Subjects were uniformly assigned to one of three treatments, namely interaction with an *in-group member*, an *out-group member* or a *neutral subject*. In each treatment, subjects received different pieces of personal information on their counterpart: When interacting with *neutral subjects*, subjects received only information on their counterpart that was meaningless for the conflict. In the other two treatments, subjects were subtly informed of their counterpart's religious affiliation with half of the subjects facing a counterpart of their own religion (*in-group member*) and the other half facing a counterpart of the other religion (*out-group member*). Table 2 illustrates all possible resulting subject pairs.

Table 2: Matching scheme

	50% (Christian trustor)	**50% (Muslim trustor)**
Treatment	**Trustor => Trustee**	**Trustor => Trustee**
In-group member	Christian => Christian	Muslim => Muslim
Out-group member	Christian => Muslim	Muslim => Christian
Neutral subject	Christian => unknown religion	Muslim => unknown religion

The treatment information was based on answers the counterpart had given in a short questionnaire prior to the experiment. As the experiments were run at a Christian university (with 96% Christian students) and a Muslim university (99% Muslims), a question on subjects' university affiliation was used to subtly reveal the counterpart's religion. Two further questions, whether one preferred to drink coffee or tea, or to eat tofu or tempe, were purposely irrelevant for decision behavior in the experiments. Additionally, a fourth question on subjects' knowledge of local languages served as an indicator of

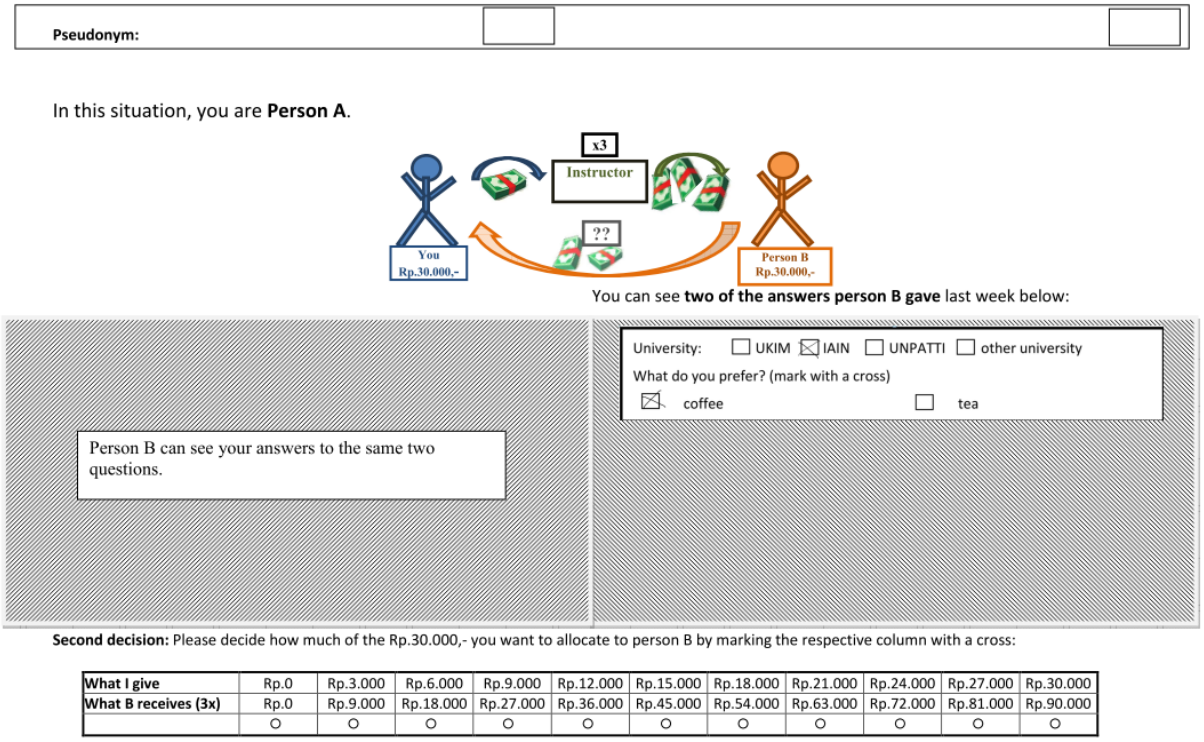
ethnicity (indigenous or immigrant), but the treatments with ethnic information are not part of this analysis.

Each subject was able to see two answers her counterpart had given: Subjects in the treatments *in-group member* and *out-group member* were able to see their counterpart's university affiliation plus one irrelevant answer the counterpart had given. Subjects interacting with a *neutral subject* saw the two irrelevant answers on culinary questions their counterpart had given. By giving each subject two answers, the purpose of the study was disguised from subjects. Further reasons were to hold the amount of information as well as possible minimal group effects (caused, for example, by a shared preference for coffee over tea)[3] constant across treatments.

The treatment information was copied directly from the counterpart's questionnaire on each subject's game sheet using a stencil with cut-out holes where the respective information was located. Hence, each subject received a personalized game sheet with the hand-written crosses of the counterpart on it (see Figure 1 as an example of a game sheet). This was to ensure that subjects would not doubt the existence of the other player (Frohlich et al. 2001). Subjects were also informed that their counterpart would be able to see their own responses to the exact same two questions. For example, if a subject saw her counterpart's university affiliation and drink preferences, she knew the counterpart would also see her university affiliation and drink preferences.

[3]Additionally, further tests that will not be presented in this paper showed that having the same preferences for coffee/tea or tofu/tempe did not increase transfers.

Figure 1: Sample game sheet, including treatment information after use of the stencil (English translation)



Pseudonym:

In this situation, you are **Person A**.

You can see **two of the answers person B gave** last week below:

University: ☐ UKIM ☒ IAIN ☐ UNPATTI ☐ other university

What do you prefer? (mark with a cross)

☒ coffee ☐ tea

Person B can see your answers to the same two questions.

Second decision: Please decide how much of the Rp.30.000,- you want to allocate to person B by marking the respective column with a cross:

What I give	Rp.0	Rp.3.000	Rp.6.000	Rp.9.000	Rp.12.000	Rp.15.000	Rp.18.000	Rp.21.000	Rp.24.000	Rp.27.000	Rp.30.000
What B receives (3x)	Rp.0	Rp.9.000	Rp.18.000	Rp.27.000	Rp.36.000	Rp.45.000	Rp.54.000	Rp.63.000	Rp.72.000	Rp.81.000	Rp.90.000
	○	○	○	○	○	○	○	○	○	○	○

6 Experimental Procedures

The experiments were run with undergraduate students at a Christian university, Universitas Kristen Indonesia Maluku (UKIM), and a Muslim university, Institut Agama Islam Negeri (IAIN), over the course of four weeks in September 2013. Participants were invited to one of ten sessions at their campus in the first week (with 50 participants per session) and were asked to attend further sessions at the same time each week for the next three weeks.[4] Across all tasks in the four weeks, a unique pseudonym on the game sheet only visible to the experimenter, but not to the counterpart, ensured the highest possible degree of double blindness (Camerer and Fehr 2004, pp. 72-73).

In the first week, subjects answered the short questionnaire used for the treatment assignment. In the second week, all 248 subjects used in this analysis first played a reversely framed dictator game in the role of dictator.[5] Right after the reverse dictator

[4] This work is part of a larger study in which additional dictator and ultimatum games were played, so only 300 of these 1000 were meant to take part in the trust game and the treatments presented here. The results of the other games can be found in Werner, Lambsdorff (2015).

[5] The dictator transfer served as a measure of subjects' other-regarding preferences. Using the negative frame of taking instead of the positive giving was intended to provide additional insights on the propensity to do harm to others which is interesting in a post-conflict setting.

game, half of the subjects played a trust game in the role of the trustor. The other half was asked about their incentivized beliefs regarding the trustor's sending amount (after having seen the respective treatment information on the trustor) while the trustors were playing. In the third week, those subjects who had only stated their beliefs in the week before played the trust game in the role of the trustee. Previous week's trustors answered questions on ethnic stereotypes as a filling task. Perfect stranger matching was used between the dictator and the trust game. All subjects were assured they would face a different counterpart in each game. Additionally, to make it more obvious and credible that it was a new counterpart, subjects faced an in-group member in the trust game if they had played with an out-group member in the reverse dictator game and vice versa. Subjects in the neutral treatment continued to interact with a neutral member in the trust game, but received different information.

In the fourth week, all subjects answered a questionnaire on demographics, religiosity and conflict exposure. To measure conflict exposure, as it is standard practice, subjects were given an event list to indicate what kind of events they had experienced in the conflict (Netland 2005; Schmid, Muldoon 2013). After having returned the completed questionnaire, each subject received a sealed envelope containing the payoff. The envelope also contained a result sheet which listed the subject's own and the counterpart's decisions for each game, the resulting payoffs as well as additional payoffs for comprehension questions and filling tasks. Subjects also learned that they had unknowingly played a dictator game as a receiver and were informed of the additional payoff earned in that game.

In each experimental session, subjects received written instructions first and were advised to read them carefully as they would have to answer incentivized comprehension questions later. The instructor subsequently explained the experiments again by the use of graphs (see appendix D and E for all instructions and graphs). Subjects were then called upon to state in chorus for every possible first-mover decision the amount both players would receive. This was done to ensure a maximum understanding and avoid problems of computation, while, by making all possible transfers equally salient, avoiding focal points or anchoring effects.[6] When the instructor was sure that everybody had understood the instructions, subjects solved three comprehension tasks before playing the game.

Both written and oral instructions were provided in Indonesian language and had been translated using standard back translation (Brislin 1970). A pretest had been run in

[6] See Tversky, Kahneman (1974) or Mehta et al. (1994) for an overview of anchoring and focal points as well as Cardenas, Carpenter (2008, pp. 330–331) for a justification why oral instructions and examples are nevertheless necessary in the field.

April 2013 at a mixed-faith university in the same city to ensure the instructions were easily comprehensible and to avoid possibly offending survey questions. As two experimenters were needed to run the experiments simultaneously at both universities, differences in experimenter effects (Roth et al. 1991) were kept as minimal as possible by using experimenters with similar appearance and by following a strict protocol (e.g. Camerer 2003, p. 69). The experimenters had practiced and video-taped the similar reading of the instructions and the use of similar gestures before. Sessions lasted for approximately 20 minutes on average. Mean payoffs amounted to RPK 110 or approximately $10.

7 Hypotheses

The violent conflict may have stiffened group identities and prejudice and thus increased cleavages between groups (Tajfel, Turner 1979; Inglehart et al. 2006; Whitt 2010; Dercon, Gutiérrez-Romero 2012; Lavi et al. 2012; Schmid, Muldoon 2013; Bauer et al. 2014). On average, trust in in-group members is thus expected to be higher than in out-group members.

Hypothesis 1: Trustors transfer more to in-group members than to out-group members.

Second, the degree of participants' conflict exposure is likely to affect behavior. Schmid et al. (2008), Turnip et al. (2010) as well as Schmid, Muldoon (2013) show that indirect conflict exposure can increase threat perceptions and anxiety. As described in section two, indirectly exposed subjects may have heard enough about violence and destruction, for example via friends who were directly involved in the conflict, to lose their faith in the general trustworthiness of humans. They may have seen frightening reports in the media without being close enough to the conflict to identify the perpetrators and to distinguish friend from foe. At the same time, merely indirectly exposed people are less likely to have experienced the uniting effects of mutual support and consolation that directly exposed people can have experienced. This view is supported by Thabet et al. (2002) who show that Palestinian children who mainly had indirect exposure reported even more anxiety than children who were directly exposed.

Hypothesis 2: Indirect exposure is related to lower average levels of trust.

Direct exposure to violent conflicts may increase the gap between behavior toward the in-group and out-group (Inglehart et al 2006; Whitt 2010; Bauer et al. 2014; Mironova and Whitt 2014). This gap can stem from a preferential treatment of in-group members or a disadvantageous treatment of out-group members compared to neutral subjects (Brewer 1979; Singh et al. 1998). Within groups, I expect direct conflict exposure to have a positive effect: Direct conflict exposure may improve social cohesion as people have to rely on mutual support to defend themselves. They also need each other's sympathy to cope with losses (Lyons et al. 1998; Bowles 2008; Bellows and Miguel 2009; Blattman 2009; Voors et al. 2012; Gilligan et al. 2014). But I expect such positive effects to occur mainly between people of the same group because during the conflict, people in Maluku mostly sided with their neighbors of the same religion for self-defense and coping. This hypothesis is also supported by evolutionary theories suggesting that inter-group conflict was an important factor in the development of human cooperation within groups (e.g. Darwin 1873; Bowles 2008). Directly exposed subjects are thus expected to exhibit higher trust in in-group members than in neutral subjects. Additionally, with regard to their positive experiences, directly exposed trustors are expected to make higher in-group transfers than subjects that were not directly exposed make.

Hypothesis 3a: Direct conflict exposure enhances in-group trust.

At the same time, directly exposed subjects have experienced violence and threat to physical safety. They were injured or hurt in the conflict, probably by an out-group member, or saw others being injured or killed. They may have seen former neighbors of different religions turn against each other and may have lost their houses which were set on fire by out-group members. Such experiences are likely to have destroyed trust in out-group members (as found for other conflict regions by Colletta and Cullen 2000; Ingelaere 2007; Mironova and Whitt 2014). Directly exposed people are thus expected to show lower levels of trust toward out-group members than toward neutral subjects (Coleman 2008: 21). The negative experiences with out-group members may also be reflected in lower out-group transfers by directly exposed trustors than by trustors lacking direct exposure.

Hypothesis 3b: Direct conflict exposure erodes out-group trust.

8 Results

A total of N=248 observations were collected in the three treatments of the trust game (133 in the role of the trustor and 115 in the role of the trustee). Table 3 provides an overview of sample variation. Only 220 of the 248 subjects completed the survey in the 4th week which explains the missing data in Table 3.[7]

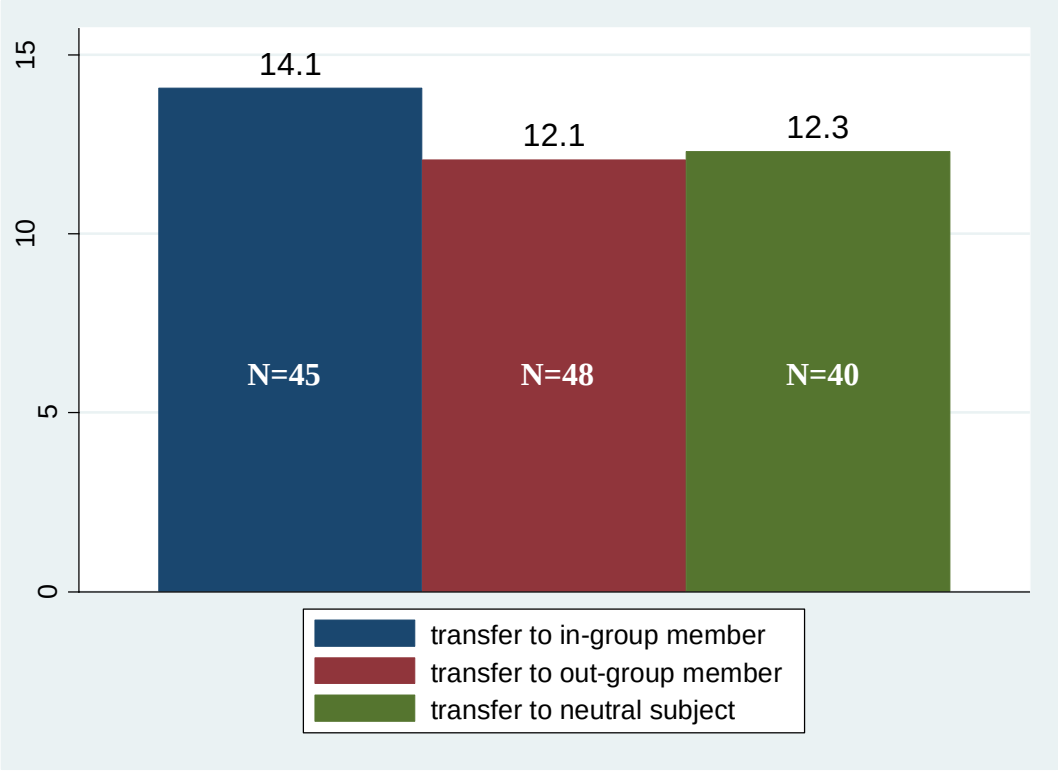
Table 3: Sample characteristics of trust game participants

Religion	**N**	**%**	**Age**	**N**	**%**
Christian	172	69.4%	15-18	41	16.5%
Muslim	76	30.6%	19-22	141	56.9%
			23-26	35	14.1%
Gender	**N**	**%**	28-35	3	1.2%
Female	139	56.0%	Missing	28	11.3%
Male	77	31.0%			
Missing	32	12.9%			

On average, trustors transferred 42.7% of their endowment. This mean transfer of 42.7% is somewhat lower than in other studies where mean trustor transfers amounted to 50% of the endowment (Camerer 2003; Johnson, Mislin 2011), and is very similar to transfers measured by Gilligan et al. (2014) in post-conflict Nepal. This may suggest that the conflict had a negative impact on trust. But the studies used in the meta-study by Johnson and Mislin (2011) are very heterogeneous in their mean trust levels, suggesting that the difference might also be caused by differences in the experimental design, cultural differences or various other factors. A remarkable share of 24.1% of the trustors transferred their entire endowment (compared to only 15.6% of the subjects in the Berg et al. (1995) study) and only 2% transferred nothing, which shows that the conflict has not left people completely distrusting.

[7] Contrary to prior announcements of the two universities, classes had not started yet which induced attrition from week to week. Attrition had nothing to do with treatment assignment: it was highest between the first and second week when matching had not taken place yet, and attrition between the second and fourth week was similarly high in all treatments. The difference between the number of trustors and trustees is also caused by attrition. Subjects whose counterpart was missing received transfers / returns that were randomly drawn from all trustors or trustees who had the same characteristics as the missing subjects (based on the answers given in the first week).

Figure 2: Mean trustor transfers by information on the trustee



It was hypothesized in H1 that, on average, subjects in a post-conflict environment would have higher trust in in-group members than in out-group members. Figure 2 illustrates mean trustor transfers to the religious in-group and out-group and to subjects of unknown religion. The high blue bar in Figure 2 suggests a tendency to favor in-group over out-group members and neutral subjects, but neither the difference between in-group and out-group transfer nor between in-group and neutral subjects meet conventional significance-levels of 5% (Mann-Whitney U-Tests, z=-0.71; p=0.48 for neutral subjects and z=-0.97; p=0.33 for the out-group).[8] Hence, H1 cannot be confirmed.

Result 1: Trustors do not make significantly higher transfers to in-group than to out-group members or neutral subjects.

While trustors on aggregate do not discriminate between in-group and out-group, such discrimination may occur among trustors with certain conflict experiences. Figure 3 and Figure 4 thus compare the behavior of subjects who were exposed to the conflict to

[8] When investigating group effects separately for Christian and Muslim trustors to examine whether just one of the religious groups discriminates or whether different kinds of unequal treatment cancel out on average, the differences are insignificant as well. The absence of discrimination among trustors is mirrored by a similar absence among trustees. More on trustee behavior can be found in Werner, Lambsdorff (2015).

different degrees. Answers from the event list given to subjects in the final questionnaire are used as measures of indirect and of direct conflict exposure. Indirect exposure is measured by reporting that a friend's belongings were destroyed in the conflict. Direct exposure comprises the most direct and physical experiences a survivor of the conflict can have made: having been injured and having been physically threatened during the conflict. 33% of the trustors in this study report neither direct nor indirect exposure and 31% report indirect, but no direct exposure. 36% of the trustors had direct exposure: 26% report to have been threatened, 19% to have been injured, and 9% both. Due to the limited number of observations, there will be no analysis of the separate effects of the two elements of direct exposure.

Figure 3: Trustor transfers by treatment and indirect exposure

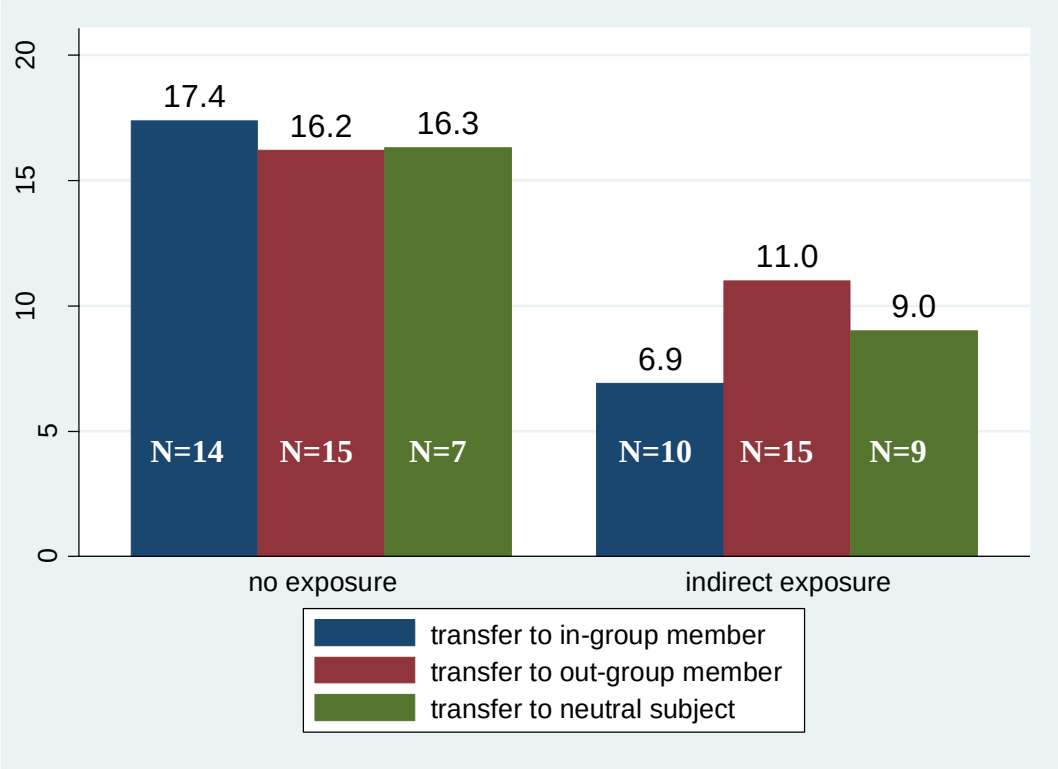


Figure 3 compares trustor transfers of subjects who had neither direct nor indirect exposure to the conflict (left side) to those who were indirectly exposed by hearing that a friend lost her belongings in the conflict, but had no direct exposure (right side). On both sides of the graph, differences between treatments turn out to be insignificant (Mann-Whitney U-Test for the difference between in-group and out-group on the left side: z=-0.32, p=0.75; on the right side: z=0.86, p=0.39). However, it becomes immediately apparent from Figure 3 that the bars on the right side are substantially lower than the ones on the left side. Averaging all treatments, the mean transfer of the 36 subjects who were

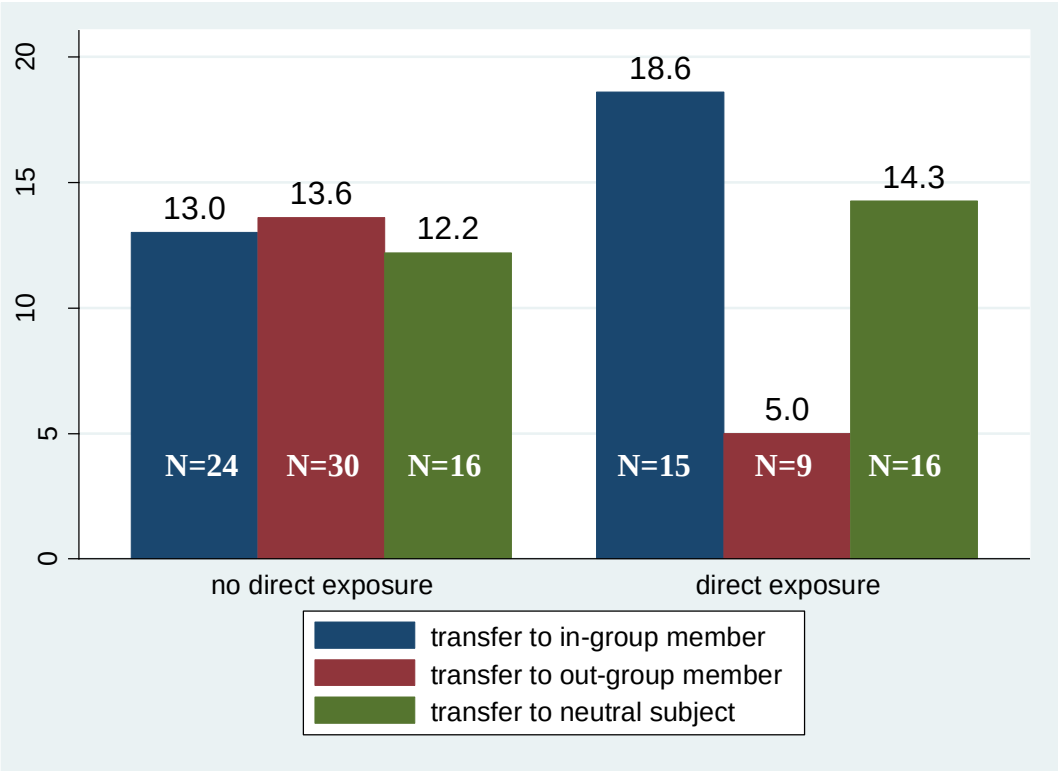
not exposed to the conflict is RPK 16.7. The mean transfer of the 34 indirectly exposed subjects, on the other hand, is only RPK 9.3. A Mann-Whitney U-Test reveals that average trust is significantly lower when subjects were indirectly exposed to the conflict compared to subjects with no indirect exposure (z=2.46, p=0.014). This confirms H2 that indirect conflict exposure has a negative impact on average trust.

Result 2: Indirect exposure is related to lower average levels of trust.

Figure 4 investigates the impact of direct, physical exposure on trust. It can be seen at first glance that all bars on the left side have approximately the same height. For subjects with no direct exposure (but possibly indirect exposure), there are no significant differences between trust in in-group members, out-group members and neutral subjects. On the right side, for trustors with direct conflict exposure, the huge difference between in-group transfers of RPK 18.6 and out-group transfers of 5.0 (Mann-Whitney U-Test, z=-2.433, p=0.015) shows that directly exposed subjects have significantly higher trust in in-group than in out-group members. As only few subjects were directly exposed to conflict, Appendix A2 presents additional results using a broader measure of direct exposure as a robustness check. This broader measure is not used here as its elements are not clearly direct experiences, but also have traits that may be categorized as indirect exposure such as having a family member who got injured in the conflict. Appendix A2 shows that the results are nevertheless very similar.

In Figure 4, two more sophisticated effects concerning in-group trust can be analyzed: First, whether subjects with direct exposure trust in-group members significantly more than they trust neutral subjects. On the right side, the difference between the blue and green bar suggests that directly exposed subjects indeed trust in-group members more than neutral subjects. This effect is only moderate as the difference between transfers of RPK 18.6 to in-group members and 14.3 to neutral subjects misses conventional levels of significance (z=-1.09, p=0.27). Second, it can be compared whether transfers to the in-group by directly exposed subjects are higher than transfers by subjects lacking this direct exposure. The red bar on the right side is indeed higher than the one on the left side, meaning that directly exposed subjects indeed appear to have higher in-group trust than subjects with no direct exposure. This evidence also turns out to be weak because the difference between RPK 13.0 (left side) and RPK 18.6 (right side) lacks statistical significance (z=-1.27, p=0.20). Hence, the effect for in-group members goes in the hypothesized direction, but misses conventional levels of significance.

Figure 4: Trustor transfers by treatment and direct exposure



Result 3a: Direct exposure is positively related to in-group trust, but significance is weak.

The same two comparisons can be made for out-group transfers. The blue and green bar on the right side suggest that directly exposed subjects' transfers to out-group members of RPK 5.0 are lower than transfers of RPK 13.4 to neutral subjects. This difference is only weakly significant (Mann-Whitney U-Test, z=-1.41, p=0.16).[9] There is thus mild support for the claim that directly exposed subjects trust out-group members less than they trust subjects of unknown religion. Next, it is compared whether directly exposed people have lower trust in out-group members (red bar on the right side) than subjects that had no direct exposure (red bar on the left side). The difference between out-group transfers of RPK 13.6 by not directly exposed subjects and RPK 5.0 by directly exposed subjects proves significant (z=2.066, p=0.039). H3b can thus be confirmed.

Result 3b: Direct exposure is negatively related to out-group trust.

[9] When increasing the number of observations by additionally including subjects who had received ethnic information in the treatment *neutral subject* - as the ethnic information should also be neutral in terms of the conflict - the difference turns significant (Mann-Whitney U-Test, z=-2.357, p=0.0184, see Appendix A1, Figure 7).

9 Regressions

Table 4 presents OLS regressions[10] to confirm the graphical results. In all regressions, the treatment in which subjects only received irrelevant information serves as the reference category and is captured in the constant. The treatment dummies *in-group* and *out-group* thus indicate whether allocations in these two treatments significantly differ from transfers to neutral subjects.

Regression (1) confirms that, on aggregate, there are no differences between treatments: Neither the coefficient for *in-group* nor for *out-group* significantly differs from transfers to neutral subjects in the reference category. A Wald test reveals that the coefficients for *in-group* and *out-group* are not significantly different from each other either (F=0.74; p=0.39). The findings thus reconfirm result 1 that trust in in-group members is not higher than trust in neutral subjects or out-group members.

Regression (2) includes the conflict exposure variables to examine whether indirect and direct conflict exposure have an impact on average trust.[11] In line with Figure 3, the negative and significant coefficient of -5.3 on indirect exposure confirms result 2 that indirect conflict exposure reduces average trust. The insignificant coefficient on direct exposure suggests that direct conflict exposure has no impact on average trust.[12] Regression (3) shows that the results are robust to the inclusion of demographic controls for the participants' age, gender, religion, number of siblings and income. The coefficients (which are not explicitly reported here, but can be found in Appendix A.4) reveal that males are more trusting than females and a larger family is weakly related to higher levels of trust. The other coefficients turn out to be insignificant.

[10] I also ran Tobit regressions to account for the fact that trustor transfers are bounded below at 0 and above at 30. As the results are qualitatively equivalent and in order to present directly interpretable coefficients, OLS estimates are reported here.

[11] In Figure 3 which depicted the difference between trustor transfers of subjects with no conflict exposure and of subjects with indirect exposure only, subjects with direct exposure were excluded to isolate the effect of indirect exposure. In contrast to Figure 3, regression (2) uses the entire sample because the two exposure dummies allow to investigate the impact of one type of exposure while holding the other kind of exposure constant. Hence, subjects who were both directly and indirectly exposed can be included when investigating the effect of indirect exposure because direct exposure is controlled for.

[12] The finding from Figure 3 that indirect exposure does not affect in-group and out-group trust differently is confirmed by including interaction terms between indirect exposure and the treatment dummies whose coefficients were indeed insignificant and are thus not presented here.

Table 4: Regression results

Dependent variable: Trustor allocation						
	(1) All	(2) All	(3) All	(4) No direct exposure	(5) Direct exposure	Wald Test Δ coefficients models (5) and (4) (χ^2)
in-group	1.8	1.2	1.1	0.8	4.4	3.6
	(2.5)	(2.8)	(3.1)	(3.5)	(4.7)	(0.38)
out-group	-0.2	-1.9	-3.0	1.4	-9.2*	-10.6*
	(2.4)	(2.6)	(2.9)	(3.4)	(3.4)	(5.06)
indirect exposure		-5.3*	-4.8*			
		(2.2)	(2.3)			
direct exposure		1.3	0.3			
		(2.3)	(2.3)			
constant	12.3***	16.0***	16.2	12.2***	14.3***	2.1
	(1.8)	(2.7)	(10.2)	(2.8)	(3.3)	(0.24)
Demographic controls	No	No	Yes	No	No	
N	133	110	107	70	40	
R^2	0.007	0.068	0.167	0.003	0.174	

Robust standard errors in parentheses
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

As shown in Figure 4, direct conflict exposure may have opposing effects on in-group and out-group trust which level out when only the mean effect is taken into account. To investigate this, two separate regressions are run for subjects who had no direct exposure (regression (4)) and those directly exposed to the conflict (regression (5)). In regression (4), none of the coefficients is significant, i.e. neither in-group nor out-group transfers significantly differ from transfers to neutral subjects when subjects have no direct exposure. A Wald test on the equality of the coefficients for *in-group* and *out-group* in regression (4) corresponds to the difference between the blue and the red bar on the left side of Figure 4. As in Figure 4, the difference is insignificant (F=0.04, p=0.84), confirming that subjects without direct exposure make no difference between trust in in-group and out-group.

In regression (5), the Wald test on the equality of the coefficients on *in-group* and *out-group* (which corresponds to comparison of the red and blue bar on the right side of Figure 4) confirms that directly exposed subjects transfer significantly more to in-group than to out-group members (F=14.8, p=0.0004). The significantly negative coefficient of -9.2 for *out-group* in regression (5) also shows that directly exposed subjects have significantly lower trust in out-group members than in neutral subjects.

The right-most column of table 4 presents the results of Wald tests between subsample coefficients (subjects with direct exposure – no direct exposure, χ^2-values in parentheses) which correspond to comparison of bars with the same color between the left and the right side in Figure 4. While there is no significant difference between in-group transfers of not directly exposed and directly exposed subjects, the difference in out-group transfers between the two groups is significant at the 5%-level. These Wald tests confirm that direct exposure had no significant impact on in-group trust (although, qualitatively, the effect goes in the expected direction), but a significantly negative impact on trust in out-group members.

10 Robustness checks

All the regressions in table 4 are robust to the inclusion of the battery of demographic controls that was employed in regression (3). The Wald test in the right-most column is also robust to their inclusion in regression (4) and (5) and to inclusion of a control dummy to hold indirect exposure constant. As a further robustness check, the amount left to the counterpart in the reverse dictator game as a measure of altruism was included in all regressions, but the coefficient on this measure turned out to be statistically insignificant and very small in size. Its inclusion did not change any result in neither of the models presented in table 4.

Conflict exposure cannot be randomized by experimental design. Hence, a concern may be that subjects self-selected into exposure, based on characteristics which correlate with trusting behavior. For example, could males be more prone to take risks and thus be more likely to be involved in the conflict than females, and at the same time be more trusting? Or do lower-income subjects have a higher probability to be caught in the conflict as they live in more turbulent areas, while income also affects trust? I ran logistic regressions with each of the two measures of conflict exposure as the dependent variable on the battery of demographic variables from regression (3) to investigate whether any of these observable characteristics increases the likelihood of having indirect or direct conflict exposure (see Appendix A3). None of the characteristics had a significant impact on any of the exposure variables. Similarly, Mann-Whitney U-Tests reveal that across subsamples (no exposure, indirect exposure only and direct exposure), the share of males, Muslims and both ethnic groups does not significantly differ, nor does the mean income or family size. There is weak evidence that the subsample of subjects with indirect exposure is older than

the subsample with no exposure, which is significant at the 10%-level; but age was no significant predictor of trust. We can conclude that no systematic differences were found between subsamples. These results are in line with the finding that holding the battery of observable demographic characteristics constant in regression (3) does not substantially change the effects of direct or indirect exposure on trust. Nor does the inclusion of the decision in the dictator game as a control for altruism change anything. While I cannot completely exclude that subsamples differ with respect to other, unobservable characteristics, the fact that the conflict was widespread across the region and that subjects were children at the time of conflict makes this appear rather implausible. As children, they were too young to have self-selected into conflict due to individual characteristics, but can only have self-selected based on family characteristics which are largely covered by the battery of demographic variables. All in all, these robustness checks suggest that selective targeting is unlikely to explain the link between conflict exposure and trusting behavior.

11 Discussion and Conclusion

Trust is often regarded as the glue that holds society together. In the aftermath of a violent conflict, trust is crucial for laying the foundations to successfully solve disputes and re-establish cooperation and peaceful relations. At the same time, a civil war, fought between ordinary people, may have destroyed the faith in humans' inherent goodness. General distrust or distrust toward particular groups could be an essential obstacle to peace reconciliation. This study focused on the impact of direct and indirect conflict exposure on the propensity to trust members of the in-group and out-group. Remarkably, and contrary to expectations that the conflict has stiffened group identities and prejudice and made people distrust out-group members, average trust in out-group members was not significantly lower than in in-group members. Prospects appear good to build on this non-discriminatory trust for constructive dialogue and peace-keeping.

Analysis of participants' individual degree of conflict exposure revealed that direct exposure did not affect average trust, but had diverging effects on in-group and out-group trust. Following Bellows and Miguel (2009), Blattman (2009), Voors et al. (2012) as well as Gilligan et al. (2014), direct conflict exposure was expected to promote trust within groups because directly exposed people had to cooperate with other group members to defend themselves and to mentally support each other during the violent times. This is also in line with evolutionary theories which regard inter-group conflict an important driver of

human cooperation within groups (e.g. Darwin 1873; Choi & Bowles 2007; Bowles 2008). I find moderate support for this hypothesis: Directly exposed subjects transferred significantly more to in-group than to out-group members. Directly exposed subjects' transfers to in-group members were also higher than those to neutral subjects, but the difference misses conventional levels of significance. At the same time, direct conflict exposure was related to significantly lower trust in out-group members. This supports propositions by Posen (1993), Lavi et al. (2012) and Schmid, Muldoon (2013) that conflict exposure may increase threat perceptions and prejudice related to the out-group and erode out-group trust (see also Weingast 1998; Stephan et al. 1999; Ingelaere 2007; Whitt 2010; Dercon, Gutiérrez-Romero 2012; Mironova, Whitt 2014). Directly exposed subjects trusted out-group members significantly less than both in-group and neutral members. Furthermore, directly exposed subjects were significantly less trusting of out-group members than subjects with no direct exposure to the conflict were.

While direct exposure did not affect average levels of trust, indirect exposure was related to lower average trust. People who had only experienced the conflict via friends losing their property seem to have felt the negative consequences of conflict sufficiently to reduce their faith in the trustworthiness of others. At the same time, being further away from conflict, indirectly exposed subjects were less likely to have experienced the positive effects of mutual support which directly exposed subjects may have experienced. The indirect exposure left them distrusting of everyone, irrespective of group affiliation. This result clearly exhibits that policies should not only treat directly affected regions and people, even more as indirectly exposed people make up a larger share of the population.

The findings may explain seemingly contradictory findings in the literature. For example, Becchetti et al. 2011 might not have found an impact of conflict exposure on trust because there was no effect on average trust, but possibly diverging effects on in-group and out-group trust that cancelled out on average. In Nepal, violence was mainly perpetrated by state actors. Hence, the positive effect in Giligan et al. (2014) may be explained by the fact that subjects knew their counterparts were very likely to be in-group rather than out-group members in terms of the conflict. Mironova and Whitt (2014) include mainly elements of direct exposure in their exposure measure. Their result that in-group bias increases with exposure may hence be caused by the fact that subjects in the baseline did not know their counterpart's group affiliation and thus believed they were interacting with an out-group member.

Special programs should be designed for directly and indirectly exposed subjects. Some measures will be good for both groups: Media reports, for example, should emphasize that there was no violent incident between Muslims and Christians since 2012. Rather than reminding people of the conflict, they should focus on the peaceful times before the conflict started, in which people of all religions lived together in harmony. This may reestablish indirectly exposed people's trust in humans in general and help to restore directly exposed people's trust in out-group members. Similarly, well-functioning cooperation between the two religious groups, such as *pela gandong*, a traditional system of brotherhood between Muslim and Christian villages, should be prioritized in order to promote trust. Media reports should emphasize joint efforts to rebuild private houses and public buildings and people should be encouraged to participate in such joint efforts. This may help directly exposed people to rebuild trust in out-group members and indirectly exposed people to experience solidarity similar to the one directly exposed people experienced during the conflict.

For directly exposed people who distrust out-group members, it is important to emphasize empirical evidence related to the finding in this study that trustees do not discriminate. Showing examples of non-discrimination in daily interaction, for example in local business and public transport, should help to restore trust in out-group members. Moreover, politics and media reports should tone down religious and ethnic differences. While the conflict may have stiffened group identities and made people over-emphasize differences between groups, this gap may be gradually reduced. It is thus essential to stress shared values as well as common goals of the groups. Emphasizing the common national identity may help to reduce prejudice and cleavages between groups and may enable directly exposed people to regain trust in the out-group.

The fact that indirectly exposed persons distrusted everyone shows that these people must not be ignored. At the same time, they may be easy to influence which makes them a promising target group for policy measures. Even though possibly living further away from the centers of the conflict, they should be included when planning community meetings and other structures to re-establish trust and harmony. The media could also play a crucial role in reducing their threat perceptions and reestablishing trust. Media reports should focus on how to prevent further violence and on positive side effects like solidarity during the conflict, rather than on frightening outcomes like injuries and fatalities.

Dialogue between the two groups should be facilitated as they can learn from each other: Directly exposed people could learn from indirectly exposed people to treat all

people similarly. Indirectly exposed people could learn from directly exposed people about their positive experiences of solidarity and how people helped each other. People with direct exposure should thus be guided to speak less about negative incidents and to speak more consciously about their positive experiences during the conflict. By that, indirectly exposed people may also benefit from these positive experiences and learn to see the good in the world and restore their faith in humanity.

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Appendix

A1: Inclusion of ethnic treatment in the neutral group

Figure 5: Mean trustor transfers by information on the trustee

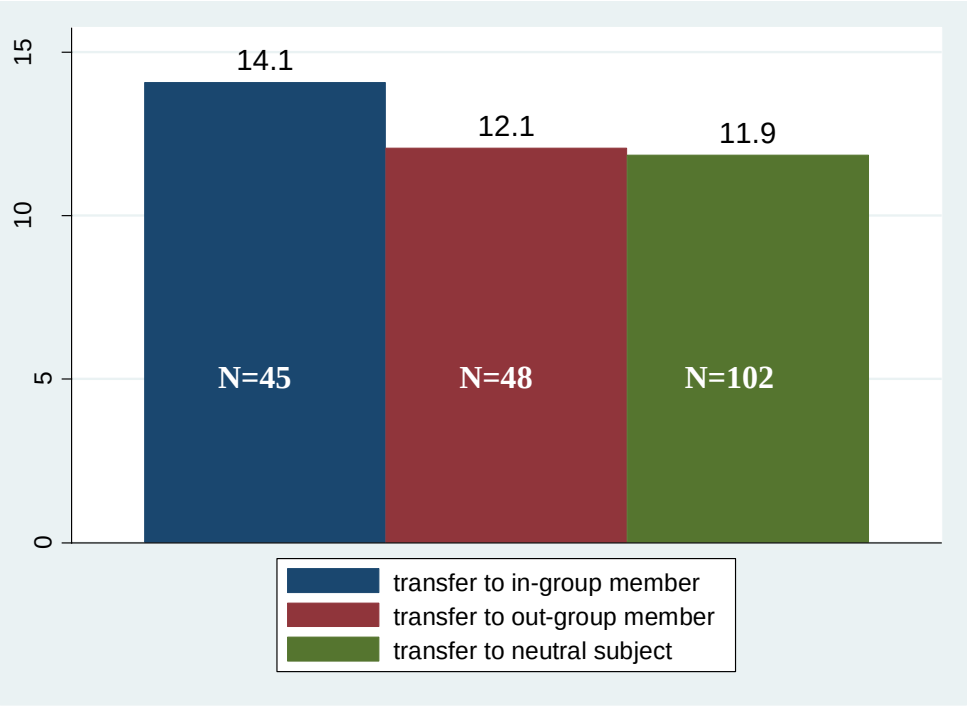
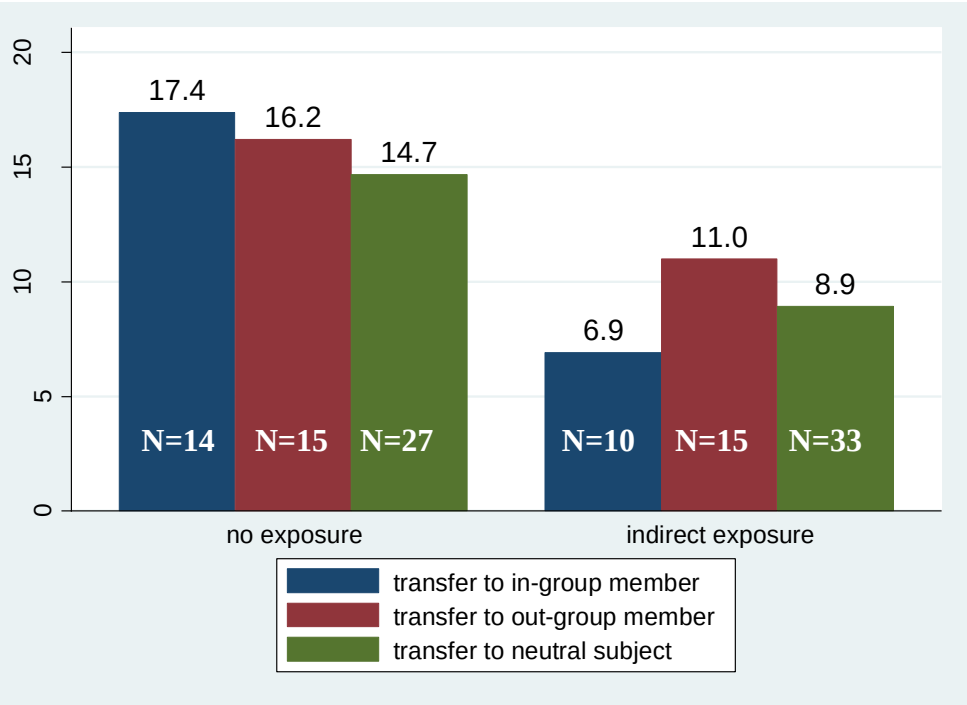
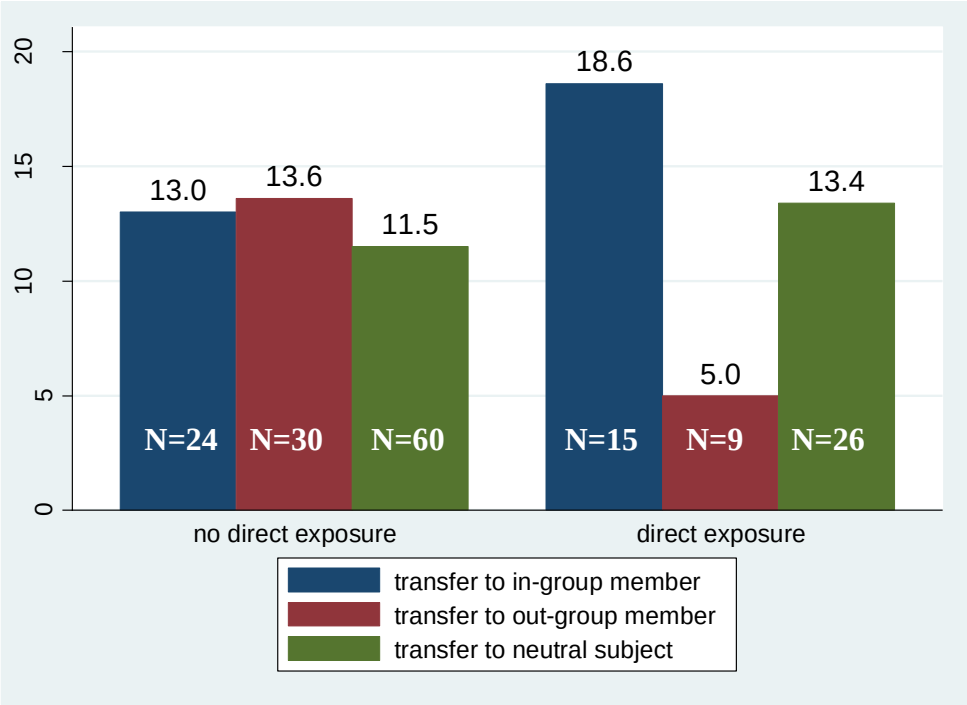


Figure 6: Trustor transfers by treatment and indirect exposure



Average transfers of subjects with no exposure are significantly higher than of those with indirect exposure (Mann-Whitney U-Test, z=2.579, p=0.0099).

Figure 7: Trustor transfers by treatment and direct exposure



The difference between in-group transfers of RPK 18.6 and out-group transfers of 5.0 (Mann-Whitney U-Test, z=-2.433, p=0.015) shows that directly exposed subjects trust in-group members significantly more than out-group members. The difference between transfers of RPK 18.6 to in-group members and 13.4 to neutral subjects on the right side is insignificant (z=-1.095, p=0.2735). Also, the difference between non-exposed in-group transfers of RPK 13.0 (left side) and RPK 18.6 for directly exposed in-group transfers (right side) is insignificant (z=-1.273, p=0.2029). Directly exposed subjects' transfers (right side) to out-group members of RPK 5.0 are significantly lower than transfers of RPK 13.4 to neutral subjects (Mann-Whitney U-Test, z=-2.357, p=0.0184). The difference between out-group transfers of RPK 13.6 of non-exposed (red bar on the left side) and RPK 5.0 of directly exposed subjects (red bar on the right side) is also significant (z=2.066, p= 0.0388).

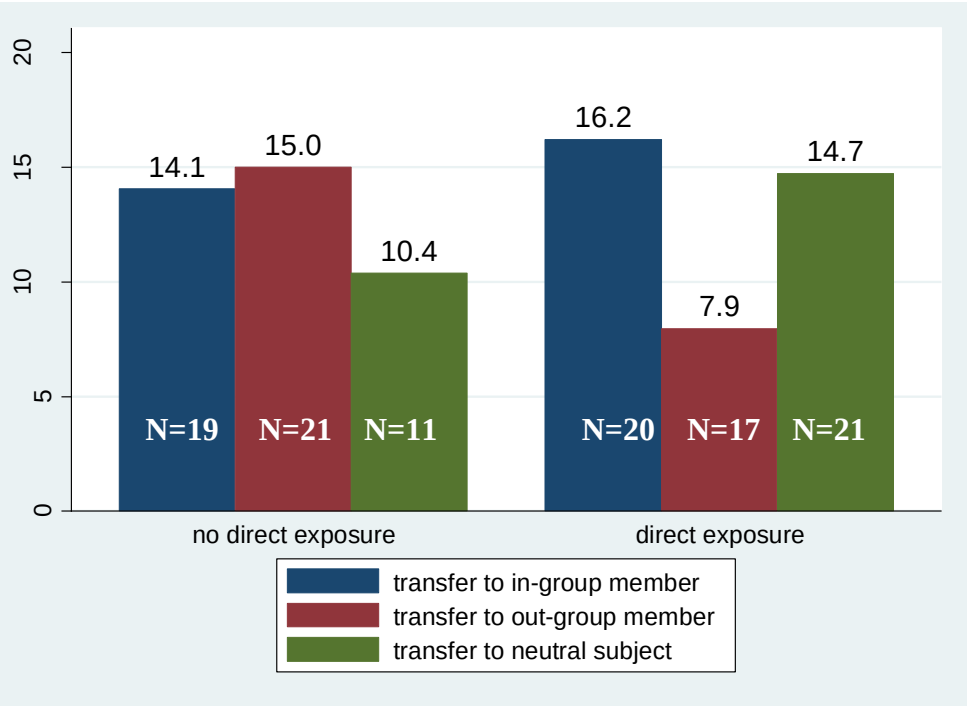
Table 5: Regression results including ethnic observations

Dependent variable: Trustor allocation						
	(1) All	(2) All	(3) All	(4) No direct exposure	(5) Direct exposure	Wald Test Δ coefficients models (5) and (4) (χ^2)
in-group	2.2	2.4	2.7	1.5	5.2	3.7
	(2.0)	(2.1)	(2.2)	(2.6)	(3.9)	(0.66)
out-group	0.2	-0.6	-1.6	2.1	-8.4***	-10.5**
	(1.9)	(2.0)	(2.1)	(2.4)	(2.3)	(10.12)
indirect exposure		-4.9**	-4.7**			
		(1.7)	(1.7)			
direct exposure		1.5	-0.3			
		(1.8)	(1.9)			
constant	11.9***	14.5***	16.7*	11.5***	13.4***	1.9
	(1.0)	(1.7)	(7.4)	(1.4)	(2.0)	(0.61)
Demographic controls	No	No	Yes	No	No	
N	195	164	159	114	50	
R^2	0.007	0.067	0.143	0.008	0.169	

Robust standard errors in parentheses
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

A2: Application of a broader measure of direct exposure

Figure 8: Trustor transfers by treatment and direct exposure (broader measure, additionally including having lost their belongings and having experienced the injury or death of a family member)



Due to a low number of directly exposed subjects, this analysis includes a broader measure of direct exposure. Results are similar: The difference between in-group transfers of RPK 16.2 and out-group transfers of 7.9 (Mann-Whitney U-Test, z=-1.82, p=0.0688) shows that directly exposed subjects trust in-group members more than out-group members. The difference between transfers of RPK 16.2 to in-group members and 14.7 to neutral subjects on the right side is insignificant (z=-0.434, p=0.6645). Also, the difference between non-exposed in-group transfers of RPK 14.1 (left side) and RPK 16.2 for directly exposed in-group transfers (right side) is insignificant (z=-0.292, p=0.7706). Directly exposed subjects' transfers (right side) to out-group members of RPK 7.9 are lower than transfers of RPK 14.7 to neutral subjects, but significance is weak (Mann-Whitney U-Test, z=-1.44, p=0.1498); when also including subjects that received ethnic information in the treatment neutral subject the difference is significant (z=2.176; p=0.0295). The difference between out-group transfers of RPK 15.0 of not directly exposed (red bar on the left side) and RPK 7.9 of directly exposed subjects (red bar on the right side) is significant (z=1.980, p=0.0477).

Table 6: Regression results including broader measure of direct exposure (additionally comprising injury or death of family member and loss of belongings)

	Dependent variable: Trustor allocation					
	(1) All	(2) All	(3) All	(4) No direct exposure	(5) Direct exposure	Wald Test Δ coefficients models (5) and (4) (χ^2)
in-group	1.8	1.2	1.1	3.7	1.5	-2.2
	(2.5)	(2.8)	(3.1)	(3.9)	(4.0)	(0.16)
out-group	-0.2	-1.9	-3.0	4.6	-6.8+	-11.4*
	(2.4)	(2.6)	(2.9)	(3.9)	(3.4)	(5.01)
indirect exposure		-5.3*	-4.8*			
		(2.2)	(2.3)			
direct exposure		1.3	0.3			
		(2.3)	(2.3)			
constant	12.3***	16.0***	16.2	10.4**	14.7***	4.3
	(1.8)	(2.7)	(10.2)	(3.1)	(2.8)	(0.24)
Demographic controls	No	No	Yes	No	No	
N	133	110	107	51	58	
R^2	0.007	0.068	0.167	0.028	0.084	

Robust standard errors in parentheses
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

A3: Logit regressions of exposure on observables

Table 7: Logit regressions on conflict exposure

	(1) Indirect exposure	(2) Direct exposure
muslim	-0.3	0.5
	(0.7)	(0.6)
male	-0.1	0.5
	(0.6)	(0.4)
age	0.1	0.1
	(0.2)	(0.1)
siblings	-0.2	-0.1
	(0.1)	(0.1)
income	-0.3	-0.6
	(0.5)	(0.4)
constant	-1.3	-1.6
	(3.5)	(2.1)
N	67	107
pseudo R^2	0.050	0.043

Standard errors in parentheses
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

A4: OLS Regression with demographic controls

Table 8: Regression with demographic controls

Dependent variable: Trustor allocation	(3) All
In-group	1.1
	(3.1)
Out-group	-3.0
	(2.9)
Indirect exposure	-4.8*
	(2.3)
Direct exposure	0.3
	(2.3)
male	4.6*
	(2.3)
age	-0.02
	(0.4)
# siblings	1.0+
	(0.6)
income	-3.1
	(2.0)
muslim	0.4
	(2.9)
constant	16.2
	(10.2)
N	107
R^2	0.167

Standard errors in parentheses
+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

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