Displacement and the Expectation of Political Violence

Evidence from Bosnia

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Abstract

How do different degrees of displaced people's hardship shape their expectations of peace and violence in post-conflict societies? We develop a novel explanation and empirically examine it using survey data collected in Bosnia Herzegovina in 2013. The displaced may suffer by being the target of the hostility of opposing groups and/or by receiving little support from, or being mistreated by, their own groups and international actors. As a result, they develop negative opinions about these actors, friend and foe alike, become pessimistic about the possibility of cooperation, and see post-conflict peace unsustainable. We find those who have suffered greater hardship during displacement are more likely to foresee political violence. Hardship during displacement is also a stronger predictor than the experience of violence. Our analysis implies that, while violence does have an impact as suggested by the literature, other hardship during displacement, such as the lack of support, also matters.

Keywords: displaced persons, victimization, refugees, peacebuilding, Bosnia

Forced displacement is rife, with over 65 million people affected in 2018 alone (UNHCR 2019).[1] Yet post-displacement trajectories can vary significantly for a variety of reasons. Some people's lives are completely derailed when they are forced into refugee camps (e.g., Palestinians and Syrians in the broader Middle East). Meanwhile, others bounce back by integrating into a new environment (e.g., in the EU or North America).

The emerging literature finds different war-related experiences, the experience of violence in particular, lead to different expectations of peace (Hazlett 2017; Hirsch-Hoefler et al. 2016; Tellez 2018). Given this, we ask the following question: How do different degrees of displaced people's hardship shape their expectations of peace and violence in post-conflict societies?

Conflict recurrence is a popular area of quantitative research in political science (e.g., Klein, Goertz, and Diehl 2006; Quinn, Mason, and Gurses 2007; Sambanis 2000). The literature has traditionally examined it using macro-level, observational data. However, more recent scholarship has begun to conduct micro-level, survey/experiment-based studies, taking a different approach to conflict recurrence by looking at individual attitudes to post-conflict peace process (e.g., Hartman and Morse 2018; Hazlett 2017; Hirsch-Hoefler et al. 2016; Tellez 2018). Although displacement is common, to the best of our knowledge no study has systematically examined the effect of different displacement experiences on expectations of future peace and violence in a post-conflict society. The increasing rate of displacement, both internal and cross-border, caused by violent conflicts around the world, calls for studies disaggregating displacement experiences and examining their effects on individual attitudes. In our context, if greater

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[1] The figure includes asylum-seekers, IDPs (including those in IDP-like situations), and refugees (including those in refugee-like situations).

hardship experienced by the displaced indeed increases their expectation of political violence in a post-conflict society, supporting the displaced to avoid hardship has implications for building sustainable peace. It would give fewer opportunities for hardliners to use the fear of political violence among people for ethno-political mobilization and undermine a peace process.

To answer our question, we develop a novel explanation, hypothesizing that if people experience greater hardship during displacement, they are more likely to foresee political violence in a post-conflict environment. People can suffer hardship while in displacement, by being the target of the hostility of opposing groups and/or by receiving little support from, or being mistreated by, members of their own group and/or international actors. Through such hardship, they develop negative opinions about these actors and apply them to their expectations of the post-conflict process. Put otherwise, if people form expectations based on their negative experience of an opposing group, their own group, and/or the international community, they are more likely to become pessimistic about the possibility of cooperation and, therefore, more likely to expect post-conflict peace to be unsustainable and political violence to come back, than those who have not amassed negative information because they have experienced less hardship during displacement.

We test our hypothesis using our original nationally representative survey data collected in 2013 on Bosnian citizens, including all three main ethnic communities – Serbs, Croats, and Bosnian Muslims. Our Bayesian regression models find those who suffer greater hardship during displacement are more likely to foresee political violence. In addition, we find hardship during displacement is a more powerful predictor, than the experience of violence either by oneself or by someone close to him/her ("victimization"

according to the terminology of the literature). While victimization does have an impact on the expectation of political violence as suggested by the literature, other hardships, such as the lack of support, also seem to matter. The robustness checks, including a sensitivity analysis (Harada 2013), indicate the findings are plausible even in light of unmeasured confounders, such as the inherently pessimistic nature of respondents.

The article proceeds as follows. First, we discuss the literature. This is followed by our theory and hypothesis. We then explain our data, the empirical strategy, and the results of the empirical analysis. Finally, we present our concluding remarks and sugget the implications of our findings for the broader literature and policymaking.

Literature

Although findings are mixed, the growing literature on the social and political effects of war on post-conflict attitudes offers a useful starting point for our study. As we go on to show, the literature has focused on the effects of victimization and displacement but has paid little attention to what actually happens to displaced people. This is where our paper makes a novel theoretical and empirical contribution.

Bauer et al. (2016) provide an extensive review of the literature on the social and political effects of war on cooperative behavior in post-conflict society. Their meta-analysis reveals exposure to war-related violence tends to increase cooperative behavior, but the effect seems to apply only to in-group members, whereby people will cooperate for their own group but not for others (see also Mironova and Whitt 2018). Mironova and Whitt (2016) suggest a similar point with respect to Bosnia, although they also note pro-sociality towards an out-group has improved over time in relative terms. These studies

imply war experience does not necessarily lead people to be open to intergroup cooperation and, therefore, to reconciliation in a post-conflict society.

On the other hand, Hartman and Morse (2018) find people previously exposed to war-related violence are more likely to host refugees who have fled war, and this relationship holds even for refugees of out-groups. The finding is based on a multiple set of data sources for Ivorian refugees in Liberia – a survey, conjoint experiments, and interviews. The implication is that war experiences can make people more cooperative with members of out-groups who are experiencing similar difficulties, thus increasing the chance of intergroup cooperation and reconciliation.

Using survey data on the Darfur conflict, Hazlett (2017) finds people who have been exposed to violence are more likely than those who have not to believe it is possible to make peace with former enemies, with individuals from a former perpetrator group, and with the tribes from which the perpetrator group comes. These people also think less harsh punishment than execution is appropriate for government soldiers involved in the conflict. Summing up, Hazlett concludes exposure to war-related violence increases support for peace. Hazlett (2017, 8) attributes this to a war weariness that makes war victims "crave peace rather than vengeance," an interesting rationalist explanation for the effect of war on attitudes.

Some have more pessimistic findings on the relationship between victimization and support for peace. Looking at Bosnia, Hadzic, Carlson, and Tavits (2017) report wartime exposure to ethnic violence makes people more likely to vote for their own ethnic parties in a post-war environment, thereby promoting ethnic politics. The implication is that previous ethnic violence hinders interethnic reconciliation in a post-conflict society. By the same token, Hirsch-Hoefler et al.'s (2016) empirical evidence from the Israeli-

Palestinian conflict suggests exposure to political violence discourages victims from supporting peace with their opponents. In the case of Colombia, Tellez (2018) says those who have lived in conflict zones are more likely to support peace agreements but less likely to want to reintegrate with former enemies. The finding implies support for peace agreements reflects the fear of former enemies and future political violence rather than intergroup reconciliation.

Hall et al. (2018) compare those who used to be displaced but then were able to return home with the still displaced in the case of Bosnia. They find restorative justice is preferred over retributive justice by the returnees, arguably because they are more likely to interact with former enemies in a post-conflict environment. While the study is novel in that it focuses on the variation in what happens to displaced people, the dichotomy between returnees and the still displaced is only one aspect of such variation. Our study examines the quality of displacement life in general.

The literature has been accumulating empirical evidence (albeit often conflicting) for the effect of war-related experiences on attitudes to a post-conflict peace process in general and to the expectations of peace and violence in particular. Our study contributes to this growing literature by providing empirical evidence of the relationship between the degree of hardship during displacement, a byproduct of war, and the expectation of political violence in a post-conflict society.

Theory

In this article, we frame the anticipation of political violence in a post-conflict society as a rational expectation using information at hand (Gartner 2008). The literature on public support for war argues citizens rationally use available information about war and peace

to evaluate the ongoing situation (Eichenberg 2005; Gartner 2008; Reifler et al. 2014). One source of such information is past wartime experiences; these shape people's (subjective) expectations (Bozzoli, Brück, and Muhumuza 2011).

We argue that, all else being equal, greater hardship during displacement means the displaced receive a greater amount of negative information about the conflict/peace process and their society. The negative information leads to a rational expectation of more negative experiences, making these persons more likely to expect a return of violence. Hardship during displacement is not limited to exposure to violence and abuse; it can include economic hardship (such as a low standard of living) and/or social hardship (such as isolation and loneliness) as well.[2]

Hardship suffered during displacement can come from inter-group, intra-group, and international sources. First, members of an opposing group may project hostility and affect the displaced negatively. In the case of Bosnia, for example, authorities on all sides frequently expropriated homes of the expelled people in order to give them to "their own" (co-ethnic) refugees from elsewhere (Toal and Dahlman 2011). As this example suggests, even if the displaced are safely away from direct exposure to harrassment and violence, an opposing group can still cause hardship.

Second, the displaced may not get enough support from members of their own group or even become subject to intra-group discrimination. For example, Singer (2000, 32) points out that in post-conflict Sarajevo, "much of the holdup in permitting the return of refugees is due to intra-ethnic discrimination...The primarily Muslim ruling

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[2] Our own survey data suggest that overall hardship during displacement largely stems from economic hardship rather than victimization. The correlation coefficient between overall hardship and economic hardship is 0.83, while that between overall hardship and victimization (including both a respondent's and that of someone close to him/her) is 0.15. It should be noted that the survey data cannot identify whether victimization occured during displacement or before.

party...distributes apartments as political rewards to loyal members to the exclusion of disenfranchised Bosnian Muslim refugees."

Third, external actors such as the UN, NGOs, and "Western" powers may fail to provide enough support for the displaced, leaving them living in miserable conditions. They may even become perpetrators, as some reports speak of peacekeepers abusing the locals (UN News Centre 2019). In the case of Bosnia, German authorities apparently pressured Bosnian refugees in Germany to go back to their home country; as these refugees were not necessarily allowed to return to their original homes, many were relegated to internal displacement ("Bosnian Refugees" 1999).

Regardless of its source or nature, hardship during displacement consitutes negative information about conflict actors. When hardship is inter-group in origin, the displaced have difficulty believing peace with the opposing group is viable (Beber, Roessler, and Scacco 2014). Meanwhile, intra-group hardship creates distrust of the members of the displaced person's own group, and internationally sourced hardship causes pessimism about the viability of an international "humanitarian" solution. People naturally use their knowledge to gauge the future – in this case, to estimate the likelihood of political violence in the future. Negative information about an opposing group directly relates to the fear of future political violence caused by that group, while knowledge of hardship caused by members of one's own group and international actors casts doubt on their ability to sustain peace. In short, greater hardship makes people more pessimistic about others' general propensity to help and cooperate; such pessimism in turn translates into a sense that political violence is more probable.[3]

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[3] We thank an anonymous reviewer for this summarizing statement.

Based on the above argumentation, we formulate the following hypothesis:

Those who suffer greater hardship during displacement are more likely to expect political violence in post-conflict society.

Data

Our original survey data include a nationally representative sample of Bosnians collected in 2013.[4] Data collection comprised four stages: (1) selecting municipalities using simple random sampling, (2) selecting a polling station proportional to its size within selected municipalities, (3) selecting households using random route technique selection from a given address, and (4) selecting individuals within the household to be interviewed using a Kish table. The response rate was 63.53%, and 1,007 persons were interviewed. Of those, 751 had experienced displacement because of the Yugoslav wars in the 1990s (among those, some already returned to their place of origin, while others were still displaced). More details on the data collection are available in Stefanovic and Loizides (2017).

The Bosnian case is useful for displacement studies, not only because of the sheer numbers of displaced/returnees, but also because of the significant involvement of the international community in post-conflict reconstruction and peacebuilding. Using individual-level data, our study can examine whether variations among (former) displaced persons in the expectation of political violence can be traced to different degrees

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of hardship during displacement. If the Bosnian case indicates hardship during displacement influences people's attitudes to the sustainability of peace in a post-conflict society, this implies even the heavy involvement of the international community may not be enough to shape positive public opinions of post-conflict peace in other cases either.

The dataset contains a variable indicating whether respondents were displaced because of the 1992-1995 war. Since our focus is on displaced people's hardship, we use a subset of the data including only respondents who experienced displacement because of the war. It would be inappropriate if we included those who were not displaced in our dataset and used the product term between the binary variable of the displaced vs. the non-displaced and the degree of hardship during displacement. First, we are interested in the effect of different degrees of hardship during displacement, in particular, the effect on the expectation of political violence, rather than the effect of displacement in general. Second, it is not possible to code a score for the degree of hardship during displacement for people who were not displaced.[5] It might be possible to compare hardship experienced by the displaced with the one experienced by the non-displaced, if we assumed the two types of hardship are comparable (which might or might not be the case) and had an equivalent measure of hardship for the non-displaced. Unfortunately, our data do not have such a measure.

In our empirical models, we do not control for whether those who experienced displacement were still in displacement at the time of the survey or already returned to

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[5] If we do a simple cross-tab chi-square test, we find only a slight difference between (former) displaced and non-displaced people in the expectation of political violence: 25.3% (former) displaced people vs. 26.7% non-displaced people with the p-value of .69 when we include terrorism in the definition of political violence; 21.7% vs. 17.6% with the p-value of .21 when we exclude terrorism in the definition of political violence. This result implies the (former) displaced are on average not necessarily less optimistic than the non-displaced.

their place of origin, for the following reason. Hardship during displacement is likely to affect the likelihood of people returning. Therefore, whether a respondent has returned or remains in displacement is a post-treatment variable; if controlled for, it could prevent us from computing the total effect of hardship during displacement as a mediator or introduce a post-treatment bias as a collider (Montgomery, Nyhan, and Torres 2018; Pearl and Mackenzie 2018).

Note that while the original dataset contains weighting scores, allowing us to infer population parameters from the sample, we do not use them, because there is no guarantee that the subset of (former) displaced persons from a nationally representative sample is actually representative of the entire population of (former) displaced persons. It is unlikely that the distribution of all relevant variables (including unobservable ones) is the same for the population of (former) displaced persons and for that of Bosnians in general; for example, it is plausible to suspect a certain type of person is more likely to be displaced (e.g., someone unwilling to join armed groups). For this reason, we seek internal rather than external validity. Our analysis is simply a first step probing the implications of hardship during displacement for post-conflict society and peacebuilding. We hope other research will accumulate additional knowledge, making our findings more generalizable.

Dependent Variables

We measure respondents' expectation of political violence, using questions about how likely armed conflict, terrorist attacks, civil war, guerrilla warfare, and war with neighboring countries are to occur within ten years; the respondents were asked to choose one of "very unlikely," "somewhat unlikely," "somewhat likely," and "very likely." The expectation of political violence is coded 1 if a respondent answers "very likely" or

"somewhat likely" to at least one of the above categories of political violence; it is coded 0 if the answer is "very unlikely" or "somewhat unlikely."[6] For a robustness check, we exclude terrorist attacks; respondents might mean terrorist attacks irrelevant to the ethnic conflict in/around Bosnia, such as terrorism of foreign origin, thus introducing some heterogeneity into the measurement.

Explanatory Variables

Hardship during displacement is measured by the question "How would you describe your overall situation while in displacement?" Answers are on a 5-point scale: 1 "extremely hard," 2 "hard," 3 "tolerable," 4 "good," and 5 "very good." For ease of interpretation, we reverse the numbering; that is, the higher the value, the harder the situation has been during displacement. Although our data include information on various aspects of displacement (e.g., whether respondents were internally or internationally displaced),[7] we rely on self-assessments of overall hardship. This is necessary to test our hypothesis; what matters in our theory is how respondents *subjectively* feel about their overall displacement experience, whether domestic or international. Displacement could meet different objectives for ethnic groups and individuals. While Bosnian Muslims advocate the right of return, for the most part Bosnian Serbs (and Croats) prefer their consolidation of control in their new territories. For at least some members of the latter

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[6] An alternative way to code this information is to assign an order of integers to respondents' assessment of the likelihood of each category of political violence – 1 to "very unlikely," 2 to "somewhat unlikely," 3 to "somewhat likely," and 4 to "very likely" – and calculate the mean across all categories of political violence. This results in a variable whose distribution is bounded between 1 and 4 and turns out to be skewed because many answers are 1. We use Bayesian Gamma regression with the log link function; the effect of hardship during displacement is retained (see Supplementary File). Posterior predictive checks indicate the models occasionally predict values beyond the bounds but overall fit the data.

[7] Note that international borders shifted during the Yugoslav wars.

group, forced displacement might have the (unintentional) positive effect of living with co-ethnics in a territory of their own, often with better housing. Again, our data do not have an equivalent measure of hardship experienced by the non-displaced respondents and, therefore, we do not use the interaction between hardship and the experience of displacement.

In Supplementary File, we empirically explore whether international or internal displacement amplifies the effect of hardship during displacement. To summarize the results, international displacement amplifies the effect of hardship during displacement. When a respondent reports greater hardship, international displacement increases the probability of the respondent expecting political violence; when a respondent reports lower hardship, international displacement decreases the probability. We speculate great hardship during international displacement implies an unwelcome environment in the host country, while low hardship during international displacement suggests a successful integration to the host country. In short, there may be greater variation in the quality of life when people were internationally displaced than when internally displaced.

We control for the history of the victimization of respondents and the victimization of someone close to them. Respondents were asked the following question: "Did you personally experience any of the following during the conflict?" The binary variable is coded 1 if the respondents answer "yes" to any of "verbal abuse," "physical injury," "imprisonment," and "torture" and 0 otherwise. The victimization of someone close is also a binary variable, coded 1 if respondents answer "yes" to the question "Did anyone close to you lose his/her life during the conflict?"; and coded 0 if the answer is "no." The literature disagrees on "which kinds of war experiences are the most powerful ones on individual attitude and behavior" (Freitag, Kijewski, and Oppold 2017, 5), and

the history of victimization in general during the conflict may be a more important factor shaping expectations of political violence than hardship in displacement. Those with a history of victimhood – direct or indirect – may suffer psychologically during displacement, thereby reporting greater hardship during displacement and being more likely to foresee political violence in the future. The possibility of the history of victimization being a confounder is slim based on an initial look at the data: the correlation between each of the victimization variables and hardship during displacement is low (.09 and .13 respectively). Nevertheless, we control for those variables to fully examine the possibility of confounding.

We also control for four demographic variables: the pre-war economic situation of a respondent's family (an ordinal scale of 1 "extremely poor" to 5 "very good"), age,[8] biological sex (0=male, 1=female), and the municipality of residence before the war. These are by definition pre-treatment (pre-war) variables (except for age, i.e., if a respondent was born after the outbreak of the war); thus, they do not introduce post-treatment bias or mediate the total effect of hardship during displacement. If respondents were born in or after 1992, they are omitted from the models; hardship during displacement might have delayed their parents' decision to have a child and, therefore, the age of people born during and after the war could be a post-treatment variable. Even if we include those respondents, the results are substantively the same (see Supplementary File). The pre-war municipalities of residence are used as dummy variables to control for cross-sectional heterogeneity.

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[8] We also check whether age has a U-shape effect on the expectation of political violence, by including the squared value of age. We find age squared has a relatively low credibility of having an effect. See Supplementary File.

Table 1 displays the summary statistics for all variables. In the regression analysis, we divide age by ten to make the odds ratio more intuitive to interpret (i.e., one unit increase corresponds to ten years older rather than one year older). Table 2 presents cross-tabs between the degree of hardship during displacement and each of the two dependent variables measuring the expectation of political violence; the table suggests a positive relationship between a greater degree of hardship and a higher probability of a respondent expecting political violence.

Table 1: Summary statistics

Variable	Obs.	Mean	Std.Dev.	Min	Max
Expectation of pol. violence (inc. terrorism)	577	0.25	0.44	0	1
Expectation of pol. violence (exc. terrorism)	581	0.22	0.41	0	1
Hardship during displacement	743	3.71	1.01	1	5
History of victimization (respondent)	735	0.16	0.36	0	1
History of victimization (someone close)	737	0.50	0.50	0	1
Pre-war economic situation	744	4.01	0.88	1	5
Age	751	53	17	18	91
Female	751	0.57	0.50	0	1
Pre-war municipality of residence	739	44.18	26.77	1	93

We do not control for factors such as education, income, ethnocentrism, ethnic identity, and the municipality of residence after the war. All these factors are likely to be affected by hardship during displacement, making them post-treatment variables. Hardship during displacement is likely to affect education and work opportunities. It may also create resentment of ethnic groups who were on the opposing side in the war. Even ethnic identity is often a product of ethnic violence; while many Bosnian people used to identify themselves as "Yugoslav" or "Bosnian," the war hardened the division of ethnic groups, increasing the salience of ethnic identity. Finally, hardship during displacement

may well have led respondents to seek to live in a particular municipality (e.g., where co-ethnics are dominant) to avoid further hardship.

Table 2: Cross-tabs between hardship during displacement and the expectation of political violence

Degree of hardship during displacement	Expectation of political violence (inc. terrorism)			Expectation of political violence (exc. terrorism)		
	0 (no)	1 (yes)	Total	0 (no)	1 (yes)	Total
1 (very good)	13	1	14	14	0	14
	92.86%	7.14%	100%	100%	0%	100%
2 (good)	53	9	62	55	7	62
	85.48%	14.52%	100%	88.71%	11.29%	100%
3 (tolerable)	101	47	148	111	39	150
	68.24%	31.76%	100%	74%	26%	100%
4 (hard)	158	52	210	164	47	211
	75.24%	24.76%	100%	77.73%	22.27%	100%
5 (extremely hard)	103	37	140	108	33	141
	73.57%	26.43%	100%	76.60%	23.40%	100%
Total	428	146	574	452	126	578
	74.56%	25.44%	100%	78.20%	21.80%	100%

Estimator

Our Bayesian regression models look more closely at the relationship by including the control variables and estimating uncertainty. We use Bayesian logit regression, as the

dependent variables are dichotomously coded.[9] The R package "rstanarm" is used for data analysis (Stan Development Team 2016).[10]

Bayesian estimation has two major advantages for our analysis. First, our survey data include respondents from many municipalities, but a few municipalities have only a small number of respondents. In such a context, the classical logit regression model drops municipalities with no variation in the dependent variable. In Bayesian estimation, parameters for those municipalities can be stably estimated, given priors that regularize estimation (we discuss the choice of priors later).

Second, Bayesian models provide more intuitive interpretation of the uncertainty of estimated effects than traditional Frequentist models; a posterior distribution can tell us the probability of an effect exceeding a specific effect size given data. To avoid confusing the probability of an effect (i.e., the uncertainty of an estimate) with the probability of an event (i.e., the chance of an event – the expectation of political violence in our case – being observed), we use the term "credibility" to mean the former.

We calculate the credibility of an effect whose size, if the estimated mean odds ratio is greater than one, exceeds at least an odds ratio of 1.05 (i.e., the effect increasing the odds of a respondent expecting political violence at least by 5%). If the estimated mean odds ratio is smaller than one, we use an odds ratio of .95 (i.e., the effect decreasing

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[9] As an additional test, we ran a Mahalonobis matching with a caliper of one using the psmatch2 package in Stata (Leuven and Sianesi 2003). As the package accepts only a binary treatment, we recoded the variable dichotomously as "very good" and "good" to 0 and "tolerable," "hard," and "extremely hard" to 1 ("tolerable" still has a sense of negativity and, therefore, its meaning is closer to life being "hard" than "good"). The results are consistent with our main ones: the average treatment effect for the treated (ATT) is .47 and its standard error is .12 for the dependent variable whose definition includes terrorism; the ATT is .41 and its standard error is .12 for the dependent variable whose definition exclude terrorism.

[10] In the Markov chain Monte Carlo process, we use four chains, each of which has 10,000 iterations; the first 2,000 iterations are discarded.

the odds of a respondent expecting political violence at least by 5%).[11] The unconditional mean probability of a respondent expecting political violence (if terrorism is included in the definition) is .26; a 5% increase in the odds raises the probability to .27, while a 5% decrease lowers it to .25. Thus, in our case, a 5% change in the odds ratio is likely to result in a meaningful change in the probability of a respondent expecting political violence.[12]

For priors, we use the default weakly informative prior in the rstanarm package (Gabry and Goodrich 2019).[13] We use the weakly informative prior rather than a completely noninformative prior (such as a flat prior) for regularization and stable estimation. The prior is a plausible choice for three reasons. First, it makes empirical testing harder for our hypothesis than assigning a prior with a positive mean with a small standard deviation, even though our theory suggests the latter type of prior. Second, as the literature is divided on the effect of victimization on the expectation of political violence, our prior belief is indecisive about the direction of the effect. Third, we do not have a strong prior belief in the direction of the effect of the demographic variables.

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[11] The odds are the probability of a dependent variable = 1 divided by the probability of a dependent variable = 0. An odds ratio is the ratio of the odds of a regressor taking some value, to the odds of the regressor taking the value increased by one unit. An odds ratio greater than one indicates a positive effect; an odds ratio smaller than one indicates a negative effect. The coefficients of logit regression models are the natural logarithm of odds ratios. Thus, if we exponentiate them, we get odds ratios.

[12] The relationship between the probability and the odds is monotonic but not linear; thus, exactly how much a 5% change in the odds changes the probability depends on the values of the covariates. For ease of interpretation, we later discuss the predicted probability of the expectation of political violence given a varying degree of hardship during displacement.

[13] The default prior is a normal distribution with a mean of 0 and a standard deviation of 2.5 for the slopes and a normal distribution with a mean of 0 and a standard deviation of 10 for the intercept. When a model is run via the package, the standard deviations of the priors are automatically adjusted to account for the different scales of the variables; and the mean of zero for the prior of the intercept makes sense as the rstanarm package automatically centers all predictors during the estimation process (the final outputs are in the original scales of the predictors) (Gabry and Goodrich 2019).

Results

The results of the Bayesian logit regressions are displayed in Table 3. The first two models examine the dependent variable including terrorism in the definition, and the remaining two models examine the dependent variable excluding terrorism. In each case, there is a model without any controls and a model with controls (the municipality dummies are included in both cases). For each variable, the mean odds ratios are reported in the upper row; the credibility of an odds ratio > 1.05 (if the mean odds ratio > 1) or < .95 (if the mean odds ratio < 1) is inside parentheses in the lower row. $\hat{R} \approx 1$ for all parameters in every model, suggesting the Markov chain Monte Carlo process did not fail to converge. The posterior predictive checks indicate the models fit the data well (see Supplementary File for the graphs).

Table 3: Bayesian logit regression of the expectation of political violence

	(including terrorism)		(excluding terrorism)	
	Model 1-1	Model 1-2	Model 1-3	Model 1-4
Hardship during displacement	1.29	1.36	1.40	1.39
	(0.96)	(0.98)	(0.99)	(0.98)
History of victimization		0.93		1.21
(respondent)		(0.53)		(0.67)
History of victimization		1.55		1.30
(someone close)		(0.93)		(0.79)
Pre-war economic situation		1.02		1.02
of respondent's family		(0.41)		(0.43)
Age		0.81		0.87
		(0.98)		(0.86)
Female		0.96		0.79
		(0.49)		(0.77)
Constant	0.12	0.24	0.07	0.13
	(1.00)	(0.92)	(1.00)	(0.98)
Municipality dummies	yes	yes	yes	Yes
Observations	559	543	563	547

Credibility of an odds ratio > 1.05 (if the mean odds ratio > 1) or < .95 (if the mean odds ratio is < 1) in parentheses; $\hat{R} \approx 1$ for all parameters

In all models, hardship during displacement is positively associated with the expectation of political violence; with a credibility of .96 to .99 (depending on the models), the effect of the variable going up by one unit (e.g., from 4="hard" to 5="extremely hard") produces at least a 5% increase in the odds of a respondent expecting political violence.

To make interpretation more intuitive, in Table 4, we present the predicted probability of a respondent expecting political violence.[14] This is calculated based on Model 1-2, varying the value of hardship during displacement and holding all other covariates at the mean or mode.[15] Given our threshold of the minimum effect size as an odds ratio of 1.05, the change from "very good" to "extremely hard" produces a difference of *at least* .019 in the predicted probability, with a credibility of .98. Substantively speaking, if two groups of displaced people were the same except that one felt life during displacement was "very good" while the other felt it was "extremely hard," we would expect, with a credibility of .98, that the probability of the latter expecting political violence would be at least .019 higher than that of the former.[16] We emphasize "at least" because the difference is calculated based on the *minimum* credible value in the posterior distribution of the odds ratio, given a credibility of .98. The focus on the minimum credible value is useful, because it tells us what the *least bad* case could be ("bad" in the sense that a respondent is likely to expect political violence).

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[14] The predicted probability can be calculated using a logistic function: $P(Y = 1) = 1/(1 + \exp(-(X\beta)))$, where Y is the dependent variable, X is the matrix of the explanatory variables, and β is a vector of log odds ratio coefficients. Since the posteriors of parameter values are jointly distributed, we fix the odds ratios of the control variables at those conditional on the odds ratio of hardship during displacement being 1.05.

[15] As for the municipality dummies, we choose the one whose posterior mean is closest to the mean of the posterior means of all municipality dummies.

[16] This causal interpretation is conditional on the model and identification strategy being plausible.

Table 4: Predicted probabilities of the expectation of political violence

Degree of hardship during displacement	Probability by the minimum credible value	Probability by the mean value	95% credible interval around the mean	
1 (very good)	.104	.179	[.010	.586]
2 (good)	.108	.217	[.015	.643]
3 (tolerable)	.113	.262	[.020	.703]
4 (hard)	.118	.312	[.027	.763]
5 (extremely hard)	.123	.367	[.036	.817]

Following conventional practice, we also present the predicted probability estimated by the means of the posterior distributions and its 95% credible interval. The results imply that if we counterfactually assigned those who felt life during displacement was "very good" to the response category "extremely hard," we would expect the probability of these people expecting political violence will increase, on average, by .188 (.367 minus .179) in absolute terms.[17] Note that the credible interval of this difference cannot be computed as the difference of the credible interval of each category: in other words, it is not .026 (.036 minus .010) and .231 (.817 minus .586). We need to compute the credible interval over the posterior distribution of the difference in the predicted probability, as displayed in Table 5. The credible interval for the difference between "extremely hard" and "very good" includes .012 and .432, meaning that the difference in the probability can vary from .012 to .432 with a credibility of .95.

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[17] Again, this causal interpretation is conditional on the model and identification strategy being plausible.

Table 5: 95% credible interval of the difference in the predicted probabilities between two different degrees of hardship during displacement

	vs. "very good"		vs. "good"		vs. "tolerable"		vs. "hard"	
"good"	[.002	.099]	-	-	-	-	-	-
"tolerable"	[.005	.209]	[.003	.110]	-	-	-	-
"hard"	[.008	.320]	[.006	.226]	[.003	.118]	-	-
"extremely hard"	[.012	.432]	[.010	.342]	[.007	.238]	[.004	.123]

Finally, we review the results of the control variables.[18] The history of the victimization of a respondent is negatively associated with the expectation of political violence in Model 1-2 but positively associated in Model 1-4. In Model 1-2, the credibility of the effect producing at least a 5% decrease in the odds is .53; in Model 1-4, the credibility of the effect producing at least a 5% increase in the odds is .67.

The history of the victimization of someone close to the respondent has a more consistent effect, albeit with some degree of uncertainty. While the coefficient is positively associated with the expectation of political violence in both Model 1-2 and Model 1-4, the credibility of the effect producing at least a 5% change in the odds is .93 in Model 1-2 and .79 in Model 1-4.

The pre-war economic situation of the respondent's family has a negligible effect. Both the mean odds ratio and the credibility of the effect are small. Age is negatively associated with the expectation of political violence, with the credibility of the effect producing at least a 5% decrease in the odds being high (.98 in Model 1-2 and .86 in Model 1-4). Female respondents are negatively associated with the expectation of

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[18] The coefficients of the controls are unlikely to represent the total effects, given some of the controls may causally precede others and given we assume all these controls causally precede hardship during displacement (Keele, Stevenson, and Elwert 2019; Pearl and Mackenzie 2018). We speculate the pre-war economic situation of a respondent's family, his/her age, and his/her gender causally, and fairly independently from one another, precede the history of victimization (either of the respondent or of someone close).

political violence; we find at least a 5% decrease in the odds, with the credibility either very low (.49 in Model 1-2) or modest (.77 in Model 1-4).

Endogeneity Concern

It is common to measure the history of victimization during conflict using respondents' self-reports of violence (Hartman and Morse 2018; Hazlett 2017; Hirsch-Hoefler et al. 2016), but Child and Nikolova (2018) raise a methodological concern about the use of self-reported measures of victimization in the study of war experiences and social attitudes. The more pessimistic people are, they argue, the more likely they are to remember the negative experiences. This implies that the relationship between hardship during displacement and the expectation of political violence could be endogenous.

We address this endogeneity concern empirically. To this end, we first develop a causal diagram (Pearl and Mackenzie 2018) to clarify exactly what pessimism could do as a confounder. As in Figure 1, if respondents were inherently pessimistic, we should expect they are more likely to leave their homes for fear of war (i.e., more likely to be displaced and experience hardship), more likely to remember hardship during displacement, and more likely to expect political violence. In other words, pessimism should have a positive biasing effect on all three, as indicated by the "+" signs on the arrows in Figure 1. Without controlling for pessimism, we cannot directly identify the effect of hardship during displacement on the expectation of political violence. The problem is that we do not have a measure of pessimism. Yet, there are partial solutions.

Figure 1: Causal diagram
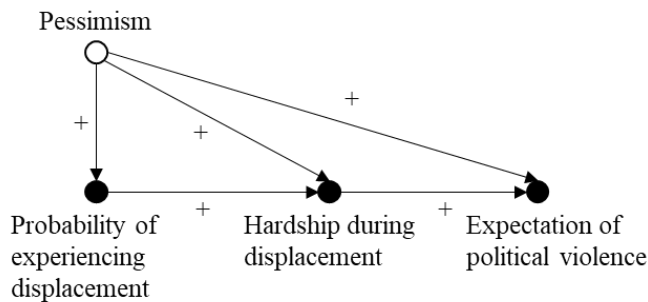
First, because we have data on both those who experienced displacement and those who did not, we can estimate the difference in the expectation of political violence between these two groups. Given Figure 1, we should find those who experienced displacement are more likely to expect political violence than those who did not. To investigate this, we examine the sample including both types of respondents and use the experience of being displaced as a binary predictor (1=yes, 0=no). We find no clear evidence for the difference if we use the dependent variable including terrorism in its definition; if we use the dependent variable excluding terrorism in its definition, there is a .79–.84 credibility that the displaced are more likely to expect political violence than the non-displaced (see Table A7 in Supplementary File). The former results should be prioritized over the latter results, however, given that inherently pessimistic people should expect not only political violence relevant to the ethnic conflict but also terrorism in general. This result implies, given Figure 1, that pessimism does not have such a large effect to create the strong correlation our models find between hardship during displacement and the expectation of political violence.

Second, we run a sensitivity analysis (Harada 2013) to compute how large the effect of pessimism must be to nullify the association between hardship during

displacement and the expectation of political violence. Sensitivity analysis introduces a hypothetical confounder into a model and calculates the effect size of the confounder necessary to reduce the size of a treatment effect to a specific amount. We set the amount as the minimum effect size of our interest, an odds ratio of 1.05. Since the level of the pessimistic nature of respondents is a potential unobservable confounder, we assume the confounder is a continuous variable. We base the sensitivity analysis on Model 1-2. We use a linear probability model for stable estimation.

As reported in Figure 2, the effect size of the confounder (expressed as a curvilinear line) has to be much larger than any of the control variables (expressed as + symbols) to reduce the mean effect size of hardship during displacement to the minimum effect size of interest. All the control variables are positioned much lower than the curve. Any municipality-level confounders are already controlled for by the municipality dummies, so potential unobservables should be at the individual level.[19] As our previous discussion suggests, the most obvious individual-level confounder is the pessimistic nature of respondents. The sensitivity analysis suggests another reason why this confounder may not have a large enough effect to nullify the effect of hardship during displacement, as follows.

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[19] The municipality dummies are not shown in Figure 2, because their effects controlling for the unobservables at the municipality level cannot be compared with the effects of any remaining individual-level unobservables.

Figure 2: Sensitivity analysis
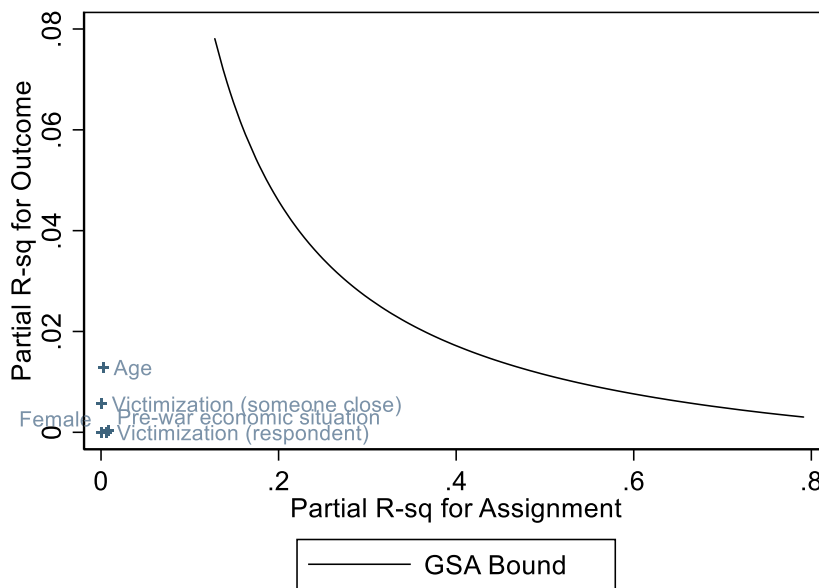
In Figure 2, even relatively powerful covariates are positioned much lower than the curve. In Model 1-2, the history of victimization of someone close has a mean odds ratio of 1.55, with a credibility of .93 that the effect size is at least greater than an odds ratio of 1.05; the variable of age has a mean odds ratio of 0.81, with a credibility of .98 that the effect size is at least smaller than an odds ratio of .95. The unobserved confounder must have a much greater effect than these covariates to nullify the effect of hardship during displacement.

If the unobserved confounder were that powerful, we should see a significant correlation between another variable that is affected by the pessimistic nature of respondents and the expectation of political violence. Yet Table 3 tells us that the history of victimization (of respondents) is little correlated with the expectation of political violence, contrary to what Child and Nikolova (2018) argue. In addition, we can check whether respondents answered another question on hardship – their health conditions one

year after displacement – in a way that produces a significant correlation with the expectation of political violence. We find that a self-reported poorer health condition is barely correlated with the expectation of political violence: the correlation coefficient is 0.021, with a p-value of 0.623 for the dependent variable of Models 1-1 and 1-2; the correlation coefficient is 0.05, with a p-value of 0.234 for the dependent variable of Models 1-3 and 1-4. These empirics suggest, again, that pessimism does not have such a large effect to create the strong correlation our models find between hardship during displacement and the expectation of political violence.

Given these analyses, it may be reasonable to speculate that the association between hardship during displacement and the expectation of political violence is more than just the result of the endogeneity. Of course, as in the case of most observational studies, we cannot entirely exclude the possibility of endogeneity. Still, these analyses ameliorate concerns about the association between the degree of hardship during displacement and the expectation of political violence being not causal.[20]

Conclusion

Our findings demonstrate the importance of the effect of hardships experienced in displacement on the expectation of political violence in a post-conflict society. We

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[20] We run another sensitivity analysis, the psacalc command in Stata (Oster 2019). We follow Oster's (2019, 203) recommendations for observational data as follows. We compute δ, the ratio of the effect of the unobserved confounders to that of the observed confounders, provided (1) that $R^2_{max} = 1.3R^2$, where R^2_{max} is the maximum R-squared given both observed and unobserved confounders, and (2) $\beta = 0$, where β is the treatment effect. We find $\delta \approx -6.28$ for the dependent variable whose definition includes terrorism, and $\delta \approx -10.01$ for the dependent variable whose definition excludes terrorism. This means the unobserved confounders must be at least 6.28 as powerful as the observed confounders, and the former must bias the treatment effect in an opposite direction to the latter. As discussed already, it is unlikely that the effect of the pessimistic nature of respondents, the most obvious unobserved confounder, is that large.

initially hypothesized that those who suffer more during displacement are more likely to expect political violence. Our Bayesian models suggest the empirical validity of our hypothesis in the Bosnian case.

The article has several policy and scholarly implications. First and foremost, improving people's lives during displacement is critical, as their personal expectations of peace and violence can directly affect post-conflict conditions, both their own and those of the larger society. At the individual level, it is stressful to fear political violence, and alternative options might not be attractive: moving elsewhere, assimilating to a dominant culture (if allowed to do so by the dominant group), or resorting to self-defense measures. At the societal level, the fear of political violence might give hardliners opportunities to mobilize along ethnic lines, turning fear into a self-fulfilling prophecy and increasing the likelihood of peace agreements breaking down (Kaufman 2001; Petersen 2002).

According to our analysis, hardship during displacement is a major factor in shaping the expectations of political violence in Bosnia. Despite the significant involvement of the international community in post-conflict reconstruction and peacebuilding, some displaced persons have not been assisted enough. This is important, particularly because those suffering hardship during displacement might not see external actors involved in the peace process as legitimate, rendering the viability of any externally-mediated peace agreement doubtful.

The article also highlights the importance of "giving a voice" to war victims themselves. Despite a long tradition of "positive peace" studies (Galtung 1969), the scholarship remains limited. Making use of micro-level data, this article contributes to the literature both theoretically and empirically. While displacement itself is a tragic consequence of war, if the degree of hardship during displacement has an effect on a post-

conflict public opinion, as our analysis suggests, it should be considered in peace plans, and those experiencing the hardship should be consulted.

While our empirical models are limited to the Bosnian case, our findings could be relevant to other similar cases. For example, the Syrian war has caused a huge number of refugees and IDPs, but their lives during displacement have varied significantly. Our findings suggest that to ensure a rigorous post-conflict reconstruction once the war eventually ends, it is important to help these displaced people have life that meets humanitarian standards now.

One avenue for future research would be to examine how the expectation of political violence affects the propensity to support peace. Some of those who expect political violence might support peace; others might support preventive violence. Both can be a function of the expectation of political violence, conditioned by some third factor. This is an important topic to understand how likely the fear of future political violence is to become a self-fulfilling prophecy.

Future studies could also include additional measures of displacement experiences. For example, the passage of time since displacement (e.g., using longitudinal surveys) might create interesting variations in the expectation of political violence. In addition, some people who experience horrible levels of hardship during displacement might actually recover very well, while others who experience a lower level of hardship might continue to have serious problems. It is equally important to probe a possible correlation between the subjective sense of difficulty during displacement and the objective measures of displacement, such as the types of support received. Looking at such a correlation could help policymakers develop appropriate policies to address the needs of displaced people.

Finally, while our empirical analysis is limited to the Bosnian case, it would be important to extend the geographic scope. For example, the Life in Transition Survey (European Bank for Reconstruction and Development 2019) includes cross-country data on war-related experiences and political/social attitudes. Unfortunately, the data do not contain information about different experiences during displacement. Future large-scale surveys could include specific questions on different experiences during and post-displacement benefiting comparative research and broader generalizations.

Funding

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