



# **Emotional Numbing and Lessons Learned after a Violent Conflict – Experimental Evidence from Ambon, Indonesia**

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Diskussionsbeitrag Nr. V-74-16

**Volkswirtschaftliche Reihe ISSN 1435-3520**

**PASSAUER  
DISKUSSIONSPAPIERE**

**Herausgeber:  
Die Gruppe der volkswirtschaftlichen Professoren  
der Wirtschaftswissenschaftlichen Fakultät  
der Universität Passau  
94030 Passau**

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Es wird gebeten, sich mit Anregungen und Kritik direkt an den Autor zu wenden

# Emotional Numbing and Lessons Learned after a Violent Conflict

– Experimental Evidence from Ambon, Indonesia

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## Abstract

Violent conflict is sometimes believed to provoke discrimination, but sometimes also seen to reduce pro-sociality in general. While discrimination may reinforce conflict, a lack of pro-sociality hinders peace reconciliation, social capital formation and development. We test which of these viewpoints finds support and how activation of memories of the conflict affects people's pro-social behavior. Lab-in-the-field experiments were run among Muslim and Christian students in post-conflict Ambon, Indonesia, and combined with data from a post-experimental questionnaire. With the help of dictator, ultimatum and trust games, we investigate the impact of activation of memories of the conflict on different types of pro-sociality. We do not find evidence for discrimination against out-group members. Instead, pro-sociality is significantly reduced if subjects are reminded of the conflict. This effect is particularly strong if subjects had been highly exposed to violence and thus particularly dismal memories were activated. Our findings run counter to the viewpoint that conflict, group identities and discrimination reinforce each other and lead to a downward spiral. They are supportive of emotional numbing. Subjects behave pro-socially, potentially due to the lessons learned from the conflict, unless memories of the conflict are activated. For peace reconciliation, it is thus important to avoid activation of such memories.

JEL Classification: C93; Z12; Z13

*Keywords:* Conflict resolution; Religion; Ethnicity; Discrimination; Experiment; Conflict exposure.

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## Introduction

Does conflict breed discrimination or emotional numbing? Conflict is often believed to increase identification with the in-group and breed mistrust towards others, enhance favoritism towards one's own kin, nurture discrimination against out-group members and thus create a spiral towards an ever increasing cleavage. Contrary to this viewpoint, conflict may inhibit empathy and reduce sympathy even towards in-group members. Conflicts do not necessarily spiral downward, but may evoke a less favorable traumatic equilibrium.

In an environment that experienced a violent conflict, we run a field study to test which of these viewpoints finds support. We gather experimental data on dictator, trust and ultimatum games from a post-conflict environment in Ambon, Indonesia. In the Maluku region, tensions between autochthonous ethnic groups and immigrants from other Indonesian regions had suddenly turned into a violent conflict between Muslims and Christians in 1999. In four treatments, we activate recall of the conflict by confronting subjects with counterparts who belong to their ethnic in-group, ethnic out-group, religious in-group or religious out-group. In a fifth treatment, no such activation is carried out, thus allowing participants to disregard the violent past.

The results indicate a strong tendency to allocate less when the religion or ethnicity of the counterpart is known, i.e. when memories of the conflict are activated. We do not find evidence for discrimination. This implies that the viewpoint of conflict as spiraling downward by nurturing discrimination does not find support. Instead, we find support for a traumatic equilibrium where subjects are less empathetic and less sympathetic toward others when memories of the conflict are activated. This is also supported at the individual level: Subjects who experienced injury in the conflict reacted more strongly when memories of the conflict were activated and were more pro-social otherwise.

## Pro-Sociality and Conflict

Conflicts may run out of control. They might motivate subjects to discriminate against out-group members and advance prejudice and mistrust. Experience with being discriminated against may then augment the desire to negatively reciprocate. In that case, a violent conflict enhances identification with the in-group and stiffens prejudice and cleavages between groups (Brewer 1979; Tajfel and Turner 1979; 1986; Stephan et al. 1999; Akerlof & Kranton 2000). Bowles (2008) argues that conflict breeds parochial altruism, i.e. altruism towards in-group members along with out-group hostility. Similar arguments on in-group cooperation and out-group conflict have been raised for non-human species (de Waal 2009: 54-55).

In interethnic studies with humans, experimental evidence for discrimination against out-group members has been gathered in societies with social disparities (but no overt violent conflict) by Glaeser et al. (2000), Burns (2006, 2012), Chuah et al. (2007), Simpson et al. (2007), Ferraro and Cummings (2007), Chuah et al. (2014). In post-conflict environments, Whitt and Wilson (2007), Whitt (2012), Bauer et al. (2014) as well as Mironova and Whitt (2014) found discrimination. These studies provide support for the viewpoint of a vicious circle where inter-group competition or conflict and discrimination reinforce each other.

In contrast, no evidence for discrimination against out-group members was found by Fershtman and Gneezy (2001), Gil-White (2004), Habyarimana et al. (2004), Fershtman, Gneezy, Verboven (2005). These studies were mostly conducted in places without overt conflict or with the groups living in different territories. Besides methodological differences in the studies, potential reasons for this ambiguity may thus relate to territorial divides, the gravity and persistence of conflict and the salience of social divides. A conflict may have to be on-going or more salient in order to induce individuals to engage in discrimination. For example, Schubert and Lambsdorff (2014) find Palestinians to be willing to negatively reciprocate when being confronted with an Israeli, while being more forgiving towards fellow Palestinians. The enduring violent conflict in the Occupied Palestinian Territories may provide a breeding ground for this type of discrimination.

Conflict may not only have an impact on discrimination but also reduce the general faith in people and lower pro-sociality towards all others, not only out-group members (Collier et al. 2003). This line of thought can be found across a wide range of disciplines. It can be described as two modes of interaction, one with a salient conflict, which we label “conflict-mode”, and one without, which we label “harmony-mode”. We adopted these terms from Zizzo and Tan (2007), who infer the modes of interaction from the extent to which payoffs of two players are in conflict or in harmony with each other. A similar approach can be found in the related philosophical work by Tuomela (2000) who posits that it can be rational to interact in a harmonious group-mode, while it may be shortsighted to engage in a non-cooperative individual-mode. Michael Bacharach and Robert Sugden argue that people will identify with others and engage in “team reasoning” if a strategic interaction is framed as being non-conflictual (Bacharach et al. 2006; Sugden 2003; Smerilli 2014). In that case, people consider the interaction with others to be guided by harmony and will infer their behavioral choices from the perspective of what is best for all. If instead a conflict is salient, people regard their interests to be in disharmony with those of others and engage in an individual mode of reasoning with a focus on opportunistic and myopic maximization. This resembles our conflict-mode. Rather than asking “what should we do?”,

people then pose the question “what should I do?”. Activation of this mode can also be related to the literature on team reasoning and joint attention (Misyak and Chater 2014; Misyak et al. 2014). If people are jointly attentive to signals of conflict and they know that others observe these very same signals, they are likely to enter into the conflict-mode. If they obtain no signals or are even jointly attentive to signals of cooperation, they are more likely to remain in the harmony-mode.

These two modes of interaction show some relation to studies on exposure to violence and trauma. Violent conflicts often traumatize individuals. The consequences of traumatic experiences can be negative feelings about oneself and other people and the inability to feel positive emotions and empathy. This has been called “emotional numbing”, i.e. an inability to emotionally interact with others (Pedersen 2002; Asmundson et al. 2004). After exposure to a violent conflict, people may be incapable and unwilling to make an emotional difference between in-group and out-group members. They abstain from being empathetic towards any other human being, including their own kin. This reaction may make sense as people have seen neighbors turn against each other and experienced difficulties in distinguishing friend from foe during the conflict. Friends were not always sympathetic to their well-being, but requested effort and resources to be devoted for fighting off the out-group. Warfare may have brought about human rights abuses against civilians even by own soldiers. Death and displacement have destroyed social bonds and networks. People have seen violence and murder and have lived in fear. Memories of these times can activate the conflict-mode and induce an emotional numbness.

Yet, humans who suffer from a post-conflict trauma or a related experience do not constantly think of this dismal experience. They are not persistently in the conflict-mode. As long as memories of the conflict are not activated, they may interact in the harmony-mode. They act pro-socially and reciprocate. They feel empathy and are sympathetic towards the well-being of others. We consider this mode to be the default. Thus, the harmony-mode is the standard type of interaction that prevails as long as attention is not directed towards signals of conflict.

This is supported by recent field studies which have found remarkable levels of collective action and political participation in post-conflict countries such as Uganda and Sierra Leone (Bellows and Miguel 2009; Blattman 2009). Experimental evidence in Burundi, Nepal, Georgia and Sierra Leone points to a high overall level of altruism, cooperation and trust (Bauer et al. 2014; Voors et al. 2012; Giligan et al. 2014). These high levels of pro-sociality and cooperation might be related to a psychological change where valuable lessons have been learned. Psychologists label such phenomena “altruism born of suffering” (Staub and Vollhardt 2008) or “posttraumatic growth” (Tedeschi and Calhoun 2004: 5). During the conflict, people may have internalized a norm of mutual support in matters of defense and coping with losses. People have

experienced how it feels to suffer and to be in need for help and thus reveal more empathy and altruism toward others. The value and fragility of peace have been understood and people feel responsible for its maintenance, in particular if they were victims of violence. They thus attach increased importance to harmonious interaction with fellow community members and increase their pro-social behavior (Voors et al. 2012; Giligan et al. 2014). These lessons learned coexist with the traumatic memories.

But this harmonious mode of interaction stops if a violent conflict is recalled. Becchetti et al. (2011) thus find positive reciprocity to be reduced among subjects who were highly exposed to violence in Kenya if the conflict is made salient by letting subjects observe others taking money from a common pool. Cassar et al. (2013) find high pro-sociality toward a counterpart from a distant town (as compared to same-village), far from local conflict, in Tajikistan. They argue that a distant-town Tajik makes subjects think more abstractly. In our perspective, this means that memories of the conflict are not activated. At the same time, they find reduced pro-sociality among subjects facing a counterpart from the same village who possibly activates the conflict-mode. Rather than focusing on pro-social behavior, Bogliacino et al. (mimeo) investigate the impact of conflict exposure on cognitive function, finding similar effects. In their study, subjects with high exposure to violence scored significantly lower in a range of cognitive tests, but only when they were asked to recall experiences of violence. If they were asked to recall happy or neutral memories, on the contrary, their scores were as high as those of subjects with low exposure to violence. The authors argue that when memories of violence are activated, subjects enter a state of mind in which they have a reduced capacity to use a reflective, conscious system of thinking. This state of mind might be similar to our description of the conflict mode.

We build on this strand of literature and focus on the extent of pro-sociality. We argue that, due to the lessons learned, those who were traumatized reveal high levels of pro-sociality when memories of the conflict are not activated. Activating memories of the conflict, however, may induce psychological distress, bringing about symptoms that are similar to posttraumatic stress symptoms, in particular emotional numbing.

## **The Maluku Conflict**

From 1999 to 2002, the Maluku islands were struck by a violent conflict between Muslims and Christians that resulted in the displacement of nearly 700,000 people and the death of between 5,000 and 10,000 people (Spyer 2002; Lowry, Littlejohn 2006). Despite the Malino Peace Agreement of 2002, the conflict surged again in 2003 and 2004 (Braithwaite et al. 2010) and tensions and deep resentments are perceptible until today (Lowry, Littlejohn 2006; Adam 2010).

Although fighting took place between Christians and Muslims, some researchers claim that the conflict had an ethnic dimension in the beginning (Kreuzer 2000; Sukma 2005; Braithwaite et al. 2010). Tensions between autochthonous Moluccans and migrant ethnic groups, increasingly perceived as intruders, are often named as an important trigger of the conflict (Mearns 1999; Sukma 2005; Adam 2010). Suharto's politics of arbitrarily transmigrating hundreds of thousands of Indonesians to other islands had significantly increased the number of external ethnic groups in the Maluku region between the 1970s and the 1990s. However, not only the share of foreign ethnic groups, but also the share of Muslims had risen in Maluku in view of transmigration.

Christians had enjoyed a privileged status in Maluku during colonial times, having received better access to education and high-ranking positions, and dominated local administration and politics after independence (Sukma 2005; Kreuzer 2000). An increasing dominance of Muslims in the business sector and in many bureaucratic positions following Suharto's transmigration program was perceived as a threat, and many Christians interpreted the program as an attempt to dilute Christian dominance in Maluku (Rabasa, Chalk 2001; Bertrand 2002; Sukma 2005; Lowry, Littlejohn 2006). Suharto's shift toward Islamic groups in the 1990s and transitions in the country following Suharto's step-down in 1998 further increased the fear among Christians to lose power in Maluku (Bertrand 2002; Spyer 2002; Sukma 2005). This resulted in a "politicization of religious identities" with both religious groups fearing to be pushed aside (Adam 2010, p.28). Christians were afraid of becoming a small minority in a Muslim-dominated country and Muslims feared that Christians would reestablish their local dominance in the Maluku region (Bertrand 2002).

In 1999, violence first broke out between Christian Ambonese and Muslim immigrants from the most prominent external groups, namely Bugis, Buton and Makassar. Soon the fights turned into a conflict between Muslims and Christians, irrespective of their ethnic affiliation (Sukma 2005). Of course, religious and ethnic affiliations in Maluku do overlap to some extent, but far from perfectly. There are Muslims and Christians in both autochthonous and immigrant ethnic groups. If there had not been an overlap, tensions between ethnic groups might not have turned into a violent conflict between Muslims and Christians. We did not find any official data on the relationship between ethnicity and religion in the Ambonese population, but our sample reflects this imperfect overlap: Of the autochthonous participants in our sample, 65% are Christian and 35% are Muslim, while of the immigrant participants, 15% are Christians and 85% are



Muslim (see Table 1). There is a correlation of 33% between ethnicity and religion.<sup>1</sup> Hence, subjects cannot infer the religion of the counterpart from the ethnicity or vice versa.

**Table 1: Relationship between religion and ethnicity in our sample**

	Christian	Muslim	Sum
Autochthonous	386	210	596
Immigrant	13	71	84
Undefined	1	43	44
Sum	400	324	724

## Experimental Design and Treatments

In a controlled experiment, this study investigates the extent of pro-sociality and how it differs towards in-group and out-group members when religious or ethnic identities are activated. Rather than relying on a single measure of pro-sociality, we employ standard dictator (Forsythe et al. 1994), ultimatum (Güth et al. 1982) and trust games (Berg et al. 1995). Giving among dictators to an inactive recipient is determined by pro-sociality in the form of altruism, warm-glow or inequality aversion. The ultimatum game involves pro-sociality towards a more actively involved responder. Consideration of the trust game enables us to include reciprocity as another form of pro-sociality. The experiments were run pen-and-paper based in Ambon, the capital of Maluku province, in September 2013. We used a student sample of 724 undergraduate students at the Institut Agama Islam Negeri (IAIN), a Muslim university, and Universitas Kristen Indonesia Maluku (UKIM), a Christian university. Subjects participated once a week over the course of four weeks. This was necessary in order to enable subjects to interact with somebody studying at the other university. Furthermore, this increased anonymity as subjects knew they could be interacting with anybody out of the 724 subjects and most likely not with one of the more familiar subjects participating in the same session. 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. 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, Fehr 2004; pp. 72-73).

In the first week, subjects answered questions on their university affiliation and local language skills which served as indicators for their religion and ethnicity. They also answered two

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<sup>1</sup> Undefined means that a subject either was of mixed ethnicity or neither belonged to the most prominent autochthonous nor the most prominent immigrant ethnic groups which we used for treatment formation. Due to their unclear ethnic affiliation, these subjects were assigned to either the baseline or one of the religious treatments. The subjects of undefined ethnicity were not included when computing the correlation between religion and ethnicity.

further questions on culinary preferences (whether they preferred drinking coffee or tea and eating tofu or tempe) that were meant to be irrelevant for their behavior. In the second week, half of the subjects played a standard dictator game with each of them playing the role of a dictator.<sup>2</sup> At the end of the experiment, they learned that they had also been allotted the role of a recipient and were informed about how much they had obtained. Right after the dictator game, half of these subjects were assigned the role of the proposer in an ultimatum game while the remaining half received a filler task to keep them occupied. Those subjects who had not participated in the dictator and ultimatum game played a trust game in the same week. Half of them obtained the role of the trustor and played immediately while the remaining half received a filler task<sup>3</sup>. In the third week, all players that had received filler tasks in the second week became second movers of the trust and ultimatum game while the previous first movers received a filler task. In the fourth week, subjects completed a questionnaire on religious attitudes and conflict exposure before receiving a sealed envelope containing their payoffs and a result sheet informing them of their payoffs and their counterparts' choices in all tasks. Table 2 portrays the respective schedule.

**Table 2: Experimental schedule**

<b>Week 1</b>	724 subjects; 4 questions, matching.			
<b>Week 2</b>	50% play dictator game		50% play reverse dictator game;	
	25% play ultimatum game (proposers)	25% receive filler task	25% play trust game (trustors)	25% receive filler task
<b>Week 3</b>	25% receive filler task	25% play ultimatum game (responders)	25% receive filler task	25% play trust game (trustees)
<b>Week 4</b>	Questionnaire on personal characteristics, conflict exposure and religiosity Payoff after completion of questionnaire			

Based on the answers given in the first week, subjects were matched into pairs and assigned to treatments<sup>4</sup>: In the non-activation treatment, subjects neither knew their counterpart's

<sup>2</sup> The other half of subjects played a reverse dictator game, i.e. the dictator was not given the option to transfer money to a recipient, but to take away money from the recipient. Taking away money is seen to activate a conflict mode (see also Becchetti et al. 2011). For this reason, we do not expect treatment effects, that is, being reminded of religion and ethnicity, to impact behavior. Figure A.1 in Appendix A shows that there is indeed no treatment effect in the reverse dictator game. This motivates us to disregard this game in our study. The results of the reverse dictator game are presented in a separate paper (Werner 2016, mimeo).

<sup>3</sup> The filler task in the second week was to state beliefs about the decision the first mover would make. The filler task in the third week, i.e. after subjects had made all their decisions, were questions on ethnic stereotypes.

<sup>4</sup> This assignment was not random, but based first on a principle of scarcity. For example, there were rather few immigrants and we thus assigned these preferably to the treatments ethnic in-group and ethnic out-group. This implies that the composition of religion and ethnic identity differs across treatments. We will test in section 7 how this non-randomness impacts our findings.

religion nor ethnicity and only received information that did not remind them of the conflict. In four further treatments, the conflict mode was activated with subjects facing a counterpart of their own religion (*religious in-group*), of the other religion (*religious out-group*), of their own ethnic group (*ethnic in-group*) or of another ethnic group (*ethnic out-group*). That means, unlike Bogliacino et al. (mimeo) who activated the conflict mode by making subjects write down memories of violence, we did so by making religious or ethnic identities salient.

To hold the amount of information constant, every subject was able to see two answers her counterpart in the respective game had given in the first week<sup>5</sup>. Subjects were informed that their counterpart obtained their own answers on the same two questions. In the non-activation treatment, subjects received only irrelevant information, namely the two irrelevant answers on culinary preferences of their counterpart. In the religious treatments, subjects received the answer on the university affiliation plus one of the irrelevant answers. In Indonesia, religion plays a very important role and can thus be considered an important group indicator for social identification. Interviews with locals and a pre-test prior to the experiments had revealed that people immediately thought of the other person as a Muslim or Christian when being informed about her university affiliation, rather than regarding her a person of the own or a different university. In a post-experimental questionnaire, subjects also stated their religion to be an important part of their personal identity, significantly more important than their major (two-sided t-test,  $p=0.0000$ ), their nationality (two-sided t-test,  $p=0.0002$ ) or their ethnicity (two-sided t-test,  $p=0.0000$ ). When the topic of religion came up, subjects in the pre-tests immediately started talking about the conflict. This was also observed in daily conversations. Hence, the information on the counterpart's university affiliation is believed to activate the religious parts of subjects' identities and thus the conflict mode, rather than being seen as a meaningless indicator of university affiliation.<sup>6</sup>

In the ethnic treatments, subjects were able to see their counterparts' language skills plus one of the irrelevant answers. For matters of simplicity, ethnic groups were aggregated to two groups, namely autochthonous groups from the Maluku region and the most important immigrant groups such as the Bugis, Buton and Makassar. Thus, in the "ethnic in-group" treatment, subjects did not necessarily interact with a member of their true ethnic in-group. They only knew that it was a fellow autochthonous or fellow immigrant member and not somebody standing on the other side of the ethnic tensions. In the treatment "ethnic out-group", subjects did know for sure that the

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<sup>5</sup> One week later, when the games were played, and by design of the survey questions we believe subjects were unlikely to infer the treatment variables from the questions which might induce experimenter demand effects.

<sup>6</sup> Similarly, Hewstone et al. (1993) show that religion was a much stronger category for social identification in Bangladesh than national or linguistic categories.

other person was not of their own ethnicity and belonged to one of the ethnic groups that stood on the other side of the ethnic tensions.

**Table 3: Treatments and numbers of observations**

Treatments	Information	# Obs. Dictator	# Obs. Ultimatum Proposer	# Obs. Trustee	Total Obs.
Religious in-group	University + coffee/tea	88	51	39	178
Religious out-group		95	44	41	180
Ethnic in-group	Languages + tofu/tempe	44	18	27	89
Ethnic out-group		41	20	27	88
Non-activation treatment	Coffee/tea + tofu/tempe	56	37	35	128

Table 3 provides an overview of the treatments, the information subjects received and the number of observations for each game. The treatment information for each game was copied from the respective counterpart's questionnaire right 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 counterpart's hand-written cross on it (see figure 1).<sup>7</sup>

**Figure 1: Section of a game sheet containing the treatment information (English translation)**

**Left-hand side:** First week's questionnaire with information on university affiliation with UKIM relating to a Christian and IAIN to a Muslim university, two questions on culinary preferences and one question on language skills that indicates ethnicity with the first option denoting locals and the second option embracing the most important immigrant groups (among them Bugis, Buton and

University: ☒ UKIM ☐ IAIN ☐ UNPATTI ☐ other university

What do you prefer? (mark with a cross)

☐ coffee ☒ tea

What do you prefer? (mark with a cross)

☐ tofu ☒ tempe

Your parents' mother tongue (mark with a cross if you parents' mother tongue is among the languages below)

☒ Bahasa Ambon, Bahasa Melayu  
Ternate, Tidore, Kei, Makian, Tobelo,  
Banda, Tanimbar, Dobo, Kelompok  
Maluku Barat Daya.

☐ Bahasa Jawa, Bahasa Buton/  
Wolio, Bahasa Cia-Cia, Bahasa  
Bugis, Bahasa Makassar/Bahasa  
Melayu Makassar, Bahasa Cina.

You can see **2 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

Perfect stranger matching was used between games so that partners would not interact twice. This was reported to subjects. If subjects had played with an out-group member in the

<sup>7</sup> Sample game sheets and instructions for all games can be found in Appendix E and F.

dictator game, they faced an in-group member in the ultimatum game and vice versa. The type of information (religious, ethnic or irrelevant) remained constant across games. If a player was thus assigned to the ethnic in-group treatment in the dictator game, this changed to the ethnic out-group treatment in the subsequent ultimatum game, this way reinforcing the activation. We made this choice in order to activate only one particular conflict mode and avoid subjects switching from a religious conflict mode to an ethnic one. Another reason was to not only inform subjects about the stranger matching in the instructions, but also make them feel they were interacting with a different partner by receiving different information on the partner than in the first game. Likewise, a player in the non-activation treatment received different information on culinary preferences, but stayed in the same non-activated treatment in the subsequent ultimatum game. This made sure that the harmony-mode was not disturbed by information given in the first game.

To ensure a maximum understanding, subjects were given both written and oral instructions in each session which were both given in Indonesian language<sup>8</sup>. Subjects were informed that they would have to answer incentivized comprehension questions on each game with the possibility to earn additional money to encourage thorough reading and maximum attention. After oral instructions and additional graphical illustrations had been given, subjects were called upon to state in chorus for every possible (first-mover) decision the amount both players would receive. By this, we attempted to ensure a maximum understanding and avoid problems of computation, while, by making all possible transfers equally salient, avoiding focal points or anchoring effects.<sup>9</sup>

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. Initial endowments amounted to 60,000 IDR in the dictator and ultimatum game and to 30,000 IDR for both the trustor and the trustee in the trust game. Sessions lasted, on average, 25 minutes each week and subjects received a mean payoff of slightly more than 110,000 IDR which equaled approximately 10 USD at that time. In purchasing power, this is equivalent to approximately 6 meals at a cookshop.

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<sup>8</sup> Both written and oral instructions had been translated using standard back translation (Brislin 1970). A pretest had been run in 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. Procedural details, written and oral instructions can be found in Appendix E and F.

<sup>9</sup> 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.

## Hypotheses

We hypothesize that the salience of the conflict has stiffened group identities and allows us to observe discrimination between in-group and out-group, both in the ethnic and religious treatments.

**Hypothesis 1 [Conflict Breeds Discrimination]:** Subjects exhibit discriminatory behavior. They will allocate more money to the counterpart in the religious and the ethnic in-group treatments and less in the two out-group treatments.

Second, we believe that the conflict has left people traumatized and has induced emotional numbing. People will thus act less pro-socially when they are reminded of the conflict, which activates the conflict mode. Higher levels of pro-social behavior will be observed in the non-activation treatment where subjects remain in the harmony mode. Hence, we expect differences in pro-social behavior between our activation and non-activation treatments similar to the differences in pro-sociality toward people from the conflict area or people from a distant town found by Cassar et al. (2013).

**Hypothesis 2 [Conflict Traumatizes]:** Subjects will allocate less money to the counterpart in the activation treatments (religious and ethnic treatments) and more in the non-activation treatment.

Third, subjects who directly experienced traumatic events in the conflict should be particularly responsive to an activation of the conflict mode. They might reveal higher levels of emotional numbing if the conflict mode is activated and in the harmony mode they might elicit higher levels of pro-sociality and altruism due to the intensity of suffering and the lessons learned (Staub, Vollhardt 2008).

**Hypothesis 3 [Injuries Traumatize]:** Subjects who experienced injury in the conflict will exhibit a more pronounced difference between the activation treatments and the non-activation treatment.

## Experimental Results

A total of N=492 subjects participated in at least one of the games. Table 4 provides an overview of sample variation. Only 400 of the 492 subjects completed the survey in the 4<sup>th</sup> week which explains the missing data in Table 4.<sup>10</sup>

**Table 4: Sample characteristics**

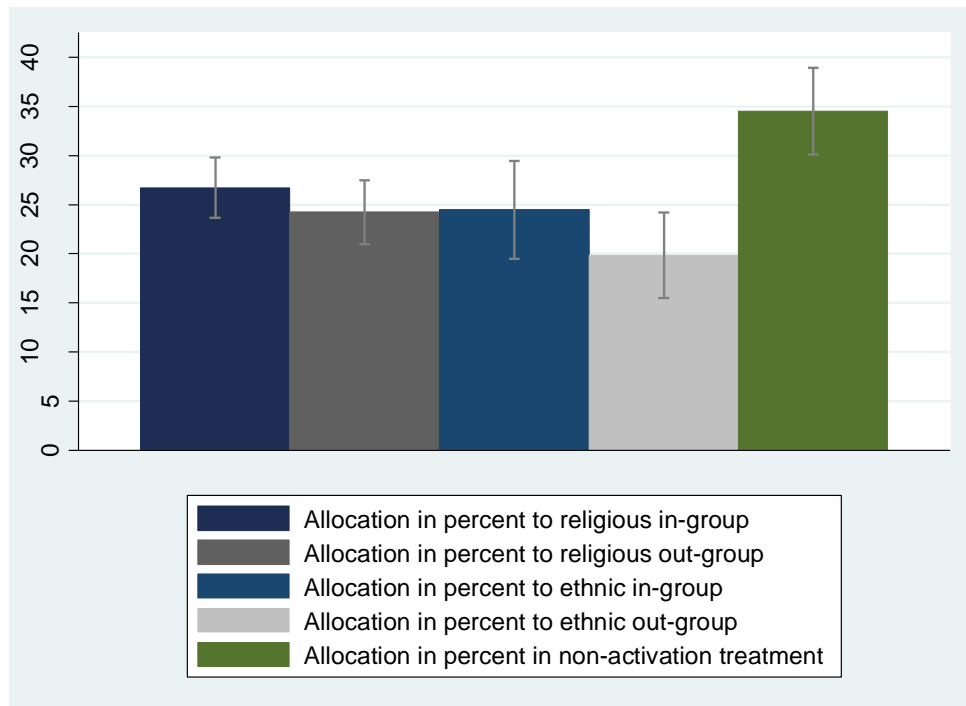
<b>Religion</b>	<b>N</b>	<b>%</b>	<b>Age</b>	<b>N</b>	<b>%</b>
Christian	254	51.6%	15-18	152	30.9%
Muslim	238	48.4%	19-22	206	41.9%
			23-26	36	7.3%
<b>Gender</b>	<b>N</b>	<b>%</b>	27-32	4	8.1%
Female	256	52.0%	Missing	92	18.7%
Male	134	27.2%			
Missing	102	20.7%			

We obtain data on the willingness to allocate money to the counterpart depending on the information on the counterpart and personal conflict exposure. As we are interested in common patterns of pro-social behavior across different interaction settings, the allocations of dictators, ultimatum proposers and trustees are pooled to obtain a general measure of pro-sociality across games. Graphical analyses for the three individual measures of pro-sociality and further regression analysis can be found in appendix A, revealing a similar pattern across all three games. For comparability, all allocations are expressed as percentages of the endowment.<sup>11</sup> As figure 2 indicates, there is no significant difference between allocations to religious in-group and out-group ( $z=1.482$ ;  $p=0.1383$ ; Wilcoxon-Mann-Whitney test); nor is there a significant difference between allocations to ethnic in-group and out-group ( $z=1.138$ ;  $p=0.2552$ ). Subjects appear incapable or unwilling to make an emotional difference between in-group and out-group members. When in-group and out-group are compared separately for each game, this finding holds as well. Hence, hypothesis H1 does not find support.

<sup>10</sup> 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.

<sup>11</sup> For trustees, this means amount returned / (endowment + amount received). Trustor transfers were not included in our analysis due to two reasons: First, Trustor transfers are only weakly related to the sender's level of pro-sociality. Second, Trustors made their decisions right after playing the reverse dictator game and thus may have been in the conflict mode even when not playing the activation treatment.

**Figure 2: Dictator, ultimatum proposer and trustee allocations in percent of endowment by treatments**



The bars depict mean values in each treatment. Capped ranges indicate 95% confidence intervals.

**Result 1 [conflict does not breed discrimination]:** Subjects do not discriminate between in-group and out-group.

At the same time, figure 2 suggests that subjects allocate significantly more in the non-activation treatment, where they are in the harmony mode, than in all other treatments. Indeed, Wilcoxon-Mann-Whitney tests reveal that subjects in the non-activation treatment allocate significantly more than in the activation treatments, regardless of whether their counterpart belongs to their religious in-group ( $z=2.408$ ;  $p=0.0161$ ), religious out-group ( $z=3.423$ ;  $p=0.0006$ ), ethnic in-group ( $z=3.140$ ;  $p=0.0017$ ) or ethnic out-group ( $z=4.397$ ;  $p=0.0000$ ). This lends support to hypothesis 2. Religious and ethnic cues put subjects in a conflict mode where memories of the conflict reduce empathy and lower their propensity to act pro-socially. Taken together, the results in figure 2 are indicative of emotional numbing, i.e. subjects being less able to act pro-socially and to make an emotional difference between in-group and out-group members when the conflict mode is activated.



**Result 2 [Conflict Traumatizes]:** Activation of the conflict mode by religious or ethnic cues leads to reduced pro-social behavior compared to non-activation.

Figure 3 displays the same graph separately for the three games to show that patterns are similar across games. For matters of space and simplicity, no distinction between the ethnic and religious treatment is made in this graph, summarizing ethnic and religious in-group to “in-group” and ethnic and religious out-group to “out-group”. A more detailed graph which distinguishes all treatments can be found in Appendix A, Figure A.5. All these graphs show that the effect of activating the conflict mode persists in all the three games and that there are no diverging effects that might possibly offset each other. People do not only refrain from discrimination in the non-strategic dictator game, but also in the ultimatum and trust game. There is no type of pro-sociality that is only stifled in certain games or certain treatments, but the pattern is very similar across the three games.

**Figure 3: Allocations in percent of endowment for dictators, ultimatum proposers and trustees by treatments**

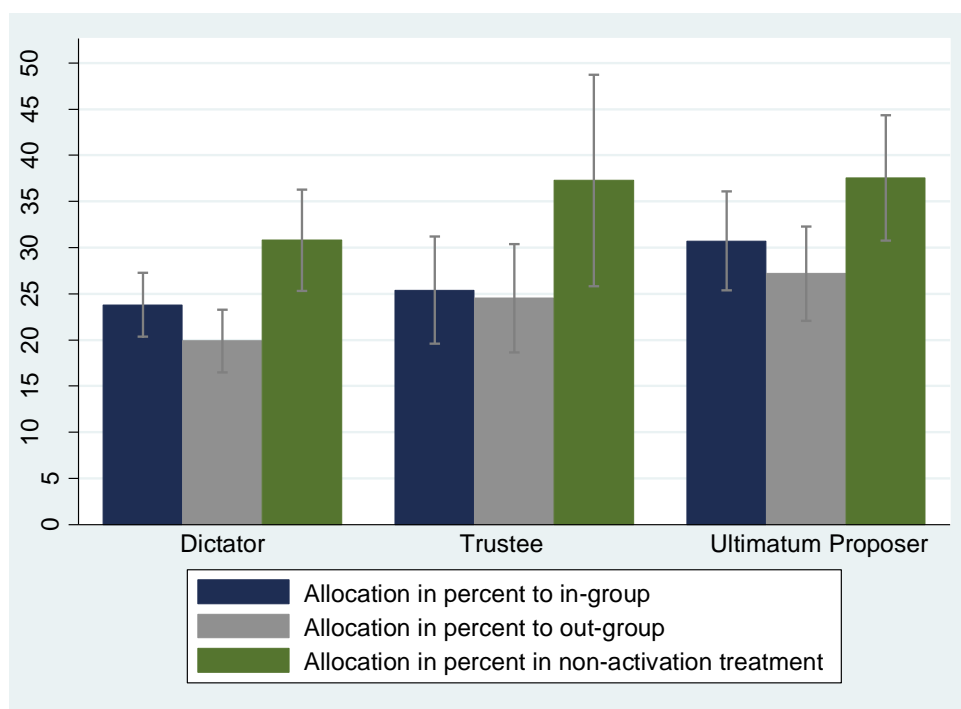
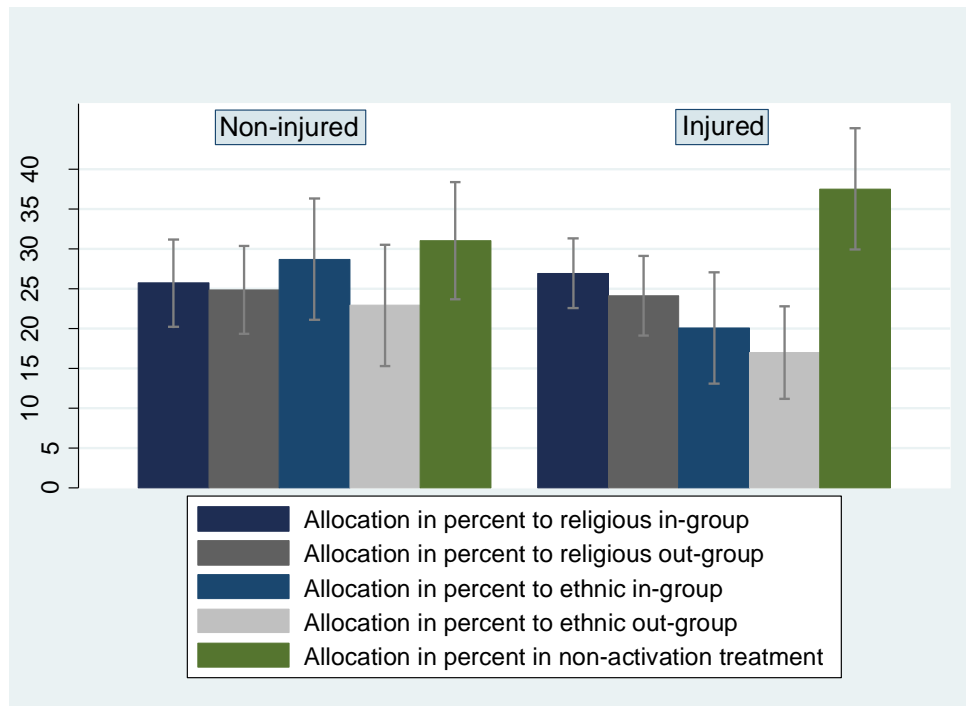


Figure 3 relates to subjects who were exposed to the conflict to different degrees. To investigate how the extent of conflict experience affects behavior, we use injury as a measure of conflict exposure. An injury can be deemed the most extreme form of conflict exposure a survivor of the conflict can have experienced. Injured subjects are thus likely to suffer from traumatic memories. In our sample, 18% reported that they had personally been injured and 44% reported to

have family members who got injured during the conflict. In total, 47% reported one of these incidents. Figure 4 compares allocations of subjects who did not experience injury in the conflict (left-hand side) to subjects who were injured or had injured family members (right-hand side).<sup>12</sup>

**Figure 4: Dictator, ultimatum proposer and trustee allocations in percent by injury and treatments**



The difference between non-activation (green bar) and activation of the conflict mode (blue and gray bars) is more pronounced for subjects who experienced injury: while none of the differences is significant at the 5%-level for non-injured subjects, the differences are significant between the non-activation treatment and the activation treatments for religious in-group ( $z=1.920$ ;  $p=0.0548$ ; Wilcoxon-Mann-Whitney test), religious out-group ( $z=2.500$ ;  $p=0.0124$ ), ethnic in-group ( $z=2.891$ ;  $p=0.0038$ ) or ethnic out-group ( $z=3.442$ ;  $p=0.0006$ ).

**Result 3 [Injuries Traumatize]:** Subjects who experienced injury in the conflict exhibit a more pronounced difference between the activation treatments and the non-activation treatment.

This difference is driven by both increased pro-sociality in the non-activation treatment and a drop in the activation treatments.<sup>13</sup> In the non-activation treatment, allocations increase from

<sup>12</sup> The results when only including personal injury are similar and can be found in Appendix B.

<sup>13</sup> A reader might infer from the graph that it is the ethnic, rather than religious, treatments that cause the significant effects between the injured and non-injured subjects. This is not the case. Wilcoxon-Mann-Whitney tests reveal that

31% of the endowment for non-injured subjects to 37.6% of the endowment for injured subjects. One may be tempted to infer that our results are better described as being due to lessons learned and less by emotional numbing. For example, if behavior of non-injured serves as a proxy for the behavior prior to the conflict, the high level of pro-sociality among injured subjects could be traced to the lessons learned, that is, the intensity of suffering having increased the importance subjects assign to harmonious interaction as suggested by the strands of literature based on Tedeschi and Calhoun (2004) or Staub and Vollhardt (2008). But we refrain from drawing such a conclusion. We do not engage in arguments whether emotional numbing or lessons learned are better in explaining our data for two reasons. First, we do not have data on behavior prior to the conflict and we are skeptical whether any proxies would be beyond doubt. Second, selection effects may account for our findings, i.e. subjects who allocate more being more likely to have experienced injury. Nevertheless, we can conclude that injured subjects are more responsive to activation of the conflict mode. This implies that either emotional numbing or lessons learned drive our data, and potentially both.

## Regression and Checks on Robustness

The OLS regressions in table 5 confirm our graphical analysis. The dependent variable is the allocation decision in percent of the endowment, pooled for the three games with dummies for *ultimatum game* and *trust game* allowing for variation between games. As can be seen, coefficients for these dummies are positive. Allocations are higher in these games, owing to the risk of rejection in the ultimatum game and gratitude for previous transfers in the trust game. Standard errors are clustered by individuals, assuming that the decisions in different games are correlated for an individual and independent across individuals. The allocations obtained in the non-activation treatment serve as a baseline and the respective level of allocation is captured by the constant. The four treatments with activation of the conflict mode, *religious in-group*, *religious out-group*, *ethnic in-group* and *ethnic out-group* are captured by dummy variables. The significant negative coefficients for all these dummies in model (1) reconfirm that subjects gave significantly less whenever traumatic memories were activated. At the same time, neither the difference between religious in-group and out-group (Wald test:  $F=1.38$ ;  $p=0.2415$ ) nor between ethnic in- and out-group ( $F=2.47$ ;  $p=0.1166$ ) is significant. This provides support for the view that

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there is no highly significant difference between religious out-group and ethnic out-group allocations ( $z= 1.130$ ;  $p = 0.2584$ ) and religious in-group and ethnic in-group allocations ( $z= 1.695$ ;  $p = 0.0901$ ) among injured subjects.

discrimination, as captured by hypothesis 1, is insignificant. The data are better explained by hypothesis 2. Activation of traumatic memories induces emotional numbing, a reduced empathy and less sympathy for the well-being of others.

**Table 5: OLS analysis on the treatment effects**

	Dependent variable: dictator, ultimatum & trustee allocation in percent			Wald Test $\Delta$ coefficients models 3 and 2 ( $\chi^2$ )
	(1) Pooled	(2) No injury	(3) injured	
religious in-group	-7.6** (2.9)	-3.8 (5.0)	-11.1* (4.4)	-7.3 (1.2)
religious out-group	-9.8*** (2.9)	-6.3 (5.0)	-13.0** (4.6)	-6.7 (1.0)
ethnic in-group	-9.6** (3.5)	-1.2 (5.8)	-17.2** (5.3)	-16.0* (4.3)
ethnic out-group	-14.4*** (3.3)	-8.2 (5.6)	-20.5*** (5.0)	-12.3+ (2.8)
trust game	4.1+ (2.3)	7.0+ (3.8)	-0.10 (3.2)	-7.1 (2.1)
ultimatum game	7.0*** (1.6)	7.9* (3.2)	6.1* (2.7)	-1.8 (0.2)
_cons	31.4*** (2.4)	26.6*** (4.3)	36.1*** (3.9)	9.5+ (2.8)
<i>N</i>	662	263	257	
<i>R</i> <sup>2</sup>	0.055	0.035	0.094	

Robust standard errors in parentheses (clustered by individuals)

+  $p < 0.10$ , \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Separate estimations for non-injured and injured subjects are presented in columns (2) and (3). These columns suggest that the difference between activation and non-activation mainly occurs when subjects experienced injury. For non-injured subjects in column (2), the coefficients on the treatment dummies are insignificant, showing that activation of the conflict has no impact, while the treatment dummies in column (3) have highly significant coefficients that are throughout larger in magnitude as compared to those in column (1). A Wald test between subsample coefficients (injured – non-injured subjects) is presented in the right-most column ( $\chi^2$ -values in parentheses). The constant is higher for injured subjects. These allocate 9.5% more of their endowment to their counterparts than non-injured subjects ( $\chi^2=2.8$ ;  $p=0.096$ ). The Wald Tests also reconfirm that the difference between non-activation and activation is more pronounced for subjects with exposure to injury. The difference of -16.0 for the ethnic in-group treatment is illustrated in the different height differentials between the green and blue bars on the left and right side in figure 4 and can be explained as follows: Non-injured subjects lower their allocations only

by 1.2% of their endowment (difference between green and blue bar on the left side) when conflict is activated. Injured subjects, however, do so by 17.2% of their endowment (difference between green and blue bar on the right side). Hence, activation of the conflict mode in the ethnic in-group treatment leads to a reduction of allocations that is 16 percentage points larger for injured subjects than for non-injured ones ( $\chi^2=4.3$ ;  $p=0.038$ ). In the ethnic out-group treatment, this reduction is 12.3 percentage points larger for injured subjects than for non-injured subjects ( $\chi^2=2.8$ ;  $p=0.0944$ ). The respective coefficients for the religious in-group and out-group treatments allow for an identical interpretation, but miss conventional levels of significance. Thus, activation of the conflict mode decreases pro-social behavior mainly among subjects who experienced traumatic events.

One might conjecture that social distance may impact our results, in our case a tendency to feel emotionally attached to a person that is socially close by sharing similar culinary preferences. For example, might our findings be driven by fellowship among tea-drinkers? For two reasons we consider this to be unlikely. First, each player received two answers of her counterpart, including at least one answer on culinary tastes. The chance to develop a sense for the mentioned type of fellowship was thus available to all participants, not only those in the non-activation treatment. Second, we tested whether subjects allocated more to those with identical culinary preferences and found no support (see Appendix C). A related concern that mentioning food and drink could activate a “having a good time mode” rather than mentioning ethnicity and religion activating the conflict mode seems also unlikely. Food and drinks were also mentioned in the treatments in which activation of memories of the conflict took place. Hence, the difference between the non-activation treatment and the activation treatments cannot be explained by a “having a good time mode”.

The assignment of religious and ethnic groups to treatments was partly organized by a principle of scarcity and not purely random. For example, subjects of unclear ethnicity were all assigned either to one of the religious treatments or to the non-activation treatment. Subjects from the immigrant groups were scarcer than other subjects so that they were mainly assigned to the ethnic treatments. This would be a concern if, for example, immigrants are less pro-social than autochthonous subjects and thus the lower allocations in the activation treatments would be due to the higher share of immigrants in the activation treatments. We address this concern by the help of two tests. The first test focuses only on autochthonous subjects. We observe identical effects, namely reduced pro-sociality in the activation treatments (Appendix D, figure D.1). Second, we add controls for religion and ethnicity to the regressions shown in Table 5. The coefficients for

religion and ethnicity are insignificant and do not impact our core findings (Appendix D, table D.1).

A further concern may be that subjects self-selected into conflict exposure which cannot be randomized by experimental design. Certain characteristics that correlate with pro-social behavior could determine the extent of personal conflict exposure. For example, could females be more willing to sacrifice themselves and thus reveal higher pro-social behavior and also be more likely to get injured in the conflict? Or are people with a higher income more generous and at the same time live in regions in which they have a lower risk of being caught in the conflict? For two reasons we believe this concern to be unfounded. First, we are not interested in the levels of pro-social behavior, but only in treatment effects. Across treatments, the share of subjects who experienced injury is about equal (between 16 and 20% of the subjects). Wilcoxon-Mann-Whitney tests confirm that there is no significant difference in the share of injured subjects between the treatments, i.e. that the treatment groups are balanced in terms of conflict exposure ( $z=-0.546$ ;  $p=0.5853$  for the difference between the share of injured subjects in the non-activation and religious treatment;  $z=-0.892$ ;  $p=0.3723$  for the difference between the share of injured subjects in the religious and ethnic treatment; and  $z=1.196$ ;  $p=0.2317$  for the difference between the share of injured subjects in the non-activation and ethnic treatment). Hence, in the comparison of treatments such possible selection effects should not play a role. Second, subjects were children during the conflict and thus less likely to have self-selected into violence. If so, they may only have been involved due to characteristics of their family. We ran logistic regressions with the dummy for having been injured as the dependent variable on the demographic variables we gathered from the subjects to investigate whether any of these observable characteristics increases the likelihood of having been injured (see Appendix D, table D.2). None of the characteristics had a significant impact on the probability that a subject or a family member had been injured in the conflict. All in all, these robustness checks suggest that selective targeting is unlikely to have affected our results.

A last concern may be order or contamination effects due to the fact that some subjects participated in the dictator and the ultimatum game. As we are neither interested in the levels of allocations nor in differences between games, but only in treatment differences, order effects in terms of having played the dictator game before playing the ultimatum game are not relevant to us. But we control for contamination effects in terms of having interacted with an in-group member or out-group member first: Wilcoxon-Mann-Whitney tests reveal that there is no significant difference in allocations if subjects interacted with an in-group member in the dictator

game and an out-group member in the subsequent ultimatum game or if it was the other way round ( $z=0.739$ ;  $p=0.4599$ ). Hence, contamination effects do not appear to play a role here.

## Discussion and Policy Conclusions

We explore the behavior of experimental subjects in Ambon, Indonesia, where people experienced ethnic tensions and a religious conflict with a peak from 1999 to 2002, and where many were confronted with violence. We find that, first, instead of discriminating against out-group members, subjects tend to treat out-group and in-group members similarly. Second, when memories of the conflict are activated, subjects allocate less across a wide range of games (dictator, ultimatum and trust-game). Not only transfers to out-group members, but also those to in-group members go down. These findings run counter to the viewpoint that conflicts induce discrimination and bring about a downward spiral where experiences of discrimination stiffen group identities and reinforce conflict. Our data is more supportive of conflicts traumatizing individuals, locking them into a dismal equilibrium with emotional numbing. In the fashion of Bogliacino et al. (mimeo) who show that subjects enter a different state of mind which hinders their cognitive abilities when they recall traumatic experience, we find that activating traumatic memories puts subjects in a mode of reasoning that hampers pro-social behavior.

Third, subjects who were hit particularly hard by the conflict, measured by having experienced injury, reveal increased pro-sociality when the conflict mode is not activated. We relate this to subjects acting in the harmony-mode. Those subjects seem to have learned their lessons from the conflict and are now more aware of the importance of harmonious interaction for the common welfare. They exhibit more empathy and pro-social behavior and engage in team-reasoning, i.e. they decide in favor of options that are best for all. When confronted with activation of the conflict-mode, however, the increased pro-sociality found in the non-activation treatment vanishes. Activating traumatic memories appears to emotionally numb subjects, hindering them to engage in team-reasoning.

Our findings must be critically evaluated against seemingly contradictory experimental evidence. As reviewed, several studies did find experimental evidence for discrimination. But Bauer et al. (2014) used children as subjects, which suggests that findings are not well comparable to ours. For example, the lessons learned from a conflict, which induce higher cooperation in our study, may not come about with children. Mironova and Whitt (2014) found discrimination, but employed a within-subject design. This may imply that a conflict has been activated in all treatments. The persistence of a conflict might be another reason for the differences observed. While Kosovo (studied by Mironova and Whitt 2014) and the Occupied Palestinian Territory (as

studied by Schubert and Lambsdorff 2014) are experiencing an on-going conflict with the threat of foreign intervention, there is ceasefire in Ambon at the moment with uncertainty about the future development in the region. Overall, we would thus not claim that conflict never breeds discrimination. But evidence for this link is scattered, at best, and will not always be strong.

Our study raises hope that high levels of pro-sociality can be achieved in the aftermath of the Maluku conflict. We inferred from the literature on emotional numbing that the harmony-mode is the standard type of interaction where subjects are capable of cooperation and emotional interaction. But this stops once memories of the conflict are activated. This implies that reform measures should avoid activation of the conflict-mode. In daily interaction, people of all religions and ethnicities meet in some markets, cookshops and public transport. In such places, they interact without being reminded of the conflict. Ethnicities and religions well mix without any of them becoming dominant. Joint attention is directed to economic and social exchange between individuals from different groups as a regular way of behavior. Thus, there are real-world examples of interaction in the harmony mode. These types of interaction are likely to be characterized by high levels of pro-sociality. They enable cooperation and mutual success in advancing joint interests.

However, at night, both groups return to their residential areas where the borders are still clear-cut. In these environments, attention is directed towards differences between groups and the conflict mode will thus be salient. Paths for the future will depend on how well people can learn from the good examples of cooperation and the harmonious economic exchange. These should be encouraged, and the potential spill-over to further places and events should be investigated and utilized. For example, while there is already a mixed-faith state university, the development of mixed schools should be supported. Policy reforms may also entail the long-discussed removal of religion from Indonesian ID cards to reduce the salience of religious divides. Until today, every Indonesian is obliged to state one of the six recognized religions on her ID card. A removal could help to focus on the joint national identity instead of dividing religious identities and thus support the interaction in harmony-mode and team reasoning.



## References

- Adam, Jeruen (2010): How ordinary folk became involved in the Ambonese conflict: understanding private opportunities during communal violence. In *Bijdragen tot de taal-, land- en volkenkunde* 166 (1), pp. 25–48. DOI: 10.1163/22134379-90003624.
- Akerlof, George A.; Kranton, Rachel E. (2000): Economics and Identity. In *Quarterly Journal of Economics* 115 (3), pp. 715–753. DOI: 10.1162/003355300554881.
- Asmundson, Gordon J. G.; Stapleton, Jennifer A.; Taylor, Steven (2004): Are avoidance and numbing distinct PTSD symptom clusters? In *Journal of Traumatic Stress* 17 (6), pp. 467–475. DOI: 10.1007/s10960-004-5795-7.
- Bacharach, M.; Gold, N.; Sugden, R. (2006): *Beyond Individual Choice*. Princeton University Press.
- Bauer, M.; Cassar, A.; Chytilova, J.; Henrich, J. (2014): War's Enduring Effects on the Development of Egalitarian Motivations and In-Group Biases. In *Psychological Science* 25 (1), pp. 47–57. DOI: 10.1177/0956797613493444.
- Becchetti, Leonardo; Conzo, Pierluigi; Romeo, Alessandro (2011): Violence and social capital: Evidence of a microeconomic vicious circle (197). Available online at <http://ideas.repec.org/p/inq/inqwps/ecineq2011-197.html>.
- Bellows, John; Miguel, Edward (2009): War and local collective action in Sierra Leone. In *Journal of Public Economics* 93 (11-12), pp. 1144–1157. DOI: 10.1016/j.jpubeco.2009.07.012.
- Berg, Joyce; Dickhaut, John; McCabe, Kevin A. (1995): Trust, Reciprocity, and Social History. In *Games and Economic Behavior* 10 (1), pp. 122–142. DOI: 10.1006/game.1995.1027.
- Bertrand, Jacques (2002): Legacies of the authoritarian past: Religious violence in Indonesia's Moluccan Islands. In *Pacific Affairs* 75 (1), pp. 57–85. DOI: 10.2307/4127241.
- Blattman, Christopher (2009): From Violence to Voting: War and Political Participation in Uganda. In *American Political Science Review* 103 (02), p. 231. DOI: 10.1017/S0003055409090212.
- Bogliacino, Francesco; Grimalda, Gianluca; Ortoleva, Pietro (mimeo): Exposure to and recall of experiences of violence reduce cognitive function.
- Bowles, Samuel (2008): Being human: Conflict: Altruism's midwife. In *Nature* 456 (7220), pp. 326–327. DOI: 10.1038/456326a.

- Braithwaite, John; Braithwaite, V. A.; Cookson, Michael; Dunn, Leah (2010): Anomie and violence. Non-truth and reconciliation in Indonesian peacebuilding. Acton, A.C.T: ANU E Press.
- Brewer, Marilynn B. (1979): In-group bias in the minimal intergroup situation: A cognitive-motivational analysis. In *Psychological Bulletin* 86 (2), pp. 307–324. DOI: 10.1037/0033-2909.86.2.307.
- Brislin, R. W. (1970): Back-Translation for Cross-Cultural Research. In *Journal of Cross-Cultural Psychology* 1 (3), pp. 185–216. DOI: 10.1177/135910457000100301.
- Burns, Justine (2006): Racial stereotypes, stigma and trust in post-apartheid South Africa. In *Economic Modelling* 23 (5), pp. 805–821. DOI: 10.1016/j.econmod.2005.10.008.
- Burns, Justine (2012): Race, diversity and pro-social behavior in a segmented society. In *Journal of Economic Behavior & Organization* 81 (2), pp. 366–378. DOI: 10.1016/j.jebo.2011.11.006.
- Camerer, Colin F. (2003): Behavioral game theory. Experiments in strategic interaction. Princeton, N.J., Woodstock: Princeton University Press.
- Camerer, Colin F.; Fehr, Ernst (2004): Measuring Social Norms and Preferences Using Experimental Games: A Guide for Social Scientists. In Joseph Henrich, Robert Boyd, Samuel Bowles, Colin Camerer, Ernst Fehr, Herbert Gintis (Eds.): *Foundations of Human Sociality*: Oxford University Press.
- Cardenas, Juan Camilo; Carpenter, Jeffrey (2008): Behavioural Development Economics: Lessons from Field Labs in the Developing World. In *Journal of Development Studies* 44 (3), pp. 311–338. DOI: 10.1080/00220380701848327.
- Cassar, Alessandra; Grosjean, Pauline; Whitt, Sam (2013): Legacies of violence: trust and market development. In *Journal of Economic Growth* 18 (3), pp. 285–318. DOI: 10.1007/s10887-013-9091-3.
- Chuah, Swee-Hoon; Hoffmann, Robert; Jones, Martin; Williams, Geoffrey (2007): Do cultures clash? Evidence from cross-national ultimatum game experiments. In *Journal of Economic Behavior & Organization* 64 (1), pp. 35–48. DOI: 10.1016/j.jebo.2006.04.006.
- Chuah, Swee-Hoon; Hoffmann, Robert; Ramasamy, Bala; Tan, Jonathan H. W. (2014): Religion, ethnicity and cooperation: An experimental study. In *Journal of Economic Psychology* 45, pp. 33–43. DOI: 10.1016/j.joep.2014.07.002.
- Collier, Paul; V. L. Elliott; Hegre, Håvard; Hoeffler, Anke; Reynal-Querol, Marta; Sambanis, Nicholas (2003): *Breaking the Conflict Trap. Civil War and Development Policy*: The World

- Bank (World Bank Publications). Available online at <https://ideas.repec.org/b/wbk/wbpubs/13938.html>.
- de Waal, F. (2009): *Primates and Philosophers: How Morality Evolved*, Princeton University Press, Princeton, N. J.
- Ferraro, Paul J.; Cummings, Ronald G. (2007): Cultural Diversity, Discrimination, and Economic Outcomes: An Experimental Analysis. In *Economic Inquiry* 45 (2), pp. 217–232. DOI: 10.1111/j.1465-7295.2006.00013.x.
- Fershtman, Chaim; Gneezy, Uri (2001): Discrimination in a Segmented Society: An Experimental Approach. In *The Quarterly Journal of Economics* 116 (1), pp. 351–377. DOI: 10.1162/003355301556338.
- Fershtman, Chaim; Gneezy, Uri; Verboven, Frank (2005): Discrimination and Nepotism: The Efficiency of the Anonymity Rule. In *The Journal of Legal Studies* 34 (2), pp. 371–396. DOI: 10.1086/429846.
- Forsythe, Robert; Horowitz, Joel L.; Savin, N.E; Sefton, Martin (1994): Fairness in Simple Bargaining Experiments. In *Games and Economic Behavior* 6 (3), pp. 347–369. DOI: 10.1006/game.1994.1021.
- Gilligan, Michael J.; Pasquale, Benjamin J.; Samii, Cyrus (2014): Civil War and Social Cohesion: Lab-in-the-Field Evidence from Nepal. In *American Journal of Political Science* 58 (3), pp. 604–619. DOI: 10.1111/ajps.12067.
- Gil-White, Francisco J. (2004): Ultimatum Game with Ethnicity Manipulation: Problems Faced Doing Field Economic Experiments and their Solutions. In *Field Methods* 16 (2), pp. 157–183. DOI: 10.1177/1525822X03262357.
- Glaeser, Edward L.; Laibson, David I.; Scheinkman, Jose A.; Soutter, Christine L. (2000): Measuring Trust. In *The Quarterly Journal of Economics* 115 (3), pp. 811–846. DOI: 10.1162/003355300554926.
- Güth, Werner; Schmittberger, Rolf; Schwarze, Bernd (1982): An experimental analysis of ultimatum bargaining. In *Journal of Economic Behavior & Organization* 3 (4), pp. 367–388. DOI: 10.1016/0167-2681(82)90011-7.
- Habyarimana, James; Humphreys, Macartan; Posner, Daniel N.; Weinstein, Jeremy M. (2004): Group Preferences or Group Strategies? Untangling the Determinants of Successful Collective Action Among Ethnic and Gender Groups.
- Henrich, Joseph (2000): Does Culture Matter in Economic Behavior? Ultimatum Game Bargaining Among the Machiguenga of the Peruvian Amazon. In *American Economic Review* 90 (4), pp. 973–979. DOI: 10.1257/aer.90.4.973.

- Hewstone, Miles; Islam, Mir R.; Judd, Charles M. (1993): Models of crossed categorization and intergroup relations. In *Journal of Personality and Social Psychology* 64 (5), pp. 779–793. DOI: 10.1037//0022-3514.64.5.779.
- Kreuzer, Peter (2000): Politik der Gewalt, Gewalt in der Politik. Indonesien. Frankfurt am Main: Hessische Stiftung Friedens- und Konfliktforschung (HSFK-Report, 4/2000).
- Lowry, Carmen S.; Littlejohn, Stephen (2006): Dialogue and the discourse of peacebuilding in Maluku, Indonesia. In *Conflict Resolution Quarterly* 23 (4), pp. 409–426. DOI: 10.1002/crq.147.
- Mearns, David (1999): Urban Kampongs in Ambon: Whose Domain? Whose Desa? In *The Australian Journal of Anthropology* 10 (1), pp. 15–33. DOI: 10.1111/j.1835-9310.1999.tb00010.x.
- Mehta, Judith; Starmer, Chris; Sugden, Robert (1994): Focal points in pure coordination games. An experimental investigation. In *Theory and decision : an international journal for multidisciplinary advances in decision science* 36 (2, S. 163-185).
- Mironova, Vera; Whitt, Sam (2014): Social Norms after Conflict Exposure and Victimization by Violence: Experimental Evidence from Kosovo. In *SSRN Journal*. DOI: 10.2139/ssrn.2420451.
- Misyak, Jennifer B.; Chater, Nick (2014): Virtual bargaining: a theory of social decision-making. In *Philosophical Transactions of the Royal Society B* 369 (1655), pp. 1-9.
- Misyak, Jennifer B.; Melkonyan, Tigran; Zeitoun, Hossam; Chater, Nick (2014): Unwritten Rules: Virtual Bargaining Underpins Social Interaction, Culture, and Society. In *Trends in Cognitive Science* 18 (10), pp. 512-519.
- Pedersen, Duncan (2002): Political violence, ethnic conflict, and contemporary wars: broad implications for health and social well-being. In *Social Science & Medicine* 55 (2), pp. 175–190. DOI: 10.1016/S0277-9536(01)00261-1.
- Rabasa, Angel; Chalk, Peter (2001): Indonesia's Transformation and the Stability of Southeast Asia. Santa Monica: RAND Corporation. Available online at <http://www.gbv.eblib.com/patron/FullRecord.aspx?p=227916>.
- Roth, Alvin E.; Prasnikar, Vesna; Okuno-Fujiwara, Masahiro; Zamir, Shmuel (1991): Bargaining and Market Behavior in Jerusalem, Ljubljana, Pittsburgh, and Tokyo: An Experimental Study. In *The American economic review* 81 (5), pp. 1068–1095. Available online at <http://www.jstor.org/stable/2006907>.

- Schubert, M.; Lambsdorff, J. G. (2014): Negative Reciprocity in an Environment of Violent Conflict: Experimental Evidence from the Occupied Palestinian Territories. In *Journal of Conflict Resolution*. DOI: 10.1177/0022002713478792.
- Simpson, Brent; McGrimmon, Tucker; Irwin, Kyle (2007): Are Blacks Really Less Trusting than Whites? Revisiting the Race and Trust Question. In *Social Forces* 86 (2), pp. 525–552. DOI: 10.2307/20430752.
- Smerilli, A. (2014): Theories of Team Reasoning. Philosophical Readings, IV.3.
- Spyer, Patricia (2002): Fire without Smoke and Other Phantoms of Ambon's Violence: Media Effects, Agency, and the Work of Imagination. In *Indonesia* (74), pp. 21–36. DOI: 10.2307/3351523.
- Staub, Ervin; Vollhardt, Johanna (2008): Altruism born of suffering: The roots of caring and helping after victimization and other trauma. In *American Journal of Orthopsychiatry* 78 (3), pp. 267–280. DOI: 10.1037/a0014223.
- Stephan, Walter G.; Ybarra, Oscar; Bachman, Guy (1999): Prejudice Toward Immigrants. In *Journal of Applied Social Psychology* 29 (11), pp. 2221–2237. DOI: 10.1111/j.1559-1816.1999.tb00107.x.
- Sugden, Robert (2003): The Logic of Team Reasoning. In *Philosophical Explorations* 6 (3), pp. 165–181. DOI: 10.1080/10002003098538748.
- Sukma, Rizal (2005): Chapter 1: Ethnic Conflict in Indonesia: Causes and the Quest for Solution. In Kusuma Snitwongse, W. Scott Thompson (Eds.): *Ethnic Conflicts in Southeast Asia*: Institute of Southeast Asian Studies, pp. 1–41. Available online at <http://search.ebscohost.com/login.aspx?direct=true&db=sih&AN=28531588&site=ehost-live>.
- Tajfel, Henry; Turner, John (1979): An integrative theory of intergroup conflict. In *The social Psychology of Intergroup Relations*, pp. 33–48.
- Tajfel, Henry; Turner, John (1986). The social identity theory of inter-group behavior. In S. Worchel and L. W. Austin (eds.), *Psychology of Intergroup Relations*. Chigago: Nelson-Hall.
- Tan, Jonathan H.W.; Zizzo, Daniel John (2008): Groups, cooperation and conflict in games. In *The Journal of Socio-Economics* 37 (1), pp. 1–17. DOI: 10.1016/j.socec.2006.12.023.
- Tedeschi, Richard G.; Calhoun, Lawrence G. (2004): Posttraumatic Growth: Conceptual Foundations and Empirical Evidence. In *Psychological Inquiry* 15 (1), pp. 1–18. DOI: 10.1207/s15327965pli1501\_01.
- Tedeschi, Richard G.; Calhoun, Lawrence G. (2004): Posttraumatic Growth: Conceptual Foundations and Empirical Evidence. In *Psychological Inquiry* 15 (1), pp. 1–18. DOI: 10.1207/s15327965pli1501\_01.

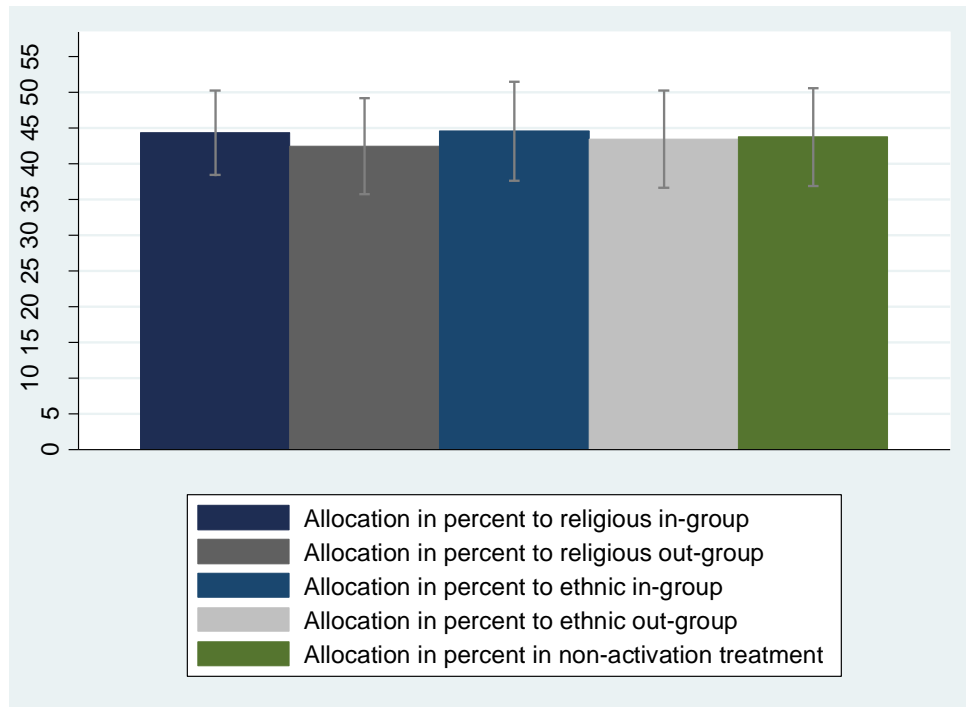
- Tuomela, R. (2000): *Cooperation: A Philosophical Study. Philosophical Studies Series*. Kluwer Academic Publishers: Dordrecht and Boston.
- Tversky, A.; Kahneman, D. (1974): Judgment under Uncertainty: Heuristics and Biases. In *Science* 185 (4157), pp. 1124–1131. DOI: 10.1126/science.185.4157.1124.
- Voors, Maarten J.; Nillesen, Eleonora E. M.; Verwimp, Philip; Bulte, Erwin H.; Lensink, Robert; van Soest, Daan P. (2012): Violent Conflict and Behavior: A Field Experiment in Burundi. In *American Economic Review* 102 (2), pp. 941–964. DOI: 10.1257/aer.102.2.941.
- Whitt, Sam (2012): Social Norms in the Aftermath of Ethnic Violence: Ethnicity and Fairness in Non-costly Decision Making. In *Journal of Conflict Resolution*. DOI: 10.1177/0022002712459714.
- Werner (mimeo): Fairness and discrimination in the aftermath of a violent conflict. Evidence from a dictator game study conducted in Maluku, Indonesia.
- Whitt, Sam; Wilson, Rick K. (2007): The Dictator Game, Fairness and Ethnicity in Postwar Bosnia. In *American Journal of Political Science* 51 (3), pp. 655–668. DOI: 10.1111/j.1540-5907.2007.00273.x.
- Zizzo, Daniel John; Tan, Jonathan H.W. (2007): Perceived harmony, similarity and cooperation in 2×2 games: An experimental study. In *Journal of Economic Psychology* 28 (3), pp. 365–386. DOI: 10.1016/j.joep.2006.06.008.

# Appendix

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## Appendix A: Separate Analyses of Games

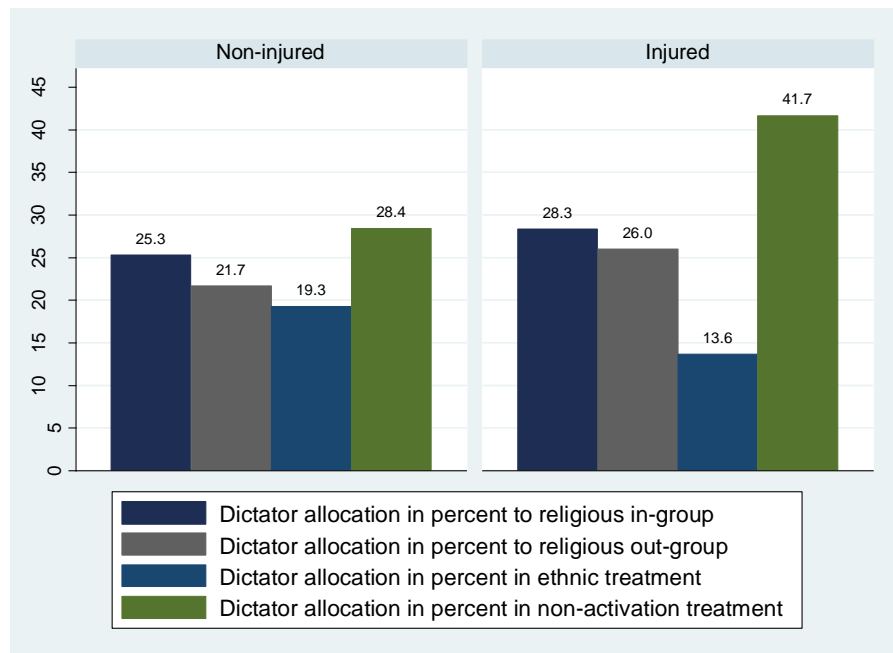
**Figure A.1: The reverse dictator game**



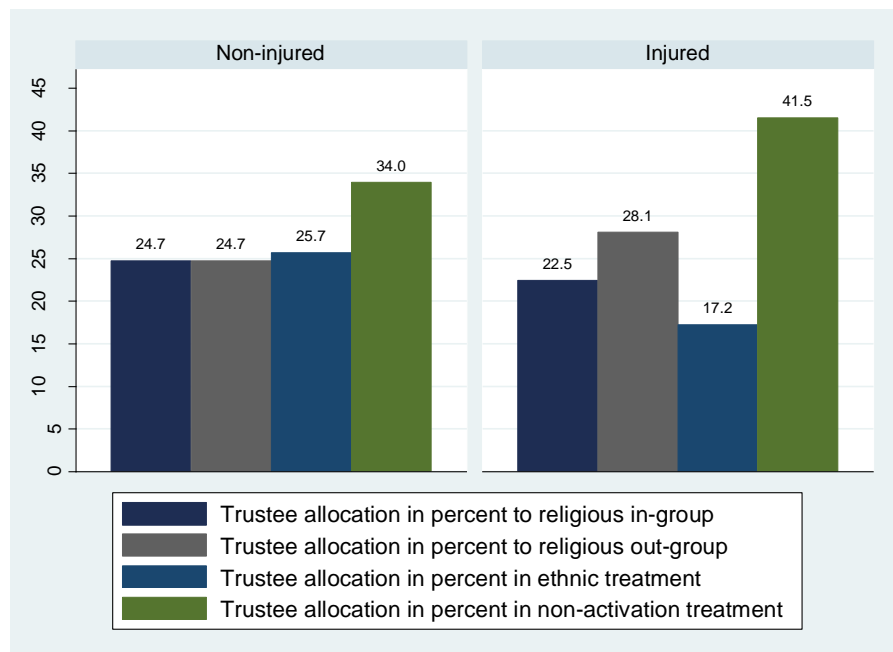
The reverse framing which asks subjects to take away money from the counterpart is seen to give subjects the impression of doing harm to somebody and thus to activate the conflict mode. For this reason, we do not expect treatment effects, that is, being reminded of religion and ethnicity, to impact behavior. It can be clearly seen in Figure A.1 that there are no treatment effects in the reverse dictator game (which is also confirmed by Wilcoxon-Mann-Whitney tests which all have p-values markedly above 0.5). This supports our view that the reverse dictator game immediately activates the conflict mode and additionally mentioning ethnicity or religion has no further effect. While there are obviously no differences between treatments, we cannot compare the levels of allocations in the reverse dictator game to levels in the other three games. For example, people are more hesitant to take a lot from their counterpart in the reversely framed dictator game than to give little to their counterpart in the standard dictator game. Hence, allocations are generally higher in the reverse dictator game. This is why we cannot show that the reverse dictator game induces emotional numbing in terms of lower levels of allocations, but we can show that there are no differences between treatments.



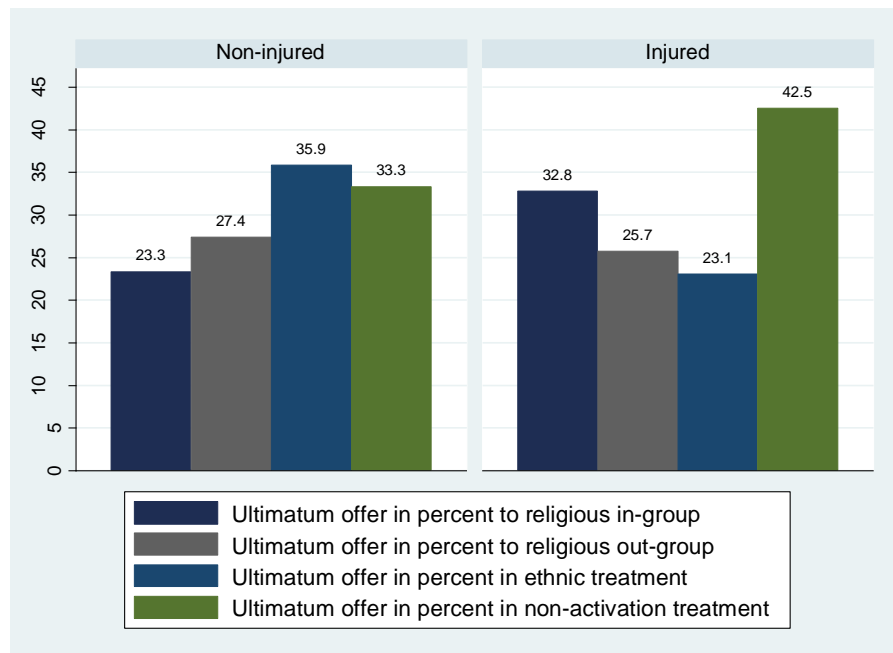
**Figure A.2: Dictator Game only**



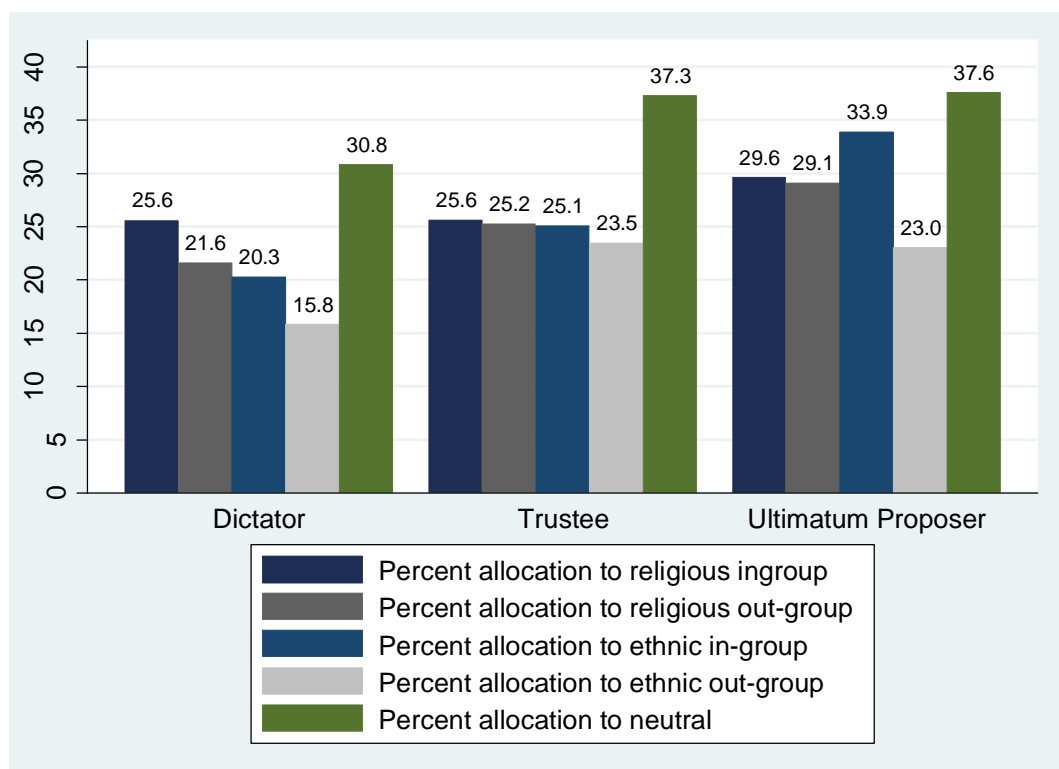
**Figure A.3: Trustee Returns only**



**Figure A.4: Ultimatum Offers only**



**Figure A.5: Dictator, ultimatum proposer and trustee allocations by treatments**



**Table A.1: Dictator and Trust Game only**

	Dependent variable: dictator & trustee allocation in percent			Wald Test $\Delta$ coefficients models 3 and 2 ( $\chi^2$ )
	(1) Pooled	(2) Non-injured	(3) Injured	
religious in-group	-7.4** (3.4)	-5.2 (4.3)	-16.0** (8.0)	-10.8 (1.5)
religious out-group	-10.3*** (3.4)	-7.7* (4.3)	-15.1 (9.4)	-7.4 (0.5)
ethnic in-group	-11.2*** (3.8)	-5.7 (4.8)	-29.0*** (8.0)	-23.3** (6.6)
ethnic out-group	-14.5*** (3.8)	-12.2** (5.0)	-23.5*** (8.4)	-13.3 (1.5)
trust game	4.1* (2.3)	3.8 (2.8)	-0.2 (5.6)	-4.0 (0.4)
_cons	31.7*** (2.7)	29.1*** (3.5)	41.7*** (6.9)	12.6* (2.8)
<i>N</i>	492	320	76	
<i>R</i> <sup>2</sup>	0.046	0.027	0.146	

Robust standard errors in parentheses (clustered by individuals)

\* p&lt;0.10, \*\* p&lt;0.05, \*\*\* p&lt;0.01

## Appendix B: Analysis for personal injury only

Figure B.1: Personal injury only

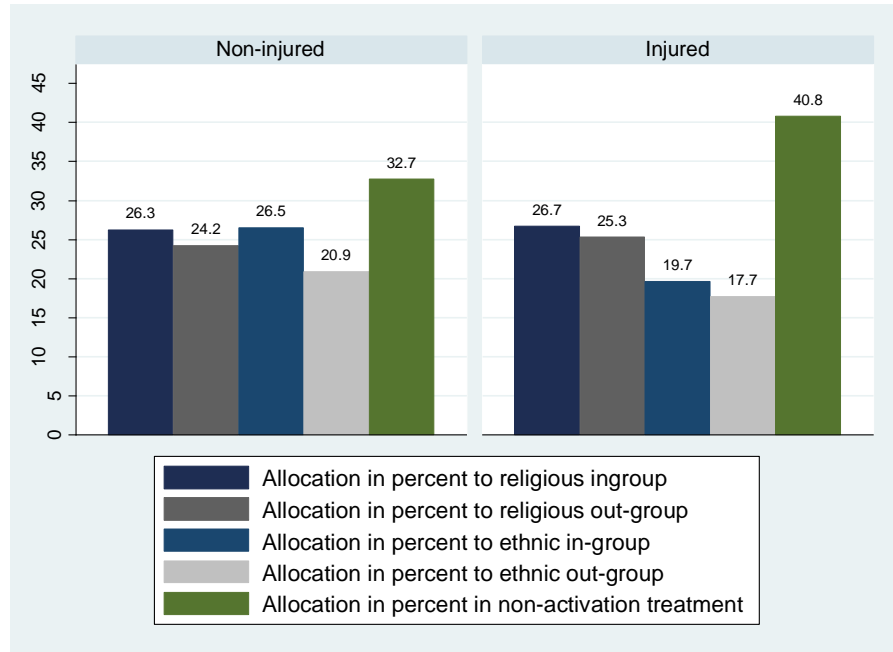


Table B.2: Regression for personal injury only

	Dependent variable: dictator, ultimatum & trustee allocation in percent			Wald Test $\Delta$ coefficients models 3 and 2 ( $\chi^2$ )
	(1) Pooled	(2) Non-injured	(3) Injured	
religious in-group	-7.6** (2.9)	-6.0 (3.8)	-14.6* (6.7)	-8.6 (1.34)
religious out-group	-9.8*** (2.9)	-8.3* (3.8)	-15.7* (7.8)	-7.4 (0.78)
ethnic in-group	-9.6** (3.5)	-5.6 (4.5)	-21.2* (8.1)	-15.6+ (3.00)
ethnic out-group	-14.4*** (3.3)	-11.9** (4.3)	-23.5** (7.7)	-11.6 (1.82)
trust game	4.1+ (2.3)	3.7 (2.8)	-0.3 (5.5)	-4.0 (0.45)
ultimatum game	7.0*** (1.6)	7.9** (2.4)	2.6 (3.7)	-5.1 (1.52)
_cons	31.4*** (2.4)	29.4*** (3.2)	40.5*** (5.9)	11.1+ (2.87)
<i>N</i>	662	419	101	
<i>R</i> <sup>2</sup>	0.055	0.041	0.104	

Robust standard errors in parentheses (clustered by individuals)

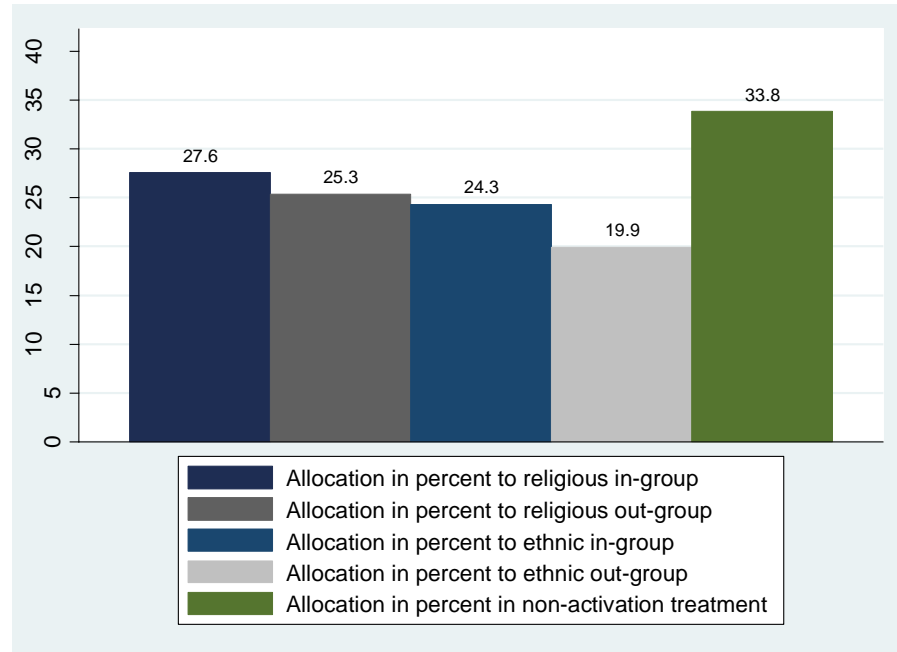
+ p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

## Appendix C: Minimal group effects

Wilcoxon-Mann-Whitney tests reveal that subjects in the activation treatments *religious in-group* and *religious out-group* do not allocate significantly more if their counterpart has the same preference for coffee or tea ( $z=1.329$ ;  $p=0.1838$  and  $z=1.189$ ;  $p=0.2345$  respectively). Nor do subjects allocate more if their counterpart has the same preference for tofu or tempe in the treatments *ethnic in-group* and *ethnic outgroup* ( $z=-0.256$ ;  $p=0.7981$  and  $z=-0.557$ ;  $p=0.5576$ ). In the non-activation treatment, where subjects saw both kinds of culinary information on their counterpart, subjects neither allocated more to their counterpart when sharing the same preference for coffee or tea ( $z=-0.415$ ;  $p=0.6781$ ), nor when having the same preference for tofu or tempe ( $z=-1.078$ ;  $p=0.2808$ ), nor when one ( $z=-1.135$ ;  $p=0.2565$ ) or both ( $z=-0.391$ ;  $p=0.6956$ ) of the preferences were the same. Across all treatments, subjects did not allocate significantly more when sharing one of the culinary preferences with their counterpart ( $z=-0.236$ ;  $p=0.8134$ ). Thus, elevated pro-sociality towards people with similar culinary preferences cannot explain the high allocations in the non-activation treatment.

## Appendix D: Treatment randomization

Figure D.1: Autochthonous subjects only



Also when only taking autochthonous subjects (Christian and Muslim) into account, the allocations in the non-activation treatments are higher than in the other treatments while there is no discrimination: As figure D.1 indicates, there is no significant difference between allocations to religious in-group and out-group ( $z=1.119$ ;  $p=0.263$ ; Wilcoxon-Mann-Whitney test); nor is there a significant difference between ethnic in-group and out-group ( $z=1.205$ ;  $p=0.2281$ ). Wilcoxon-Mann-Whitney tests reveal that subjects in the non-activation treatment allocate significantly more than in the activation treatments, regardless of whether their counterpart belongs to their religious in-group ( $z=1.806$ ;  $p=0.0709$ ), religious out-group ( $z=2.638$ ;  $p=0.0084$ ), ethnic in-group ( $z=2.466$ ;  $p=0.0137$ ), or ethnic out-group ( $z=3.743$ ;  $p=0.0002$ ).

**Table D.1: Regression with controls for religion and ethnic group**

	Dependent variable: dictator, ultimatum & trustee allocation in percent			Wald Test $\Delta$ coefficients models 3 and 2 ( $\chi^2$ )
	(1) Pooled	(2) No Injury	(3) injured	
religious in-group	-7.0* (2.9)	-2.4 (5.2)	-10.5* (4.6)	-8.1 (1.4)
religious out-group	-9.2** (3.0)	-4.7 (5.2)	-12.6** (4.7)	-7.9 (1.3)
ethnic in-group	-8.8* (3.7)	-0.3 (6.1)	-16.4** (5.7)	-16.1 (3.9)*
ethnic out-group	-13.6*** (3.7)	-7.3 (6.5)	-19.7*** (5.3)	-12.4 (2.3)
trust game	3.2 (2.4)	6.1 (3.9)	-1.1 (3.3)	-7.2 (2.1)
ultimatum game	7.1*** (1.7)	7.9* (3.2)	6.2* (2.7)	-1.7 (0.2)
muslim	-2.4 (2.2)	-1.1 (3.7)	-4.7 (3.2)	-3.6 (0.6)
Autochthonous	2.8 (3.7)	8.4 (5.2)	-3.4 (7.1)	-11.6 (1.9)
Immigrant	3.5 (5.2)	7.3 (7.7)	2.4 (9.0)	-4.9 (0.2)
_cons	29.6*** (4.8)	18.9* (7.7)	40.5*** (8.4)	21.6+ (3.7)
<i>N</i>	662	263	257	
<i>R</i> <sup>2</sup>	0.060	0.046	0.104	

Robust standard errors in parentheses (clustered by individuals)

+ p<0.10, \* p<0.05, \*\* p<0.01, \*\*\* p<0.001

**Table D.2: Logit regressions on injury**

	(1) Injured (including family)	(2) Injured (personal injury only)
muslim	-0.3 (0.3)	-0.3 (0.4)
autochthonous	0.6+ (0.4)	0.5 (0.5)
undefined ethnicity	0.7 (0.5)	-0.2 (0.8)
male	0.4 (0.2)	0.3 (0.3)
age	0.08 (0.1)	-0.04 (0.1)
siblings	-0.09 (0.1)	0.02 (0.1)
income	0.3 (0.2)	0.5+ (0.3)
_cons	-2.4+ (1.2)	-2.3 (1.5)
<i>N</i>	376	376
Pseudo R <sup>2</sup>	0.0501	0.0247

Standard errors in parentheses

+ p&lt;0.10, \* p&lt;0.05, \*\* p&lt;0.01, \*\*\* p&lt;0.001

As some of the subjects participated in two games, only the observations for one of the games of each subject are used here, i.e. each subject is only included once. This explains why *N* is lower than in table 5. When running the logistic regression on the measure of injury that includes both having been injured and having a family member who got injured in the conflict, being in the autochthonous group had a weakly significant impact. When running the same logistic regression on the more narrow measure of personal injury only (as used in Appendix B), income had a weakly significant positive effect. However, neither income nor being autochthonous was a significant predictor of the dictator, trustee and ultimatum allocations that were used as the measure of pro-sociality.



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