



Report
2020:3

The Impact of War

Posttraumatic Stress and Social Trust Among Refugees

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Jonathan Hall and Dennis T. Kahn

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Preface

Integration is often discussed in terms of labor market participation. Another important prerequisite for a successful integration is the ability to trust and cooperate with individuals outside one's own group. This applies to Swedish-born as well as those who migrate here.

Over the last 20 years, more than half a million asylum seekers have been granted residence permits in Sweden, many from war-torn countries. This raises several questions about how traumatic experiences of war affect the psychological health of refugees and whether residing in different host societies have an impact on the propensity to develop posttraumatic stress. There are additional knowledge gaps around how experiences of war trauma shape refugees' ability to integrate into the Swedish society, and to live side by side with individuals that belong to former adversarial groups.

This report is based on a unique experimental study involving refugees in Sweden and Turkey. It contributes to important knowledge regarding the psychological health of refugees, and how it in turn affects social trust and willingness to cooperate with other groups in society. The report is written by Jonathan Hall, Ph.D. in Peace and Conflict Research at Uppsala University, and Dennis Kahn, Ph.D. in Social Psychology at the Interdisciplinary Center, Herzliya, Israel.

The work on the report has been followed by Joakim Palme, professor in Political Science and Chair of Delmi, and Kerstin Brunberg, journalist and member of Delmi's Board of Directors. The report has been reviewed by Maria Solevid, associate professor of Political Science at the University of Gothenburg, and Dylan O'Driscoll, researcher at Stockholm International Peace Research Institute (SIPRI). At Delmi's office the review of the report has mainly been conducted by Research Coordinators Sara Thalberg, Linus Liljeberg and Raoul Galli. As usual in the Delmi context, the authors are responsible for the content, conclusions and policy recommendations of the report.

Stockholm, January 2020

Joakim Palme

Kristof Tamas

Chair, Delmi

Head of Secretariat, Delmi

Summary

The successful integration of refugees is one of the defining challenges for asylum countries such as Sweden in the 21st century. Two important aspects of successful integration are to ensure the psychological health and social functioning of refugees burdened with a recent traumatic past. Rigorous empirical research on these topics is needed in order to provide a sound basis for policy. In this report, we examine the psychological and social consequences of the experience of wartime trauma in refugee populations. There were two main purposes of the report. The first purpose was to explore how residency in different host societies shapes the development of posttraumatic stress among traumatized refugees. The second purpose was to examine how wartime trauma affects the tendency to trust and be altruistic towards others, including both members of one's own group and ethnoreligious outgroups.

We report a study in which refugees from Syria and Iraq residing in Sweden and Turkey engaged in economic games that provide behavioral measures of social trust and willingness to consider the welfare of others when distributing economic resources. We also assessed degree of exposure to wartime trauma and posttraumatic stress symptoms among the refugee participants and related these measures to their behavior in the economic games.

The main findings from the report can be summarized in two main points. First, refugees from the wars in Syria and Iraq residing in Sweden show a greater propensity to develop posttraumatic stress in response to traumatic wartime experiences compared to refugees living in Turkey. Second, while exposure to trauma resulted in more sectarianism – i.e. ingroup bias along ethnoreligious lines – in the Turkish sample, trauma did not affect sectarianism in the Swedish sample.

With this report we seek to contribute to evidence-based policy and efforts to mitigate negative consequences resulting from war trauma among refugees. More interventions may be needed to treat posttraumatic stress among refugees in Sweden. The refugees' own ethnic and religious community may possibly have a key role to play in these efforts, since a sense of cultural, social and religious proximity and belongingness appeared to play a role in ameliorating the development of posttraumatic symptoms.

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1. Introduction and purpose

Refugees from war-torn countries carry with them the burden of a traumatic recent past. These experiences can severely affect psychological health and have destructive social consequences. Debilitating posttraumatic stress is common after experiencing war. Further, in the wake of trauma, it may be difficult to trust others, to act in an altruistic and selfless way and face others without prejudice. These issues constitute key challenges to the successful integration of refugees and the fostering of harmonious relationships between different refugee communities.

This report has two overarching purposes. The first purpose is to examine the psychological consequences of experiencing wartime trauma. We are particularly interested in the degree to which exposure to wartime trauma leads to the development of posttraumatic stress (PTS), and the settlement country conditions that either facilitate or hinder the development of PTS. The second purpose is to investigate how war trauma shapes social cooperation in refugee communities. Social cooperation in this report is defined as the choice to act in a trusting way towards others and to divide resources in accordance with norms of equality and/or altruism. To measure these forms of social cooperation, we employ a set of economic games – a standard approach used both in the laboratory and in the field to measure prosocial behavior. To examine how residing in different host societies affects the development of posttraumatic stress and social cooperation in the wake of war trauma, we conduct field studies simultaneously in two countries. In this report, we compare refugees residing in Sweden and in Turkey. These are countries with significant cultural-political differences, but with the common denominator of hosting a sizable population of recent refugees from war-torn countries. Finally, we differentiate between social cooperation towards members of one's own ethnoreligious group and towards members of other groups. We term the tendency to favor one's own ethnoreligious group over other ethnoreligious groups *sectarianism* or *ingroup bias*.

The main findings from the report can be summarized in two main points. First, refugees from the wars in Syria and Iraq residing in Sweden show a greater propensity and sensitivity to develop posttraumatic stress in response to traumatic wartime

experiences, compared to similar groups in Turkey. Second, while exposure to trauma resulted in more sectarianism and ingroup bias in Turkey, trauma did not affect sectarianism in Sweden. Indeed, in some cases, exposure to wartime trauma led to *decreased* sectarianism and ingroup bias in the Swedish setting. On the one hand, Sweden seems to succeed relatively well in fostering social trust and cooperation among refugees from war-torn countries residing within its borders. On the other hand, refugees in Sweden run a relatively greater risk of developing posttraumatic stress as a result of their wartime experiences.

2. Theories and literature review

Societal/Policy relevance

The world is currently witnessing an unprecedented global migration crisis, with refugee flows on a scale not seen since World War II. At the same time, refugee situations are on average highly protracted, with the average refugee typically remaining displaced for 25 years (UNHCR 2015). Sweden has in this period received many asylum seekers by comparison. The integration of these refugees is thus one of the defining challenges for Sweden and other major asylum countries in the 21st Century. Two important aspects of such successful integration are to ensure the psychological health and social functioning of refugees burdened with recent traumatic experiences.

With regards to the psychological health of recent refugees, the linkage between traumatic wartime experiences and the development of posttraumatic stress is well established (e.g. Johnson & Thompson 2008). The development of posttraumatic symptoms, however, may be alleviated or exacerbated depending on the social context the individual finds him-/herself in. Aspects of the social context, such as proximity to home, level of threat in the host environment, a sense of belonging etc. may play a role in the development of posttraumatic symptoms in the aftermath of war. In this report, we compare between the Swedish and Turkish setting in order to assess whether the social/national context makes a difference in the development of posttraumatic symptoms.

Another important theme concerns the development of prejudice, discrimination and negative bias towards outgroups. These issues are important when considering relations between the majority group in society and refugee minorities, but also when considering bias, discrimination and prejudice between different refugee communities. In the literature it is often argued that sectarianism in refugee

settings is fueled by grievances and untreated psychological distress resulting from war trauma, making refugees easier targets for rebel recruitment (e.g. Lischer 2008). These concerns are often expressed against a backdrop of the recent upswing in terrorist attacks and foiled terrorist plots, reports of refugees returning to fight in their homelands, and the return of foreign fighters from Syria and Iraq to Sweden and elsewhere. Despite these concerns, however, little research on the nature and extent of sectarianism among refugees currently exists. To provide a more sound basis for policy, more evidence is clearly needed in order to understand and ultimately mitigate any negative social consequences resulting from war trauma. This report represents an important step in this direction.

Previous literature

Trauma and posttraumatic stress

Posttraumatic stress disorder (PTSD) was first recognized following the devastating effects that war experiences had on soldiers serving in Vietnam. It is a condition resulting from exposure to a life threatening event that is processed in such a way as to produce a sense of current threat (Ehlers & Clark 2000). This leads to the experience of symptoms which fall into three clusters and define PTSD: intrusive symptoms, avoidance symptoms and symptoms of overarousal (DSM IV TR:American Psychological Association, 2000; ICD 10:World Health Organisation, 1992). In addition to the clinical diagnosis of PTSD, carried out by a clinician in the context of a psychiatric evaluation, posttraumatic stress symptoms are often measured in populations exposed to wartime trauma using self-report questionnaires assessing the prevalence of the main symptoms associated with PTSD. Such measures provide an indication of the presence of posttraumatic stress symptoms (if not posttraumatic stress *disorder*) in war-torn populations.

The national context and posttraumatic stress

In the present report, we were interested in examining whether the social and national context mattered for the development of posttraumatic stress following traumatic experiences. Refugees from countries such as Syria and Iraq residing in Sweden enjoy a relatively safe and harmonious societal environment, but are on the other hand geographically and culturally far removed from their country of origin. In cont-

First, refugees residing in Turkey may enjoy a relatively greater degree of similarity in terms of culture and religion as well as greater proximity to their home, but deal with a more unstable and conflictual societal environment. Cultural and geographical proximity, and the greater sense of belonging that this may entail, as well as societal stability and levels of threat may all influence the degree to which an individual develops posttraumatic stress symptoms in response to past traumas.

Exposure to wartime trauma and social cooperation

At least 23 recent studies have supported the surprising proposition that exposure to violence has *prosocial* effects (for a meta-analysis, see Bauer et al. 2016). On social trust, consider this example: in Nepal, members of communities hit by more violence during the 1996–2006 civil war were more trustworthy in a Trust Game, more willing to contribute to the common pot in a Public Goods game, and more active in community organizations (Gilligan et al. 2014). On altruism, consider this example: in Burundi, individuals and communities exposed to more war-related violence during the 1993–2003 civil war behaved more altruistically towards neighbors in experimental tasks and reported more involvement in local community organizations (Voors et al. 2012). Studies of the effects of warfare on prosociality among refugees are however lacking. This is an important gap in the literature. Following mass violence, substantial portions of national communities are often displaced beyond the borders of war-affected states and thus do not show up in existing studies.

Group identity and social cooperation

An authoritative review of this literature by Bauer et al. (2016) suggests that while it is by now well established that violence has prosocial effects in war-affected communities, it remains unclear to what extent such effects are generalized (pertaining to broader society) or parochial (pertaining only to one's own social ingroup). According to Bauer et al. (2016, 271), the main problem is that previous studies rarely have incorporated clearly defined ingroup/outgroup treatments, which is key to distinguishing between generalized and parochial prosocial behavior. In a recent study, Hall and Kahn (2019) show that exposure to violence increase sectarianism in altruism towards members of rival outgroups, but not towards nonrival outgroups. Outgroups are here defined as group which one does not belong to. In line with these recent findings, the question of whether exposure to war violence is positively

associated with cooperative tendencies towards war-related rival outgroups is a key question we address in this study. We address this issue by including ingroup/outgroup treatments that reflect societal cleavages involved in the war.

The national context and social cooperation

Residence in a new host society is likely to affect tendencies for social cooperation among recent refugees. Each society is characterized by certain norms and cultural practices for social cooperation and there are significant cross-cultural differences in levels of generalized trust (e.g. Krockow et al. 2018). The countries under study – Sweden and Turkey – differ greatly in the overall level of generalized trust and while Sweden according to the World Value Survey (World Value Survey Association 2009) is among the countries with the highest levels of outgroup trust in the world, Turkey is among the countries with the lowest levels of outgroup trust (Delhey & Welzel 2012). Interrelatedly, levels of democracy and corruption also differ greatly between Sweden and Turkey, with Sweden typically ranking considerably higher on indices of democracy and lack of corruption compared to Turkey. All these factors are expected to combine to result in lower levels of social cooperation and a stronger degree of bias towards adversarial outgroups among refugees residing in Turkey, compared to those residing in Sweden.

3. The research project

To examine how exposure to war trauma affects psychological health and shapes social cooperation, we ran an experimental study among refugees from Syria and Iraq. The Syrian and Iraqi conflicts are highly complex, with a host of ethnic cleavages and warring parties involved. While we acknowledge this complexity, a common denominator in both conflicts is that they divide majority Arab nations along sectarian lines. One of the most dominant of these divisions is the one between Sunni and Shia Arabs. In the case of Syria, Assad's Alawite-based military fight along-side Hezbollah and other Shiite militias against predominantly Sunni Arab opposition forces. In Iraq, the Shiite dominated government and its military forces work in tandem with predominantly Shiite militias to fight predominantly Sunni Arab forces. Generally speaking, the main societal cleavages made salient by the war are sectarian (Sunni and Shia Muslims), ideological (the various anti vs. pro-regime factions) and ethnic (e.g. Arabs, Kurds, etc.) divisions. We choose to focus on ethnoreligious differences (Sunni Arab/Shia Arab), which best enables us to test previous theory regarding ingroup-oriented versus universalistic prosocial behavior. We wanted to compare our participants' behavior towards an outgroup (Shia Arabs) with their behavior towards the own group (Sunni Arabs). To guarantee that the same groups constitute in- and outgroups for all our participants, we sample only Sunni Arab refugees.

The study was carried out in Sweden and in Turkey. Turkey is the country within the region that hosts the largest refugee population, while Sweden is a major recipient of refugees in Europe. Running our experiment simultaneously in these two countries allows us to build a diverse sample, including those displaced just across the border and remaining in Turkey as well as those that continued on to Europe. By employing multi-sited, simultaneous field experiments, we are able to contrast a setting distant from the conflict-zone (Sweden) with a setting adjacent to the conflict-zone (Turkey) in order to explore the effects of war trauma under different settlement conditions. In addition to proximity, Sweden and Turkey further differ along political (e.g., level of democracy and corruption, level of societal threat) norm-based (e.g., prevalence of norms of equality, fairness and reciprocal trust,

acceptance of nationalistic sentiment) and ethnoreligious lines (e.g., prevalence of refugee population, religious and cultural similarity between host country and country of origin).

Overview of the research

Syrian and Iraqi refugees residing in Sweden and Turkey participated in a series of experimental games, designed to assess trust and resource distribution preferences towards fellow Sunni Arabs or Shia Arabs. We further assessed degree of exposure to wartime trauma as well as psychological reactions to the trauma (i.e., posttraumatic stress).

This project was approved by the Uppsala Ethical Review Board in May 2016 (Dnr 2016/189). Revisions were approved in May 2017. The study represents a community-based field experiment among Syrian and Iraqi refugees living in two countries of refuge (Sweden and Turkey). Such studies are rare due to the challenging nature of the fieldwork. In Turkey, the fieldwork centered upon Konya, where a team of four assistants are based, and where there is a high concentration of refugees from the Middle East living in an urban setting. In Sweden the refugee community is more dispersed, and thus our fieldwork took place in several cities, including Malmö, Helsingborg, Halmstad, Borgholm and Uppsala. A higher percentage of the refugees in Sweden were citizens (39%) or had permanent protection (49%), compared to the refugees in Turkey (14% and 6%, respectively). There were further higher percentages of refugees in the Turkish sample who had temporary protection (63%) and that were asylum seekers (11%), compared to Sweden (9% and 2%, respectively). In both countries, all field assistants administering the study speak Arabic and have extensive field experience conducting similar studies under the guidance of the first author. Moreover, all the field assistants have moved to either Sweden or Turkey as refugees themselves. The composition of the field team thus ensured a high level of cultural understanding and sensitivity to the background and experiences of the participants.

Both teams followed the same recruitment procedure. In our experience, most people we approached were willing to participate once we established trust with key persons in the community. In each fieldwork location, we first established relationships of trust with individuals and families that were well-known and well-regarded in the local community. With the help of these key contacts, we identified

and contacted initial potential participants. After contacting these individuals and getting their consent to participate, the assistants administered the experiment in the privacy of the participants' homes. The study used a snowball sampling procedure, whereby existing participants recruit future participants from among their social networks. Because all of our field assistants are college students, the sample is somewhat skewed towards younger and more educated people.

Informed consent was communicated to each participant both verbally and in writing before they started the survey. It was made clear that participants could break off participation at any time. Participation in the research was completely anonymous, and no identifying information about the participants was stored. The data were collected through Qualtrics online and stored directly at Uppsala University in Sweden.

Measures

We carried out a controlled, randomized experiment in which we experimentally varied the group identity of the interaction partner as either Sunni or Shia Arab. In other words, the participants were randomly placed in one out of two identical situations where they interacted either with an individual presented as a Sunni Arab (an ingroup member) or as a Shia Arab (an outgroup member). Any meaningful, significant difference between these two situations can then be said to be *caused* by the group identity of the other. Since the allocation into one situation or the other is random and all other variables are kept constant, we can exclude other alternative explanations of obtained differences between the situations. The participants were asked to make an actual behavioral decision with real monetary outcomes. This ensured that we were able to draw conclusions about people's actual behavior and choices, not only about general attitudes towards others.

Single-shot trust game

The participants carried out a computerized task called the "single-shot trust game" – a validated measure of trust (Berg, Dickhaut & McCabe 1995; Stanley et al. 2011). The participants are informed in the beginning of the task that they will be given the money that they earn during the task and that the choices that they make are completely anonymous. In the task, they are given 20 SEK/TRY¹ and are asked to

1 SEK denotes Swedish Crowns, while TRY denotes Turkish Lira.

decide how much of the money to share with their partner. The game is constructed in such a way that the more you share with your interaction partner, the more money you could potentially gain. However, sharing money with the interaction partner requires *trust*, since he/she could choose to take the money for him-/herself. In other words, the sum that you decide to share with your interaction partner is indicative of how much you trust him/her. The interaction partner was randomly presented in one out of two ways – either as a Sunni Arab refugee or as a Shia Arab refugee. The participants themselves were all Sunni Arab refugees (see appendix for a detailed description of the single-shot trust game).

Equality Equivalence Test

We were also interested in whether exposure to wartime trauma affected the tendency of participants to divide resources in accordance with norms of equality and/or altruism. In order to examine this, the participants were given a task called the Equality Equivalence Test (called EET henceforth) (Kerschbamer 2015). The task was presented immediately after the trust game and followed the same experimental design, with the group identity of the interaction partner randomly varied as being either Sunni Arab or Shia Arab. The two tasks were aligned so that a participant who had previously interacted with a Sunni Arab individual in the trust game, continued to do so in the EET.

The participant was told that they would now carry out a new task with a different randomly chosen interaction partner belonging to the same group as in the previous task (e.g., “You will now interact with a Sunni Arab refugee” vs. “You will now interact with a Shia Arab refugee”). They were then given the opportunity to allocate money between themselves and their interaction partner. In each scenario, they were given two options for this division. One of these choices was always an equal split (18 SEK/TRY each), while the other choice was asymmetric, involving unequal payoffs for themselves and the other (see Table 1 for a full description of the task given to the participants).

Table 1. Alternatives in the Equality Equivalence task.

You are randomly matched with a Sunni Arab (Shia Arab) refugee. You will now allocate money between you and this person. Select the option you prefer:

Advantageous Inequality Block*
You 18 SEK/TRY, Other person 18 SEK/TRY
You 12 SEK/TRY, Other person 0 SEK/TRY
You 18 SEK/TRY, Other person 18 SEK/TRY
You 24 SEK/TRY, Other person 0 SEK/TRY
Disadvantageous Inequality Block*
You 18 SEK/TRY, Other person 18 SEK/TRY
You 12 SEK/TRY, Other person 36 SEK/TRY
You 18 SEK/TRY, Other person 18 SEK/TRY
You 24 SEK/TRY, Other person 36 SEK/TRY

* Labels not shown to the subjects.

Source: Own research material

By analyzing the pattern of choices the participants made in the EET, we were able to determine what distributional preferences underlay the participants' choices. Were they consistently trying to distribute the money as equal as possible (inequality aversion strategy)? Perhaps they were consistently trying to maximize the payoff for their interaction partner, with no regard to their own payoff (altruistic strategy)? Or were they consistently trying to maximize their own payoff (self-interested/selfish strategy)? The pattern of choices made by the participants allowed us to adjudicate between these and other strategies and thereby understanding the distributional preferences of the participant (see appendix for all possible resource division strategies and their calculation).

Posttraumatic stress

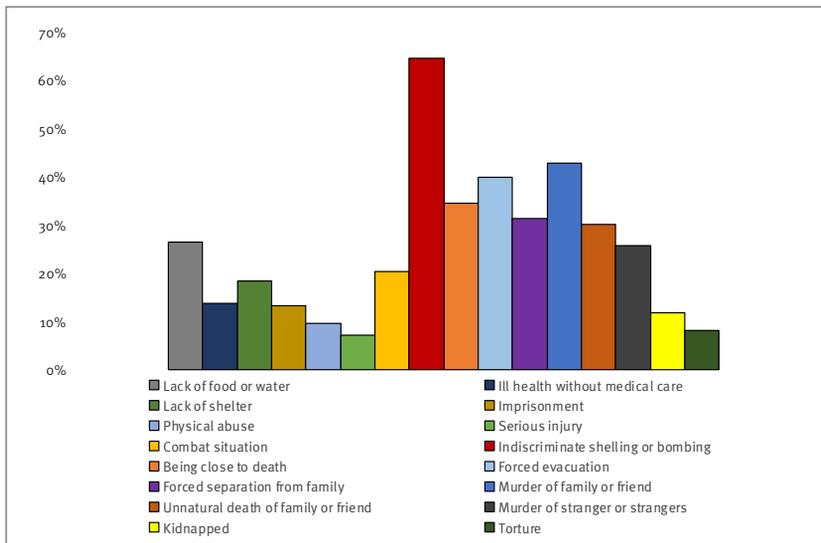
Posttraumatic stress was measured with the civilian version of the PTSD Checklist (PCL-C) (Lang & Stein 2005; Lang et al. 2012). This checklist asks subjects to indicate the degree to which they experience each of six symptoms on a 1-5 scale ranging from 'Not at all' to 'extremely'. Example items include 'Repeated, disturbing memories, thoughts, or images of a stressful experience from the past' and 'Feeling distant

or cut off from other people'. Scores on each item are then added together to form an index ranging from 1-30. Higher values denote more posttraumatic stress. A value of 14 or above is considered to be diagnostic of posttraumatic stress disorder (PTSD).

Exposure to traumatic events

Exposure to traumatic events was assessed using Part I of the Harvard Trauma Questionnaire (HTQ: Mollica, Caspi-Yavin, Bollini, Truong, Tor, and Lavelle 1992). The version of the HTQ used in the study contained a checklist of 16 traumatic life events, determined to be relevant for Syrian and Iraqi refugees. These included lack of food or water, ill health without medical care, lack of shelter, imprisonment, physical abuse, serious injury, combat situation, indiscriminate shelling or bombing, being close to death, forced evacuation, forced separation from family, murder of family or friend, unnatural death of family or friend, murder of stranger or strangers, kidnapping and torture. Participants were asked to indicate whether they had experienced any of these events before arriving in Sweden/Turkey. They were not limited in the number of events they could choose. The percentage of respondents who had been exposed to the different events can be seen in Figure 1.

Figure 1. Percentage of respondents exposed to different traumatic event (Sweden and Turkey).



Source: Own calculations

We classified participants based on their degree of exposure to wartime trauma using latent class analysis (*LCA*), a statistical analysis which classifies individuals into types, or classes, based on their pattern of answers (Hagenaars & McCutcheon 2002). Based on the *LCA*, we divided the participants into two latent classes, which we termed ‘high exposure to trauma’ and ‘low exposure to trauma’. A detailed description of the latent class analysis can be found in the appendix.

Sample

The sample consisted of 777 participants, residing in Sweden and in Turkey. Out of these, 694 (89%) were Sunni Arab refugees. The remaining statistics and analyses in this report are based on these 694 Sunni Arab participants. The Swedish sample consisted of 316 participants and the Turkish sample consisted of 378 participants. Both samples contained a majority of males predominantly from urban areas of Syria. The majority of participants left their country of origin between 2012-2015 and most of the participants had had at least 12 years of schooling. The samples were well matched for all demographic variables except age and country of origin. The Turkish sample was significantly younger, with the median age group in the Turkish sample being 18-24, while in the Swedish sample, the median age group was 35-44. Further, the Swedish sample consisted almost exclusively of refugees from Syria (96%), while a somewhat lower percentage in the Turkish sample consisted of Syrian refugees (80%). We control for the effects of age, gender, country of origin and years in host country in all relevant analyses in the present report. Demographic details in the two samples can be found in Table 2.

Table 2. Demographic details of the Swedish and Turkish samples.

	Sweden	Turkey
Number of participants	316	378
% Female	33%	38%
Age group		
18-24	16%	55%
25-34	33%	25%
35-44	19%	9%

	Sweden	Turkey
45-54	14%	6%
55-64	15%	5%
65-74	2%	1%
75-84	1%	0%
85 or older	1%	0%
From Syria	96%	80%
Urban origin	85%	69%
Education		
No formal education	1%	5%
< 6 years	3%	6%
6 years	9%	11%
9 years	18%	9%
12 years	18%	22%
>12 years	51%	47%
Median years in host country	6	5

Source: Own calculations

Limitations

There are advantages as well as disadvantages to measuring trust and altruism using experimental games. The main disadvantage is that trusting and being altruistic towards others in reality is more complex than a simple decision of distributing money. There are however significant advantages of using experimental games to measure a complex social phenomenon such as trust. First, a behavioral measure such as the one provided by the single-shot trust game, especially one that has real monetary outcomes, suffers less from what is known as the social desirability bias, i.e. the tendency of participants to present an overly positive image of themselves when responding to questionnaires. In other words, if participants are asked to what degree they tend to trust others, most participants will say that they trust others to a relatively high degree. However, if trust is measured as a behavior, especially one which has meaningful outcomes for the participants, such as monetary gain or loss, the problem of social desirability is significantly reduced. In addition,

and perhaps most importantly, using an experimental game allows for subtle manipulation of different aspects of the situation, such as changing the group identity of the interaction partner and measuring how these subtle changes affect behavior in the experimental situation. The use of experimental manipulations further allows for *causal* conclusions, like examining what the *effect* of group identity is on trust.

An additional limitation regards the cross-cultural validity of the results. While the comparison between the Swedish and Turkish samples allowed for an initial examination of the influence of the national context on prosociality, the results from the study do not allow for the drawing of general conclusions about the influence of the national context beyond the Swedish and Turkish settings. On a related note, the samples cannot be said to constitute representative samples of the population of refugees in Sweden and Turkey and conclusions regarding the absolute levels of PTS, trust or distributional preferences in the different populations should be made with caution (such as the percentage of Syrian and Iraqi refugees in Sweden/Turkey that suffer from PTSD/trust others/have a preference for dividing resources in an equal way etc.). Therefore, we do not draw any such conclusions in this report.

It is important to note a number of differences between the samples, especially when considering the effect of residency in different host societies on social cooperation. It is considerably more costly to emigrate to Sweden than to Turkey and refugees in Sweden and Turkey may belong to different strata of the population of Syrian/Iraqi refugees, which means that there may be systematic differences between the Swedish and Turkish participants in terms of socio-economic status. This constitutes a possible alternative explanation of the differences between the Swedish and Turkish samples. Another related limitation is that the actual value of the amounts used in the Swedish and Turkish samples are not identical. Eighteen Turkish Lira is the equivalent of about 30 SEK (rather than 18 SEK, which was the sum used in the Swedish sample). In addition, while 18 TRY may be enough to buy a cheap meal at a fast-food restaurant in Turkey, 18 SEK would only be enough to buy a soft drink in an equivalent restaurant in Sweden. Thus, the value of the rewards used in the Turkish sample were considerably higher, raising the stakes of making an equal or unequal choice in the experimental game. This limitation could be easily amended in future studies by altering the amounts used in order to ensure equivalence of the value of the monetary rewards. For now, this difference between the samples constitutes an additional alternative explanation of the differences between the Swedish and Turkish samples.

In order to counteract these limitations, we controlled for the effects of age, gender, country of origin and years in host country in all relevant analyses in the present report. Doing so significantly reduces the potentially biasing effect of demographic differences between the sample. It should be noted in this regard that if differences between the Turkish and Swedish samples were due to demographic differences, we would have expected the inclusion of control variables to weaken the results. Instead, running the analyses with these control variables included somewhat *strengthened* the results. Our judgment is thus that it is thus not very likely that the obtained results were due to demographic differences in age, socio-economic status etc., between Sweden and Turkey.

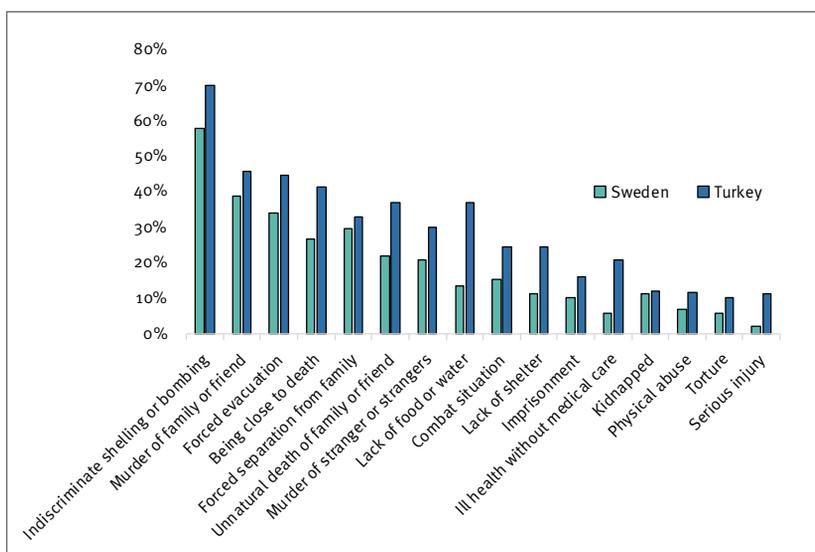
4. Results

We will first report the results for exposure to trauma and the psychological reactions to trauma. We will then report the results of the experimental games – the trust game and the EET – in order to understand how exposure to wartime trauma as well as the group identity of the other is associated with social cooperation in Sweden and in Turkey.

Exposure to wartime trauma

The sample as a whole indicated very high levels of exposure to trauma, with 95% of the participants reporting having experienced one or more traumatic events. Between the two samples, however, the participants in the Turkish sample were exposed to wartime trauma to a greater degree than were the participants in the Swedish sample. The percentages of participants exposed to the different traumatic events in the Swedish and Turkish sample can be seen in Figure 2.

Figure 2. Percentage of participants exposed to different traumatic events.



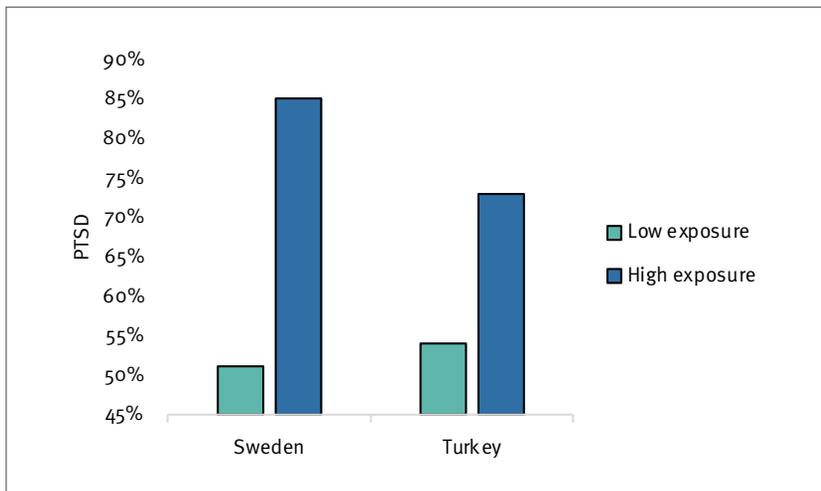
Source: Own calculations

Psychological reactions to trauma

There was a tragically high prevalence of posttraumatic stress (PTS) across the samples, with 64% of the total samples reporting symptoms that would typically be seen as indicative of posttraumatic stress disorder (PCL-C ≥ 14). Not surprisingly, the prevalence of posttraumatic stress was greater for participants exposed to a relatively higher number of traumatic events (77%), compared to those exposed to a relatively lower number of traumatic events (57%).

Even though the participants in the Turkish sample were exposed to traumatic events to a greater degree than those in the Swedish sample, the Swedish participants were equally likely to develop PTSD. Further, the *effect* of exposure to wartime trauma on the development of PTSD differed between the Swedish and Turkish settings. Specifically, the detrimental effect of exposure to trauma on the development of PTSD was stronger in Sweden than in Turkey (see Figure 3 for a graphical illustration).

Figure 3. Percentage of participants with posttraumatic symptoms indicative of PTSD dependent on degree of exposure to wartime trauma.



Source: Own calculations

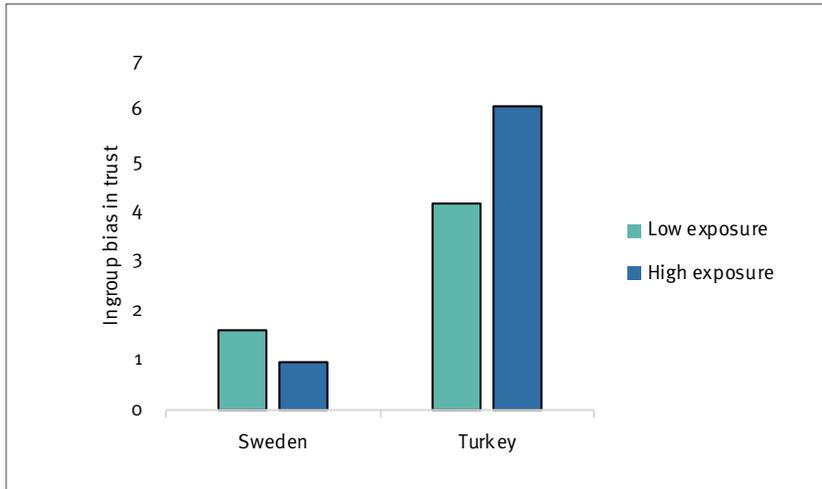
Taken together, these results indicate that Syrian and Iraqi refugees residing in Sweden show a greater propensity and sensitivity to develop posttraumatic stress as a consequence of traumatic wartime experiences, compared to similar groups in Turkey. It is important to note that this does not imply that the overall prevalence of posttraumatic stress was greater in Sweden than in Turkey, but rather that the likelihood of developing posttraumatic symptoms *as a result of exposure to trauma* was greater in Sweden than in Turkey.

These, then, are the immediate psychological consequences of exposure to trauma, but how does such exposure to traumatic wartime experiences affect interaction with others? What are the consequences for trust? Altruism? Fairness? Further, do these tendencies differ for fellow ingroup members and members of outgroups? The results from the experimental games provide insight into these questions.

Trust game

We were first interested in 1) whether presenting the interaction partner as a Sunni or Shia Arab affected levels of trust, 2) whether exposure to wartime trauma had an effect on trust and 3) whether there were any differences between the Swedish and Turkish samples. We carried out an analysis of variance, where we examine whether the group identity of the interaction partner, the degree of exposure to war trauma and host country affect trust. We control for the effects of age, gender, country of origin and years in host country. The results from the analysis showed that people generally shared more money with a Sunni Arab partner than with a Shia Arab partner. In other words, they trusted people belonging to their own group more than people belonging to an outgroup. There were some notable differences between the Turkish and Swedish samples. First, the participants in the Swedish sample were generally more trusting towards their interaction partners compared to participants in the Turkish sample, regardless of the group identity of the other. Second, the participants in the Turkish sample differentiated more between in- and outgroup targets compared to the Swedish sample (see Figure 4). Finally, and most importantly in terms of the purpose of the present report, while a high degree of exposure to wartime trauma led to a greater degree of ingroup bias in Turkey, a higher degree of exposure to wartime trauma led to a somewhat *lower* degree of ingroup bias in Sweden (see Figure 4). Higher values indicate a greater degree of ingroup bias. See the appendix for detailed description of how ingroup bias in trust was calculated.

Figure 4. Degree of ingroup bias in trust dependent on degree of exposure to wartime trauma.



Source: Own calculations

To summarize the effects for trust, participants were generally more trusting towards fellow ingroup members than towards members of an adversarial outgroups and this tendency was stronger in the Turkish sample compared to the Swedish sample. Further, while exposure to wartime trauma led to a greater degree of ingroup bias in trust in the Turkish sample, exposure to wartime trauma led to a somewhat *lower* degree of ingroup bias in the Swedish sample.

Distributional preferences

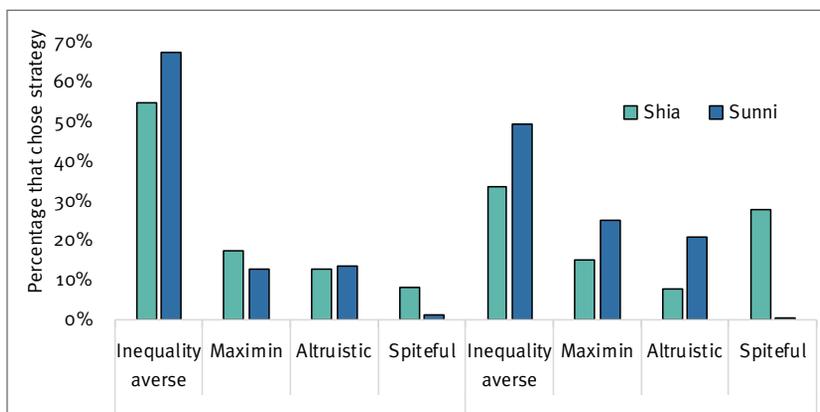
In Sweden as well as in Turkey, consistently dividing the money equally between oneself and the other (“inequality aversion”) was the most common strategy. The second most common strategy was looking at whomever stood to receive the least money in the exchange and ensuring the highest possible payoff for him/her – essentially ensuring a higher payoff for the least well off (“maximin” strategy). The third most common strategy was an altruistic one, entailing maximizing the other’s profit, even if it came at the expense of one’s own profit (“altruistic”). The fourth most common strategy involved maximizing the difference between one’s own profit and the profit of the other in favor of oneself, even if it came at the expense of a lower payoff for oneself (“spiteful”). One out of these four strategies (inequality

aversion, maximin, altruistic and spiteful) was used by 94% of the participants in Sweden and 90% of the participants in Turkey. The other five strategies were considerably less common.

There were however differences between the Swedish and Turkish samples. The participants in the Swedish sample were more likely to divide the money according to equality (61% overall) compared to the participants in the Turkish sample (42% overall). Participants from Turkey were further more likely to use a spiteful strategy (14%) compared to participants from Sweden (5%). See Figure 5 for a graphical representation of the results.

There were further differences in the strategies used when the interaction partner belonged to one's own group (Sunni Arab) compared to when the partner belonged to another group (Shia Arab). The spiteful strategy was more common when the interaction partner was a Shia Arab (19% across both samples) compared to when he/she was a Sunni Arab (1% across both samples). In contrast, the participants were more likely to prefer an equal division (57%) and to be altruistic (18%) when their interaction partner was a fellow Sunni Arab, compared to when the target was Shia Arab (43% and 10%, respectively). In addition, the tendency to opt for a more equal and/or altruistic division for ingroup members and a more spiteful division for outgroup members was considerably stronger in the Turkish sample compared to the Swedish sample. See Figure 5 for a graphical representation of the results.

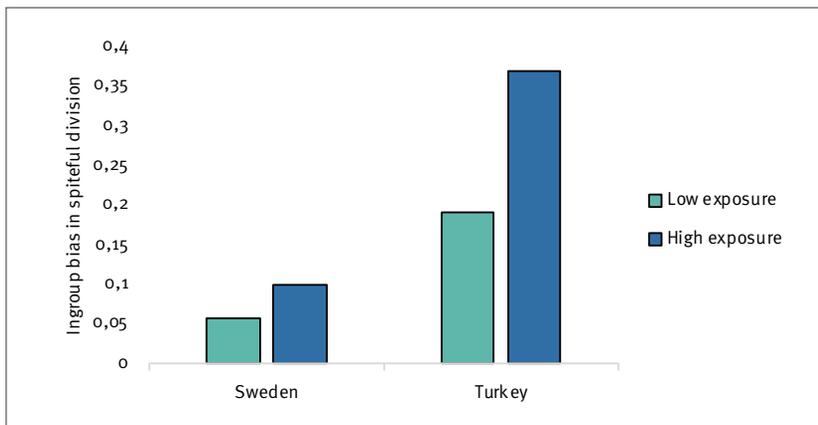
Figure 5. Preferences for resource distribution dependent on whether the interaction partner was Sunni Arab (ingroup) or Shia Arab (outgroup).



Source: Own calculations

Finally, and importantly for the purposes of the present report, the effect of exposure to wartime trauma could mainly be seen when it came to the prevalence of a spiteful division of the resources (maximizing the difference between one's own profit and the profit of the other in favor of oneself, even if it came at the expense of a lower payoff for oneself). Being exposed to a high degree of exposure to wartime trauma led to a greater degree of ingroup bias in spitefulness, and this tendency was considerably stronger in the Turkish sample than in the Swedish sample (see Figure 6).

Figure 6. Degree of ingroup bias in "spiteful division" among participants with a low and high degree of exposure to wartime trauma.



Source: Own calculations

The results regarding social cooperation (trust and distributional preferences) painted a very consistent and clear picture. The main pattern arising from these results indicates that (1) the participants tended to show a preference for the ingroup over the outgroup when it came to trust and an equal/altruistic division of resources, (2) this tendency was stronger among participants in the Turkish sample compared to participants in the Swedish sample, and (3) exposure to trauma resulted in more ingroup bias in Turkey compared to Sweden.

5. Conclusions

Purpose and summary of main results

The first purpose of this research was to examine the psychological consequences of experiencing wartime trauma. The second purpose was to investigate how war trauma shapes social cooperation in refugee communities. The main results arising from the present study can be summarized in two points: (1) Syrian and Iraqi refugees residing in Sweden show a greater propensity and sensitivity to develop posttraumatic stress as a consequence of traumatic wartime experiences, compared to similar groups in Turkey. Further, (2) while exposure to trauma resulted in more sectarianism and ingroup bias in Turkey, on the whole trauma did not affect sectarianism in Sweden.

Theoretical relevance

The current literature paints a surprisingly positive picture of the effects of exposure to war trauma on social cooperation (Bauer et al. 2016). In general, this growing literature shows that exposure to war violence *increases* cooperation, particularly in the form of community participation, civic engagement and altruism towards one's fellow compatriots (e.g. Bauer et al. 2016; Gilligan et al. 2014; Voors et al. 2012). However, in the psychological literature, others have shown that exposure to protracted violence results in a 'siege mentality' (Bar-Tal & Antebi 1992), exclusionist political attitudes (Canetti-Nisim et al. 2009) and a 'hardening of the heart' (Hirsch-Hoefler et al. 2016).

The results from the present study indicate that this seeming inconsistency may to a large degree stem from a failure to consider the possibility that exposure to war-time trauma has different effects on prosociality towards the ingroup as opposed to the outgroup (see Bauer et al. 2016; and Hall & Kahn 2019). War and intergroup violence tend to have a consolidating function for the ingroup, making people 'rally around the flag' (Baker & Oneal 2001), increase ingroup cohesion (Sherif et al. 1961)

and foster trust and pro-sociality towards one's fellow compatriots. This does not, however, automatically translate into a more prosocial stance towards members of other groups. Thus, we find that greater exposure to violence is associated with greater ingroup bias in trust.

However, the relationship between exposure to violence and ingroup bias in social cooperation does not appear to be uniform across refugee communities. In particular, on the whole, we find that exposure to violence is not associated with greater ingroup bias among refugees living in Sweden. On the other hand, exposure to trauma was associated with a greater sensitivity and proclivity to develop posttraumatic stress symptoms in Sweden compared to Turkey. The consequences of trauma thus appeared to take different paths in the two national contexts that we examined. In Turkey, exposure to wartime trauma resulted in more sectarianism and discrimination, while in Sweden, these traumatic experiences led mainly to the development of posttraumatic stress. The results from the study do not allow for any conclusive explanation as to why these differences occurred. We can, however, attempt to understand and interpret the differences in light of what we know about these different national settings. One key factor that could explain differences regarding the development of posttraumatic stress is the sense of belongingness that comes with cultural and geographical proximity. While there are considerable cultural differences between Syria and Turkey, these countries have more in common than Syria and Sweden. They share a common majority religion (Islam) and belong to cultural spheres that share more similarities than do Syria and Sweden. Examples of such cultural codes include emphasis on the importance of hospitality, comparatively less focus on formalized social interactions (compared to Northern Europe and Sweden) and a greater social acceptance of expressing patriotic and nationalistic sentiments. The way that we understand the results regarding posttraumatic stress is that the greater sense of belonging and geographical and cultural proximity among the participants in Turkey served to reduce posttraumatic stress symptoms among traumatized participants in Turkey. In contrast, refugees residing in Sweden that have experienced wartime trauma may experience a greater degree of disconnect and lack of belonging to their host society, which may exacerbate the development of posttraumatic stress.

There are however other potential interpretations of these results. The participants in the Swedish sample were older than the participants in the Turkish sample and were more likely to be from Syria. It is thus possible that older and Syrian partici-

pants were more likely to develop posttraumatic stress symptoms, compared to younger and Iraqi participants. We view this interpretation as unlikely, however, as our robustness checks reveal that controlling for age, as well as limiting the comparison to Syrians, if anything serves to strengthen our confidence in the results for psychological distress (see appendix for more details). However, mental health issues are less stigmatized in Sweden, and it is still possible that the participants in Sweden were more likely to realize and report the full extent of their symptoms. Future research should investigate these possible mechanisms.

With regards to social cooperation, we interpret the obtained results as a consequence of cross-cultural differences regarding norms of trust, equality and cooperation. From a cross-national comparative perspective, Sweden is a country which places a very high emphasis on issues of equality and trust. Cross-national surveys, such as the World Value Survey, consistently places Sweden on the extreme end when it comes to the endorsement of these social values. We suggest that these strong norms of social cooperation, equality and trust in the Swedish setting may have counteracted the potential negative social consequences of exposure to trauma. This interpretation is further in line with previous research by the authors (Hall 2016). Specifically, using simultaneous surveys, Hall (2016) found that refugees from the Bosnian War living in Sweden expressed much less support for “ethos of conflict”, a set of beliefs centering around the righteousness of the goals and aspirations of the own group, compared to those living in Bosnia. The author found support for the mechanism of a reduction in ethnocentrism due to migration: Compared to those living in Bosnia, respondents in Sweden were far more likely to adopt the multiethnic Yugoslav identity. To better understand and interpret the results, more research would be needed, such as combining experimental studies with interviews and ethnographic observations in vivo.

Policy relevance

There are clear policy lessons to be learned from these results. Residing in Sweden seemed to counteract the negative effects of exposure to wartime trauma on sectarianism and ingroup bias, which is positive. The fact that refugees in the Swedish sample showed a lower degree of ingroup bias does not, however, mean that tensions and conflicts do not exist between different ethnic and religious groups in Sweden. On the other hand, living in Sweden seemed to exacerbate the sensitivity

and proclivity to develop posttraumatic stress symptoms resulting from war trauma. From a Swedish perspective, the main policy implication then is that more resources and efforts should be invested in relieving posttraumatic stress symptoms among refugees that have been exposed to wartime trauma. Since cultural, social and religious proximity appeared to ameliorate the development of posttraumatic stress, refugees' own ethnic and religious communities could potentially play a key role in these efforts.

Concluding remarks

Increased mobility and migration bring with them challenges as well as opportunities for the receiving countries. Refugees from war-torn areas carry the painful memories of a traumatic recent past. Without the proper attention, such traumatic experiences can have devastating consequences, for the traumatized individual as well as for the host society. From a societal point of view, it is important to understand the mechanisms by which wartime trauma affects social cooperation, particularly towards former adversarial groups, which are required to live side by side in the new host society. In order for efforts at integrating new refugees and fostering harmonious intercommunal relations to be effective, they should be evidence-based and informed by empirical research, such as the study reported here. Only by paying close attention to the process by which exposure to wartime trauma affects prosociality can we hope to reap the benefit of refugee integration and avoid the pitfalls of mental health problems and tense relations between refugee communities.

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Appendix

Description of local research teams

To conduct this study, we invested substantial time and effort building relationships within local refugee communities. Our teams in both locations have extensive and continuous experience since 2016 conducting both survey research and field experiments involving economic games in collaboration with the project leader. In total, the project relied upon six university educated, native Arabic speaking assistants of refugee background, two in Sweden and four in Turkey. One person in each location acted as the local fieldwork coordinator under the supervision of the project leader.

Training of the local research teams and preparations of the questionnaire

The training of the research teams using the new protocol took place in Sweden and Turkey during mid-February 2019. During this time, each research team became acquainted with the research materials and provided valuable feedback. The original translation of the research materials was conducted by a professional editor of Arabic texts. During the training period, this original Arabic translation was evaluated by our team of research assistants and adapted so as reflect the Arabic dialects spoken by Syrian and Iraqi refugees. The new version was reviewed and approved with minor edits by the original translator. Measures of exposure to wartime events and psychometric scales for which we had Arabic translations from original authors were left unchanged. These include the Harvard Trauma Questionnaire – Part I, PTGI-Short Form, and PCL-C Short Form.

Once the materials were ready for testing, we recruited two small groups of refugees in Sweden and Turkey to act as test subjects. The assistants in each location practiced conducting the experiment multiple times over several evenings with each test subject group. The test subjects were also invited to provide feedback, which resulted in an additional round of minor improvements addressing the clarity

of the instructions for the participants and some question wording. After a week of testing, the teams were ready for the field.

Single-shot trust game

In the task, the participants are given 20 SEK and are asked to decide how much of the money to share with their partner. Whichever amount they decide to share with their partner will quadruple. In other words, if they decide to share 10 SEK with their partner, this sum quadruples and becomes 40 SEK. The interaction partner can then decide how to divide the money between him-/herself and the participant. He/she can decide to keep it all for him-/herself or divide the money in any way that he/she pleases. In other words, if you trust your interaction partner, it is worthwhile to give him/her the full 20 SEK, since this sum will quadruple to become 80 SEK which most likely will be divided equally between you, giving each of you 40 SEK – double the original amount. On the other hand, if you don't trust your interaction partner, it makes more sense to keep the entire original sum of 20 SEK for yourself, since you don't trust the other to divide any money that you provide him/her. In other words, the higher the sum you decide to share with the interaction partner, the more you trust him/her.

The participants were told that their interaction partner had previously been interviewed and had been explained the logic of the task. The participants were further told that their different interaction partners' decisions had already been made and recorded and that they would be randomly assigned to a particular partner. We had in fact pre-interviewed two individuals – one a Sunni Arab refugee and one a Shia Arab refugee and they had both decided to divide the money equally.

Ingroup bias in trust was calculated as the mean difference between the trust shown towards fellow ingroup members and the trust shown towards outgroup members. Since trust was measured as the sum shared with the interaction partner, and the sum ranged between 0 and 20 SEK/TRY, the values of ingroup bias in trust could potentially range from -20 (0 SEK/TRY to ingroup members and 20 SEK/TRY to outgroup members) and +20 (20 SEK/TRY to ingroup members and 0 SEK/TRY to outgroup members), with high values indicating a high degree of ingroup bias. In practice, the values ranged from 0.96 to 6.09, depending on country of residence, degree of exposure to wartime trauma and the ethnoreligious identity of the interaction partner (see Figure 4 in the results section).

EET task

The participants made four decisions in the EET task. In each scenario, the participants were given two options. One of these choices was always equal (18 SEK/TRY each), while the other choice was asymmetric, involving unequal payoffs for oneself and the other.

The four choices were the following

1. Select the option you prefer
 - a) You 18 lira/kronor, Other person 18 lira/kronor
 - b) You 12 lira/kronor, Other person 0 lira/kronor
2. Select the option you prefer
 - a) You 18 lira/kronor, Other person 18 lira/kronor
 - b) You 24 lira/kronor, Other person 0 lira/kronor
3. Select the option you prefer
 - a) You 18 lira/kronor, Other person 18 lira/kronor
 - b) You 12 lira/kronor, Other person 36 lira/kronor
4. Select the option you prefer
 - a) You 18 lira/kronor, Other person 18 lira/kronor
 - b) You 24 lira/kronor, Other person 36 lira/kronor

As can be seen above, in the first two decisions, the unequal division was in favor of the participant him/herself. For example, in the first task, the participants were given a choice between 1. keeping 18 SEK for themselves and giving 18 SEK to the interaction partner (equal choice) and 2. Keeping 12 SEK for themselves and giving nothing (0 SEK) to their interaction partner (unequal choice in favor of self). In the two last decisions, the participants were given a choice between an equal division and an unequal division in favor of the *interaction partner*. For example, in the fourth choice, the participants were given a choice between 1. Keeping 18 SEK for themselves and giving 18 SEK to the interaction partner (equal choice) and 2. Keeping 24 SEK for themselves and giving 36 SEK to their interaction partner (unequal choice in favor of other). Finally, in two choices, the unequal distribution entailed a lower payoff to the participant (1 and 3), while in the other two choices (2 and 4), the unequal distribution resulted in a higher payoff to the participant.

The pattern of choices of the participants enabled us to differentiate between 9 different distributional strategies:

Inequality Averse	Maximizing equality between self and other
MaxiMin	Maximizing the welfare of the least well off
Altruistic	Maximizing the other’s profit
Spiteful	Maximizing difference in favor of self
Envious	Avoiding the other getting more than oneself
Self-interested/Selfish	Maximizing one’s own profit
Kiss Up	Giving the other more when possible
Kick Down	Giving the other less when possible
Equality Averse	Favoring unequal distributions, regardless of who it favors

The divisions associated with each of these strategies are summarized in the table below.

Table i. Choices associated with different resource distribution strategies.

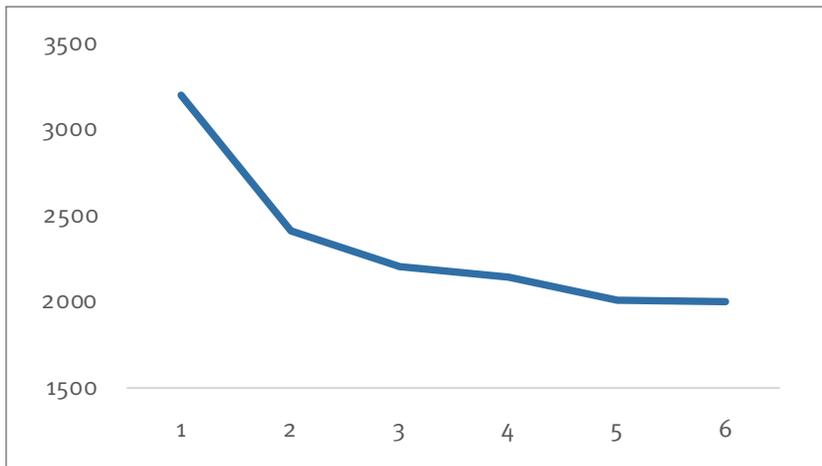
Type	Division 1		Division 2		Division 3		Division 4		Total payoff		
	Self	Other	Self	Other	Self	Other	Self	Other	Self	Other	Diff
Inequality Averse	18	18	18	18	18	18	18	18	72	72	0
MaxiMin	18	18	18	18	18	18	24	36	78	90	-12
Altruistic	18	18	18	18	12	36	24	36	72	108	-36
Spiteful	12	0	24	0	18	18	18	18	72	36	36
Envious	18	18	24	0	18	18	18	18	78	54	24
Self-interested/ Selfish	18	18	24	0	18	18	24	36	84	72	12
Kiss Up	18	18	24	0	12	36	24	36	78	90	-12
Kick Down	12	0	24	0	18	18	24	36	78	54	24
Equality Averse	12	0	24	0	12	36	24	36	72	72	0

Source: Own calculations

Latent class analysis of the HTQ

The appropriate number of latent classes was determined based on goodness of fit (measured by sample size adjusted BIC), interpretability and parsimony. Sample size adjusted BIC was chosen due to its' superiority for assessing goodness-of-fit for models with > 10 categorical variables with unequal class sizes, compared to other information criteria indices (Nylund, Asparouhov & Muthen 2007). Consecutive LCAs were carried out for 1-6 classes. Goodness of fit improved dramatically with the inclusion of 2 classes and then slowly leveled off, with the addition of further classes constituting incremental improvements of goodness of fit (see Figure i).

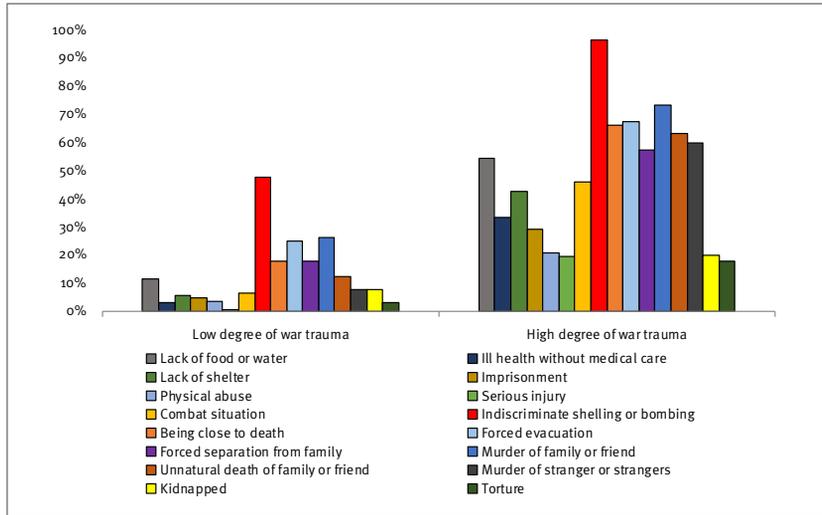
Figure i. Sample size adjusted BIC (goodness-of-fit) for consecutive LCAs involving between 1 and 6 classes.



Source: Own calculations

In order to assess interpretability of the 2-class solution, we calculated the percentages of participants in each class who had experienced the different events. In the 2-class solution, the two classes corresponded to high and low exposure classes. For all 16 events, there was a higher percentage of participants in the high exposure class that had experienced the event, compared to participants in the low exposure class (it should be noted that the term “low exposure” is only used in relation to other participants in the same, highly exposed, sample).

Figure ii. Prevalence of traumatic events by latent class.



Source: Own calculations

Robustness checks

The results from the study indicated that the relationship between exposure to war-time trauma and posttraumatic stress symptoms was stronger in Sweden than in Turkey. Since this is one of the key results arising from the study, we carried out a number of checks in order to ensure the robustness of this results. In particular, we wanted to test for the alternative interpretation that difference in age or in country of origin between the Swedish and Turkish samples could explain the difference in the strength of the relationship between exposure to wartime trauma and posttraumatic stress symptoms. We ran eight different models of linear regressions predicting posttraumatic stress, controlling for a rich set of demographic variables. This analysis strategy is equivalent of a strategy of weighting the responses in order to achieve sample matching (Angrist & Pischke 2008). Regarding age, we control for age linearly (model 2), as a polynomial (model 3) and as a categorical variable (model 4). We further repeat this analysis for refugees from Syria only, effectively controlling for country of origin. We report the results from these analyses in Table i below. If the obtained result was due to differences in age or country of origin, we would expect the strength of the interaction between country of residence and ex-

posure to trauma to become weaker as a result of the inclusion of these controls. In contrast, the analysis indicates that this effect is robust to the inclusion of controls, including age and country of origin, as well as socio-economic status in the country of origin, education, gender, governate in Syria/Iraq etc. In fact, if anything, the strength of the result increased as a result of the inclusion of demographic controls, adding to our confidence that the difference in results were due to cultural-political differences between the host countries rather than demographic differences between the samples. While no amount of control of the statistical analysis conclusively can rule out that demographic differences between the samples can account for the difference in results, these analyses provide a strong indication against this interpretation.

Table ii. Robustness checks for differences in the relation between exposure to wartime trauma and post-traumatic stress in Sweden and Turkey.

	-1 PTSD	-2 PTSD	-3 PTSD	-4 PTSD	-5 PTSD	-6 PTSD	-7 PTSD	-8 PTSD
	All Participants				Syrian Participants Only			
Sweden	0,287	0,104	0,422	0,488	-0,071	-0,347	-0,022	-0,03
	-0,702	-0,73	-0,743	-0,746	-0,748	-0,782	-0,8	-0,802
Exposure	.413***	.410***	.422***	.410***	.302***	.297***	.311***	.298***
	-0,076	-0,077	-0,077	-0,077	-0,088	-0,088	-0,089	-0,089
SEX Exp	.252*	.285**	.253*	.277**	.375***	.403***	.370**	.389***
	-0,134	-0,136	-0,136	-0,139	-0,143	-0,145	-0,146	-0,148
Female		1.043**	1.069**	1.032**		1.100**	1.123**	1.127**
		-0,42	-0,419	-0,421		-0,456	-0,456	-0,457
Age		0.306**	-0,898			.360**	-0,721	
		-0,151	-0,569			-0,168	-0,612	
Age2			.195**				.173*	
			-0,089				-0,094	
25-34				-0,35				0,031
				-0,514				-0,557
35-44				-1,021				-0,578
				-0,715				-0,765

	-1	-2	-3	-4	-5	-6	-7	-8
	PTSD	PTSD	PTSD	PTSD	PTSD	PTSD	PTSD	PTSD
	All Participants				Syrian Participants Only			
45-54				0,288				0,05
				-0,697				-0,791
55-64				1.871**				2.454***
				-0,751				-0,835
65-74				-1,066				-0,942
				-1,954				-2,129
75-84				-0,793				-0,459
				-3,697				-3,753
85+				7.477**				7.843**
				-3,655				-3,714
Education		0,006	0,048	0,066		-0,004	0,031	0,046
		-0,158	-0,159	-0,16		-0,166	-0,166	-0,168
Urban		0,018	-0,108	-0,007		-0,037	-0,152	-0,033
		-0,528	-0,53	-0,53		-0,545	-0,547	-0,548
SES		0,048	0,038	0,017		-0,044	-0,048	-0,065
		-0,095	-0,095	-0,095		-0,102	-0,102	-0,102
Year Left		0,122	0,113	0,117		0,034	0,027	0,032
		-0,107	-0,107	-0,107		-0,121	-0,121	-0,121
Constant	13.639***	11.182***	12.536***	11.724***	13.922***	12.881***	14.056***	13.273***
	-0,461	-1,608	-1,718	-1,589	-0,519	-1,808	-1,914	-1,783
N	675	673	673	673	587	585	585	585
R	0,093	0,11	0,116	0,128	0,08	0,096	0,102	0,115
Gov	18	18	18	18	12	12	12	12

List of previous publications

Rapport och Policy Brief 2014:1, *Radikala högerpartier och attityder till invandring i Europa*, av Mikael Hjerm och Andrea Bohman.

Rapport och Policy Brief 2015:1, *Internationell migration och remitteringar i Etiopien*, av Lisa Andersson.

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Avhandlingsnytt 2017:3, *Vägen till arbete. Utrikes föddas möte med den svenska arbetsmarknaden*, André Asplund, Caroline Tovatt och Sara Thalberg (redaktörer).

Policy Brief 2016:4, *Integration och tillit – långsiktiga konsekvenser av den stora invandringen till Norge*. Denna Policy Brief sammanfattar NOU 2017:2 om *”Integrasjon og tillit – Langsiktige konsekvenser av høy invandring”*.

Kunskapsöversikt: 2017:5, *Invandringens historia – från ”folkhemmet” till dagens Sverige* av Mikael Byström och Pär Frohnert.

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Sweden has received many refugees from war-torn countries in recent decades. Two important aspects of successful integration are to ensure the psychological health and social functioning of refugees exposed to war trauma. This Delmi report is based on unique field experiments conducted simultaneously among refugees residing in Sweden and Turkey. It examines how exposure to traumatic wartime events shapes psychological health and social cooperation within and across sectarian lines in refugee communities, and explores whether residency in different host societies shapes these processes in fundamental ways.

The researchers and authors behind the study and the report are Jonathan Hall, Ph.D. in Peace and Conflict Research at Uppsala University, Sweden, and Dennis Kahn, Ph.D. in Social Psychology at the Interdisciplinary Center, Herzliya, Israel.

The Migration Studies Delegation is an independent committee that initiates studies and supplies research results as a basis for future migration policy decisions and to contribute to public debate.



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