

Should I Signal Trust? Effect of Terrorism on Interpersonal Trust in Post-conflict and Non-post-conflict Countries

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Abstract

Generalized interpersonal trust is an essential component of a functioning society. While some studies have examined how the perception of terrorism affects trust, cross-national works investigating the impact of actual terrorist attacks on individual trust remain mixed. In this paper, I use insights from existing studies to disaggregate generalized interpersonal trust in response to terrorism in two distinct dimensions, prosocial motivation, and strategic signaling. While threat perception from terrorism lowers interpersonal trust in all contexts, I argue that actual events distinctively shape a person's interpersonal trust. In a relatively stable and secure context of a non-post-conflict country, individuals living closer to terrorist incidents express increased interpersonal trust. But in post-conflict countries, those closer to terrorist incidents tend to show more distrust. To test the argument, I use the World Values Survey dataset of 52 states and create a terrorism scale for 717 survey regions within the countries, considering their spatial and temporal closeness to each terrorist incident. Results obtained from three-level hierarchical models (state, region, and individual) are robust and contribute to our understanding of how terrorism shapes interpersonal trust in different contexts.

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Societal response to terrorism has not been uniform. After the terrorist attack on Charlie Hebdo in Paris in January 2015, France showed immense solidarity as a nation. Following the attack, Thomassen, Strype, and Egge wrote in a blog post,¹ “One may think that acts of terrorism would lead to increased cynicism and distrust towards fellow citizens and in the authorities that failed to protect us. However, rather than becoming misanthropes locking ourselves behind doors, we seem to rally around the core values and institutions of state and society.” In contrast to such solidarity, terrorist attacks in other countries have surfaced massive distrust and polarization. Sajad Jiyad, a researcher in Iraq, wrote in his blog post after a terrorist attack in Baghdad,² “This is exactly what I can see after Saturday’s bombing, fear that more lives will be lost, fear of the other that they will respond, anger at the other, anger at not doing enough to stop it and that extreme measures are required, hate of the other of what they have done and what they will do, they wish to impart suffering on the other so that they will desist.” These anecdotal examples illustrate contradicting effects of terrorism on social trust in the two contexts.³ It is no wonder that existing works on terrorism and trust are heterogeneous, country-specific, and often contradictory.

In this study, I assess the impact of *perceived* threat of violence on citizens’ generalized interpersonal trust and explore how this impact might differ when the threat is an *actual* event. I show that the subjective threat perception has a uniform effect of lowering generalized interpersonal trust across all contexts. But when the threat is *actual* terrorism,

¹<https://blog.oup.com/2015/02/trust-aftermath-terror/>

²<https://1001iraqithoughts.com/2016/07/05/the-flames-that-consumed-hope/>

³Social trust is the foundation of a functioning society. The two most studied aspects of societal trust are interpersonal trust and trust in political institutions. Interpersonal trust in the literature is categorized either (1) as generalized interpersonal or generalized trust towards other people in general or (2) as particularized interpersonal trust towards someone we know, such as family members or neighbors. The focus of this paper is to understand an individuals’ *generalized interpersonal trust* level.

it affects trust levels differently. Rather than subjective assessment, I argue that trust in the aftermath of an actual event takes on a strategic dimension. Actual terrorism shapes trust levels differently for individuals in countries where terrorism is more prevalent than those living in relatively secure contexts. Since we know from previous research that terrorism overlaps the most with conflict and post-conflict countries (Findley and Young 2012), this study examines the effect of actual terrorist events by comparing individual survey responses across two sets of countries, those with and without armed conflicts. It uses existing studies' insights that the two main sources of interpersonal trust among individuals are their pro-social motivation and context-dependent strategic signaling. Since a person's physical sense of security shapes her strategic communication and pro-social attitude, terrorist events should have a distinctive impact on the degree of her interpersonal trust.

These expectations are tested using survey responses in 52 countries from the sixth wave of the World Values Survey (WVS) dataset. The data are analyzed using three-level hierarchical models, where individual responses are nested to countries and their sub-unit regions. For each region, the actual terrorism scale is measured by considering the frequency and closeness of all terrorism incidents in the country within six months before the start of the survey. The precise location and time of terrorist incidents are drawn from the Global Terrorism Dataset (GTD).⁴ Results indicate that individual *perception of threat* from terrorism lowers interpersonal trust in all settings. *Actual incidents*, however, has a more nuanced impact. In post-conflict countries, an increase in the number of terrorist events near a survey region lowers interpersonal trust among its resident. In contrast, in non-post-conflict countries, more terrorist events near a survey region are found to *increase* interpersonal trust

⁴Available: <https://www.start.umd.edu/gtd> [Accessed January 10, 2020]

among the individuals.

Trust is an important concept across various disciplines in the social sciences (Anheier and Kendall 2002; Bayram 2017; Letki 2006; Sliwka 2007). By revealing these varied effects in different contexts, this study broadens our understanding of the association between terrorism and interpersonal trust. The paper makes a key contribution by addressing three methodological issues in existing research. First, to understand the impact of violence on social attitudes, most studies use retrospective surveys, the results of which are based on respondents' subjective account of violence. As stated by Child and Nikolova (2020, p. 153), subjective perception tends to induce personality bias, making it difficult to isolate the effect of actual terrorism on individual behavior. Second, some works have explored the impact of objective violence on trust, but fail to take into account respondents' spatial or temporal distance from the events. A person who is physically closer to a terrorist incident may not express similar levels of interpersonal trust compared to those who are physically distant. Third, majority of existing works on terrorism and trust are country-specific, casting doubts on the generalizability of the findings. One study in particular, Rohner et al. (2013), assesses respondents' trust levels by considering both distance from and intensity of the violent incidents, but the results are specific to Uganda. This paper addresses these shortcomings by (1) examining the effect of both subjective and objective measures of terrorism, and (2) considering both spatial and temporal distance to terrorist events for all survey regions in the dataset. It uses cross-national survey data to examine the impact of varying degrees of terrorism on interpersonal trust using multi-level regression analysis. Results in the study are consistent and robust.

Below, I briefly cover existing studies on the topic and introduce the concept of

generalized trust. The section that follows discusses the theoretical underpinnings leading to three key hypotheses, which are tested in the subsequent empirical section. Main results in the study are checked for robustness by testing some alternative expectations. Finally, the conclusion summarizes the findings and points to some key questions that are unanswered by this study.

Past Works on Terrorism and Trust

A number of studies find consistent association between *perceived threat* from violence and behavioral pattern among the citizens. They show that *perceived threat* tends to increase public preference for authoritarian leaders (Huddy et al. 2005), forgo civil liberties (Hetherington and Suhay 2011), and increase electoral support for parties that are on the political right (Getmansky and Zeitzoff 2014). However, according to Child and Nikolova (2020), behavioral patterns based on a self-reported perception of vulnerability to being victimized by violence say more about individual personalities rather than the effect of actual violence. In other words, rather than the effect of violence, those who perceive, remember or exaggerate exposure to violent conflicts may be individuals who are politically engaged, less trusting, and pessimistic.

Contrary to the effect of perceived threat, studies that explore the relationship between *actual* violence and social trust are not conclusive. Gilligan et al. (2014), for instance, examine the case of Nepal and show that violence-affected communities exhibit higher levels of pro-social motivation, measured by trust-based transactions. But a number of other works point to a different direction. De Juan and Pierskalla (2016) conduct a survey study

in Nepal and Rohner et al. (2013) in Uganda, and find that fighting and violence tend to dampen generalized trust.

This ambivalence is even greater when measuring people's trust levels due to terrorist violence. This is likely because objectives and motivations of terrorist groups are far too varied and their actions often context-dependent (Rapin 2009), making their outcome on individual behavior more complex. This is because perpetrators in terrorism seek to influence the target audience by sending credible threats to use more violence. so, while some studies have shown that widespread fear and anxiety about terrorism undermines the interpersonal trust level in a society (Kramer 1999; Blomberg et al. 2011; Godefroidt and Langer 2018), others find just the opposite. Country specific survey-based studies find that people display increased interpersonal trust in the aftermath of terrorism (Wollebæk et al. 2013; Geys and Qari 2017). The following section builds a theory by, first, revisiting the relationship between perceived threat of terrorism and generalized trust, and then, builds argument on the expectation behind varying levels of generalizable trust due to terrorism in post-conflict and non-post-conflict countries.

Generalized Trust and Perceived Threat

Our understanding of the concept of trust has evolved over time.⁵ Research on interpersonal trust identifies two distinct categories of trust, particularized and generalized trust (Freitag and Traunmüller 2009, p. 787). On the one hand, particularized trust refers to trust towards people one knows well from day-to-day interactions, such as neighbors, family members, or friends. This form of trust depends on the information about the trustworthiness of others,

⁵See Nannestad (2008) and Alós-Ferrer and Farolfi (2019) for a comprehensive review of the concept of trust.

gathered from the social environment, frequency of interaction, or the level of acquaintance. On the other hand, generalized trust is an abstract attitude toward people in general.

While the two categories of trust are generally correlated, from the social research standpoint, a person's generalized trust is more important since this abstract concept is better associated with social capital and social mobilization⁶ in their immediate environment. A society with a greater level of generalized trust contributes to the creation of social networks, important for social mobilization (Letki 2006; Putnam 2001). According to Hardin (2006), generalized interpersonal trust is a person's propensity to trust others. Yet, the radius of *others* in his definition is somewhat vague since it implies both other people that we do not know, as well as those that we know and interact. Therefore, subsequent studies have re-defined *generalized trust*, as an estimate of how much a person is likely to trust others in a community that they do not know (Uslaner 2007).

Psychological studies suggest that we are wired differently when it comes to trusting others. Rather than from the external factors, the level of generalized trust comes from one's innate world view or moral disposition. Labeled by Glanville and Paxton Glanville and Paxton (2007) as "the psychological propensity model" of trust, this view suggests that generalized trust is learned early on and is, therefore, fixed (Glanville and Paxton 2007; Uslaner 1999, 2002; Cawvey et al. 2018). According to this viewpoint, our tendencies to trust strangers are inherently selfless and moral, which reflect our innate pro-social personality traits. But others are skeptical of this view that pro-social trust is fixed, and argue that seemingly self-less pro-social instincts are often "impure," driven by an incentive of

⁶Putnam describes social capital as the networks, norms, and trust that exist in a social organization and that enable coordination and cooperation toward shared objectives (Putnam 1993, 2000). Social mobilization, on the other hand, is a process in which old social, economic, and psychological commitments are eroded or broken, and people become available for new patterns of socialization and behavior (Deutsch 1961, 493-94)

psychological benefit, a “warm glow,” derived from being kind to others (Andreoni 1990). Still, both views imply that trust is intrinsically subjective. Can objectively extrinsic factors shape out generalized trust? Yamagishi and Yamagishi (1994, p. 131) argue that trusting others involves the expectation of goodwill and benign intent on their part. According to the authors, our doubts about others’ benign intent reduces their propensity to trust them. This suggests that in times of uncertainty, our sense of perceived threat and anxiety may crowd out the pro-social natured generalized trust.

From a rational choice perspective, trusting others entails assuming risk (Alós-Ferrer and Farolfi 2019, p.5). Researchers have conducted numerous behavioral experiments to test the conjecture that trusting others involves taking risk. Bohnet et al. (2008), for instance, use trust games to understand the risk-seeking behavior of a person showing trust. Their study involves playing a trust game between two players where a trustor either keeps \$10 for sure or hands the amount to the other player, who in turn could choose to return more or less money to the sender. In this game, the authors first identify the trustor’s minimum accepted probability (MAP) for giving away the money to the trustee. This was then compared to players in a lottery with the same pay-off structure. The authors find that the players demand much higher MAP in a trust game played with another human being than in a lottery. This implies that players tend to be more careful when interacting with humans compared to random chance. Aimone et al. (2014) find similar results in a different experimental game, where people displayed a greater level of trust when playing against computer than against another human being. Bohnet et al. (2008) characterizes this cautious nature of people when interacting with other human beings as risk-taking. According to the authors, when it comes to trusting others, people have “betrayal aversion.”

But if trusting others involves taking risks then factors that affect our risk-taking tendencies should also influence our tendency to trust others. Findings from psychology and behavioral studies indicate that fear and perceived threat, in general, tend to make citizens more pessimistic, as it heightens their risk-averse attitude that “things might go wrong” (McCaul and Mullens 2003; Bergstrom and McCaul 2004). Emotions of perceived threat can increase the sense of risk and lower our tendencies to trust others. This is perhaps demonstrated by studies on group relations, which posit that fear induced by violence increases in-group cohesion and erode trust against the “others” (Pavitt 2011; Posen 1993). This is especially the case for terrorist violence since the very purpose of such an attack is to undermine the social fabric of trust by creating fear among people beyond immediate victims. As a result, individuals who worry more about terrorism are less likely to risk trusting others. In this sense, perceived threats of terrorism, in and of itself, can be the subjective bias that can legitimize distrust, which may or may not correlate with the actual threat. Therefore, we expect the perception of threat to lower generalized trust levels among individuals.

Hypothesis 1: Higher perception of terrorist threat should lead to lower interpersonal trust.

Actual Terrorist Attacks and Generalized Trust

Considering trust as a response to an actual event leads to slightly different hypotheses. In contrast to interpersonal trust based on the perception of terrorism, I argue that an actual terrorist event nearby evokes varied responses in different contexts. Interpersonal or generalized trust as a response can stem from either pro-social behavior or as a strategic

response. Conceptualizing generalized trust based on these two ways can further dilute the chance for any set pattern of response. Yet, when we categorize the contexts as post-conflict and non-post-conflict, I explain below how we should see distinct effects on interpersonal trust, which align well with pro-social and strategic-response conceptualization.

A number of studies indicate that during a crisis, individuals show enhanced pro-social behavior, increased solidarity, and tendencies to help others (Dussaillant and Guzmán 2014; Douthy 1972; Rodriguez et al. 2006; Garcia and Rimé 2019). Dussaillant and Guzmán (2014), for instance, examine the case of the Chilean earthquake in 2010 to understand the effect of the disaster on individual trust and social capital. The authors conduct two post-disaster surveys, in 2010 and 2012, and compare them against a pre-disaster survey in the country. Comparing these surveys, they find a persistent increase in interpersonal trust and social capital in the aftermath of a disaster.

But for terrorism, a person's response can be more complicated. While the perception of threat from terrorism may lower trust, the actual violence can generate a range of emotions. As with natural disasters, being closer to actual crises can evoke empathy and compassion. But unlike during natural disasters, terrorist events are perpetrated by human actors and are political in nature. Therefore, an individual's response to such events is often strategic and context-dependent.

In relatively secure contexts, crises provide a ripe opportunity to express pro-social behavior. Individuals who live in areas that are physically closer to terrorist events are more likely to come together, show solidarity, and express enhanced pro-social trust. Anecdotal evidence supports this conjecture. Examining individual behavior in Sweden before and after a terrorist attack in 2010, Geys and Qari (2017), find an increase in interpersonal trust in

the aftermath of the attack.⁷ Wollebæk et al. (2013), similarly, examine the aftermath of a terrorist attack in Norway on July 2011 and find that individuals expressed a higher level of institutional or interpersonal trust in the aftermath of the attack. The authors argue that the “trust capital” inherent in the region was something that “contributed to curbing the emergence of a culture of fear after the attacks” (p. 259).

However, the question that arises is, what is the source of that trust capital? Past studies indicate that the presence of democratic institutions is a significant determinant of generalized trust in a country (Freitag and Bühlmann 2009). But subsequent studies question that premise and argue instead that a country’s status quo provides a better explanation. While trust may reduce during transitional times, Huang and Schuler (2018) examine the case of China and Vietnam to show that status quo and stability tends to increase generalized trust even in autocracies. This suggests that relative security and stability may explain better the accumulation of ‘trust capital,’ as suggested by Wollebæk et al. (2013). This implies that in non-post-conflict countries, terrorist events should increase pro-social behaviors and generalized trust. People in areas that are closer to crises are expected to show even more compassionate response than those that are farther away.

Conceptualizing trust as response based on strategic signaling also leads to similar conclusion. Fetchenhauer and Dunning (2012) contend that Bohnet et al’s (2008) betrayal aversion hypothesis does not correctly capture the association between trust and risk. They posit that people show outwardly trust not because of concerns about betrayal but as an expression of strategic signal (also see Sliwka 2007). That is, trust in societal context involves

⁷They do not find positive trust levels after the attack. Instead, they find the value of negative coefficient becomes smaller, suggesting a reduction in distrust level after terrorist incidents.

sending a signal to others, and we are generally averse to sending distrustful signals in the first place. Quite the opposite of “betrayal-aversion,” the strategic signaling argument posits that trusting others is a risk-averse behavior, whereas distrusting others is risk-acceptant behavior. This has important implication for understanding generalized trust as a response to terrorist events in normal or secure environments versus in contexts with greater uncertainty.

According to the strategic signaling argument, people invest in trust-building, expecting reciprocity from others in the future. Stated differently, signaling trust towards others can be beneficial, while expressing distrust could be costly, resulting in retaliatory actions from others. Compared to “betrayal aversion,” strategic signaling is forward-looking and depends on the strategic calculation about how the other may respond. While betrayal aversion always discourages trust, strategic signaling implies two different equilibria in which actors either trust more or less, depending on the coordination game between the truster and trustee.

In a normal context, future retaliatory costs can incentivize individuals to express trust towards others. However, in times of uncertainty, a truster may be less confident to send such signals. According to Sliwka (2007, p. 1008), “a reason for distrusting someone is that you have had a bad experience in a similar situation before and therefore you are pessimistic.” This insight can be applied to understand people’s propensity to trust in post-conflict and non-post-conflict countries. In post-conflict contexts, individuals harbor anxiety and concerns about the country slipping back into full-scale civil war. Terrorist events in such contexts can act as a heuristic to past experiences, leading the person to impose a restriction on trusting tendencies. The closer they are to such incidents, the stronger is the heuristic and the tendency to distrust. These discussions suggest that irrespective of whether

trust-level is based on pro-social motivation or strategic signaling, both converge to predict a similar pattern, as stated by following hypotheses:

Hypothesis 2a: In non-post-conflict countries, nearby terrorist events should increase generalized trust among citizens in the region.

Hypothesis 2b: In post-conflict countries, nearby terrorist events should lower generalized trust among citizens in the region.

Methods and Measurements

I test the above hypotheses using the sixth wave of World Values Survey dataset conducted in 52 countries from 2011-2014. The dependent variable in this study is respondents' generalized trust or trust towards others that they do not know. The concept of generalized trust refers to trusting "others" beyond one's personal ties. To measure generalized trust, past studies have used a survey questionnaire that asks their level of trust towards others: *Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?*⁸ However, Miller and Mitamura (2003) critique that respondents interpret this question differently and recent studies indicate that this instrument can create an external validity problem since "most people" in the question may not refer to the same thing in different cultural settings. The two parts of this question represent two distinct attitudes rather than parts of the same concept (see also Delhey et al. 2011). According to

⁸Responses are in dichotomous scale with the two alternatives "You can't be too careful" and "Most people can be trusted" (Lundmark et al. 2016; Nannestad 2008; Uslaner 2015).

Delhey et al. (2011), adjusting the radius of “most people” by making the question more specific, improves the validity.

Therefore, as a measure of the dependent variable in this study, I use a set of three new trust items from a battery of sixth WVS questions that asks about respondents’ level of trust towards (1) the people they meet for the first time, (2) people of another religion, and (3) people of another nationality.⁹ Newton and Zmerli (2011) show that the three questions in the WVS used for measuring this concept are indeed consistent across countries, and its dimension is distinct from the particularized and political trust. Others also find that the three questions uniquely and consistently capture generalized interpersonal trust, which is different from an in-group trust or trust towards family or neighbors (Delhey et al. 2011; Delhey and Welzel 2012). According to Delhey (2011), “The more the balance tips toward out-group trust, the wider the notion of “most people” and the wider the radius of unspecified trust.” Response sets to these three questions are on a four-point ordinal scale: trust completely, trust somewhat, do not trust very much and do not trust at all. Following past studies (Freitag and Bauer 2013; Kim 2018), I create an index of generalized trust from these three questions using principal component analysis, with a higher value indicating more generalized trust.¹⁰ *Generalized trust* index, the dependent variable in this study, is on a continuous scale and ranges from the high of 3.85 to a low of -2.28.

The two main explanatory variables in this study are respondents’ perceived threat from terrorism and the scale of actual terrorist incidents in the survey area. The first

⁹The WVS started to include a more comprehensive set of trust questions since wave 4 that reflected the three distinct dimensions of trust—*generalized trust* in strangers, particularized trust in friends and family, and political trust in the government

¹⁰Eigenvalue of the predicted index is 2.08. The factor loadings for the three variables are as follows: trust towards people seeing for the first time: 0.52, trust with people from other religions: 0.602, and other nationality: 0.604. The Cronbach’s alpha is 0.77.

explanatory variable, individuals' *threat perception* from terrorist violence is derived from a WVS questionnaire that asks respondents how much they are worried about a terrorist attack. Responses are on a 4-point scale: "very much, a good deal, not much, or not at all?" Corresponding to this scale, variable *threat perception* ranges from a low of 1 to a high of 4.

The second explanatory variable is the scale of actual terrorist incidents near each survey region. The dataset has 716 survey regions within the 52 countries. To examine how recent terrorist events in these regions affect individuals' trust levels, I create a terrorism scale for each region in the following steps. First, I identify all terror attacks in a survey country occurring within six months prior to the start of the survey from the GTD, which has geo-spatial information of these incidents. For each survey region in the country, I locate the geo-coordinates in the map and then measure the distance in kilometers of all terrorist incidents from the center of the region. Terrorist events that are geographically closer to a survey region is expected to have a greater impact on individuals in the region. I, therefore, use the inverse of distance and aggregate it across all attacks in the country to create a terror scale for each survey region.¹¹ The scale index captures both the frequency and closeness of terrorist events in the survey regions, with higher values representing more frequent and proximate terrorist attacks.¹²

For example, let us assume that there are two survey regions in a country, regions A and B. If the country has only two terror attacks in the last six months since the start of the survey and the two incidents are located 100 kilometers from the center of survey region

¹¹ $Terror\ scale = (\sum_{i=1}^n \frac{1}{distance})$

¹²The intensity of terrorist incidents is not modeled here since intensity, as operationalized with the number of deaths in each event, may not have the same linear effect as closeness and frequency. But the robustness check section explores the impact of intensity by including only fatal terrorist incidents in the terrorist scale.

A and 10 km from region B, then the terror scale for respondents in region A would be $(1/100 + 1/100) = .02$, but much higher for region B, at 0.2. This is illustrated in Figure 1, which depicts the case of India. There are 17 survey regions in the country, as shown by the shaded areas in the figure. Small red dots in the figure represent the locations of 246 terrorist incidents that occurred within six months since the start of the survey. Based on the distance and frequency of nearby incidents, variable *terror scale* for the survey regions in India range from 0.16 to 0.69. Out of the total 52 countries in the dataset, only 23 countries experienced at least one terrorist attack around the survey time. For regions within rest of the 29 countries, *terror scale* is zero.

[Figure 1 about here.]

A higher value of terrorism scale for a survey region indicates that respondents in the region experienced a greater number of terror attacks in closer proximity. A quick examination of the terror scales in all 716 regions in the dataset reveals Iraq as an outlier. While the mean terror scale for the entire dataset is 0.938, the mean terror scale of Iraqi regions is 50. Baghdad region in the country has the highest value of 253. This is far above any other regions in the dataset. For instance, the second-highest mean terror scale is that of Lebanon at 5.¹³ Excluding Iraq, the mean terror scale of the dataset is 0.21. The terror scale scores are included in the hierarchical model as a regional-level variable.

Control Variables

Individual-Level control variables. Numerous other individual-level factors may influence a person's propensity to trust others. The four control variables used in the study at the

¹³For this reason, one of the models in our main results excludes Iraq.

individual level are respondent's emancipatory values, education level, gender, and age. First, studies have indicated that individuals with higher level of "Emancipatory values" are more likely to express generalized interpersonal trust. Therefore, I include this index as a control variable, but I will start by explaining the concept used in the literature.¹⁴ The concept is associated with an individual's desire to live in a liberal and democratic society, a mindset that arises as with human empowerment and liberty (Welzel 2014). According to Inglehart and Welzel (2005), emancipative value gives priority to individual liberty over collective discipline, human diversity over group conformity, and civil autonomy over state authority (p. 248). Inglehart and Welzel (2005) argue that the emancipatory value index should be positively associated with generalized interpersonal trust (p. 151, 248, 261). Using World Values Dataset, Welzel (2010, 2013, p. 213) shows that emancipatory value has a direct positive impact on generalized interpersonal trust. More recently, Almakaeva et al. (2018) argue that emancipatory values have a direct contribution to prosocial behavior and generalized trust. Following these studies, I formulate "emancipatory values index" using 12 variables across four sub-dimensions: choice, equality, autonomy, and voice or self-expression."¹⁵

Second, Uslaner (2002) suggests that general outlook of life and our learned values correlate positively with generalized trust. Others have indicated that Protestant optimism or income inequality has a significant effect on trust (Bjørnskov 2007; Nannestad 2008). But at an individual level, both optimism and income inequality could be affected by an

¹⁴Also referred to as "emancipative" values.

¹⁵I use the same measure as Welzel (2013), using World Values Survey questions to measure individual's choice (tolerate abortion, divorce, and homosexuality), equality (women's equality in politics, education, and jobs), autonomy (imagination and independence as a desired quality in kids but not obedience) and voice (more important for an individual to have more say on local and national politics, and protecting freedom of speech)

individual's level of education (Charron and Rothstein 2016; Gregorio and Lee 2002). Consistent with this argument, other studies find that formal education at the individual level is associated with political tolerance, or extending basic civil liberties to one's domestic enemies (Bobo and Licari 1989; Stubager 2008; Peffley and Rohrschneider 2003). Therefore, a control variable included in the models is respondents' *level of education*, measured in an ordinal scale ranging from 1 (no formal education) to 9 (university-level education). Lastly, two other demographic characteristics included in the models are gender and age. Variable *female* is coded as 1 for female and 0 otherwise. Past studies have indicated both variables to be an important determinant of interpersonal trust (Goodwin et al. 2005; Croson and Buchan 1999).¹⁶

Regional-Level control variable. Other than the terrorism scale at the regional level, which is one of the two explanatory variables, the study controls for the regional population. Variable *Terrorism scale* is an index created at the regional level, indicating the degree of terrorism events in the area during the last six months since the start of the survey. One factor that could affect both the number of terrorist incidents and the degree of generalized interpersonal trust is the size of the local population. As in the WVS dataset, the variable *regional population* is on an ordinal scale and it is included in the models to indicate whether a survey region has a low, high, or very high population level.

Country-Level control variables. The sample of countries in the WVS is fairly diverse in terms of their regime types and population, the two main country-level control variables

¹⁶Thanks to the anonymous reviewer for pointing out the need to check whether including individual qualities like ethnicity and religiosity affects the main results. Table 4 in the supplementary material shows that the main findings in Table 1 (paper) are robust to controlling *religiosity* at the individual and *ethnic-fractionalization* at the country level.

included in the models.¹⁷ We use the *Polity IV* to assess the regime type of the country, which ranges from -10 for an autocratic regime and 10 for a consolidated democracy (Marshall et al. 2002). The pooled sample distribution of Polity scores shows that 54% of the countries in the sample are consolidated democracies (Polity score of above 6), while others are either anocracies or autocracies. Variable *country population* is used in log scale.

Finally, countries in the dataset are divided into a post-conflict and non-post-conflict category. A country is categorized as post-conflict, if it has experienced civil war¹⁸ within the last ten years before the survey. There are 11 countries out of the total 52 that fit this category. They are Algeria, Azerbaijan, India, Iraq, Lebanon, Libya, Nigeria, Pakistan, Peru, Philippines, and Rwanda. Rest of the countries are categorized as non-post-conflict countries. The multilevel equation is estimated using a random effects model that produces estimates that are closer to population parameters, as it takes into account the nested quality of the data while also overcoming problems associated with over-fitting when using fixed effects dummy variables, which in this case are countries (Gelman and Hill 2007, p. 253-254; Clark and Linzer 2012).¹⁹

¹⁷For parsimony, ethnic divisions in the country are no included in the models. But as indicated above, including the variable ethnic fractionalization at the country level (Alesina et al. 2003) does not change the results (Table 4 of the supplementary material).

¹⁸1000 or more battle-related deaths, according to Uppsala Armed Conflict dataset

¹⁹If we could assume that the unobserved characteristics of residents in each country are constant, we could estimate a pooled model of the data using logit or probit. However, because we expect variability across countries even when controlling for basic indicators like wealth or regime type, either a fixed- or random-effects model can be estimated. Some studies include a series of dummy variables for countries as fixed effects to control for unique country-level aspects like culture. However, using country dummies assumes high variability and ignores some similarities that may exist due to factors like shared borders or regions.

Terrorism and Generalized Trust

Levels of generalized trust vary significantly across countries. As noted above, variable *generalized trust* in the dataset ranges from -2.9 to 3.8. Figure 2 presents the mean level of this variable across countries. It shows that the trust levels are highest in consolidated democracies like Sweden, Australia and the United States, and lowest in countries like Peru, Tunisia and Algeria. While the mean trust levels is generally lower for post-conflict countries, some countries like Lebanon, Rwanda, and India in this group have fairly high trust levels.

[Figure 2 about here.]

The key focus of this paper is understanding the effect of terrorist violence on generalized trust. As discussed above, the context of the presence or absence of armed conflict in a country should determine how terrorist attacks might impact the trust level among citizens. Figure 3 reports bivariate comparisons of variable *generalized trust* in three contexts. First, the top left panel in the figure compares *generalized trust* across post-conflict and non-post-conflict countries. As expected, the mean of generalized trust in post-conflict countries is far lower compared to non-post-conflict countries. Second, the top right panel in the figure compares trust levels in countries with and without any terrorist incidents in the last six months. The mean of trust levels in countries with one or more terrorist incidents is -0.02, only slightly lower than countries without any incidents at 0.04. Finally, the bottom left panel compares generalized trust levels across high and low terrorist incident regions. For clarity, terrorist incidents in a survey region are divided into these two categories based on variable *terrorism scale* for the region, top 25 percentile or the bottom 75 percentile.²⁰ As an

²⁰The 25-75 split is somewhat arbitrary but categorizing a region in this way makes it easier to show the exaggerated effect of terrorist violence in the descriptive analysis. For instance, do individuals in regions

example, out of the total 17 survey regions in India, only four northern and mid-regions in the country fall into the high terrorist incident category that has *terrorism scale* greater than 75 percentile.²¹ According to the panel, individuals in regions with high terrorist incidents, report much lower generalized trust than those in low terrorism regions.

[Figure 3 about here.]

However, the outcome of interpersonal trust is dependent on a number of other factors, both at individual and contextual levels. Table 1 reports result from three-level hierarchical regression models that take into account these factors at the individual, regional, and country levels. The main variables of interest in the table are (*threat perception*) at an individual level and the *regional terror scale* at the second level, and it examines how these variables affect generalized trust.²² The first model in the table includes all observations, while the subsequent models include respondents in non-post-conflict and post-conflict countries only. The last model in the table excludes the outlier case in the list of post-conflict countries, Iraq, where the frequency of terrorist events is very large compared to other countries in the dataset. Models 2 and 4 are the main models discussed below.

[Table 1 about here.]

A consistent result in all models is the negative coefficient for variable *threat perception* (how much do individuals worry about terrorism?) that is statistically significant at $p < 0.01$.

with top 25 percentile terrorist violence have substantively different levels of generalized interpersonal trust?

²¹Chhatisgarh, Jharkhand, Orissa, and West Bengal, which are closer to Maoist terrorism in central India and the nationalist terrorist hotspots in the Northeast. The other 13 regions fall under low terrorist incident regions.

²²Included in the supplementary note are results from baseline multi-level regression models that exclude all other variables other than the two key variables: threat perception at the individual level and terror scale at the regional level. It shows that the key results hold even when running these baseline models.

This suggests that threat perception from terrorism tends to lower generalized trust in all settings. When people are more concerned about terrorism, they tend to express lower levels of generalized trust (H1). To get a better sense of size, let us look at the coefficients of the variable. the coefficient for *threat perception* in model 1 is 0.08, suggesting that an increase in threat perception from the lowest to highest level lowers an individual's generalized trust by 5.22%.²³ This finding across cross-national respondents confirms the findings in past studies.

For H2a and H2b, we turn to a regional-level variable *terror scale* in models 2 and 4. The marginal effects of this variable from the two models are depicted in Figure 4. In model 2, the variable is positive and statistically significant at $p < 0.05$, suggesting that increase in terror scale in a region of a non-post-conflict country tends to increase trust levels among its respondents. The coefficient of the variable indicates that an increase in terror scale by one unit increases generalized trust by 0.141. For instance, let us look at the two survey regions in non-post-conflict countries in Southeast Asia, the Southern region in Thailand, which has a terrorism scale of 6, and the Kelantan region in northern Malaysia, which has a terrorism scale close to 0.²⁴ According to the dataset, the average generalized trust level for respondents in Kelantan is -0.74. From the estimate in model 2, if the terrorism scale in Kelantan increased from 0 to 6, similar to the level of Southern Thailand, then this would increase the mean generalized trust level of its respondents by 0.85 units to 0.1.²⁵ Considering the overall range of generalized trust levels in the dataset, this increase by 0.85

²³Range of *generalized trust* is 3.86 to -2.29 and the lowest and highest level of individual worry are 1 and 4. Therefore, an increase in worry by 4 results in $(0.08 \times 4) / 6.15 = 0.052$.

²⁴In the time period of 6 months prior to the start of WVS survey.

²⁵Increase from -0.74 + 0.85 = 0.1. For reference, the mean generalized trust level for Southern Thailand is 0.214

unit represents a jump by nearly 14%.²⁶ This is a substantive increase.²⁷

[Figure 4 about here.]

According to the last two models in Table 1, the coefficient of variable *terror scale* is in the negative direction. It is not statistically significant in model 3 but significant at $p < 0.05$ in models 4. The coefficient of -0.04 in the last model suggests that an increase of regional terror scale in post-conflict countries by one standard deviation (2.13) lowers generalized trust by 1.46%.²⁸ Increase of terror scale from a minimum of zero to a maximum of 16 in post-conflict countries, which corresponds to the region of Western Beirut in Lebanon in 2013, lowers generalized trust level of a region by 10.44%.

Other variables in the model are in the expected direction. Variable *education level* is positively significant in all models. This suggests that more educated individuals tend to display higher level of generalized trust, a result which is consistent with past studies. Another variable, *emancipatory values*, is also positively significant in all models. This result confirms the discussion in Welzel (2013) that individuals with greater levels of emancipatory values are more likely to express pro-social trust. While age of respondents is positively significant, the coefficient suggests that its substantive effect is very small. Variable *female* is statistically significant in all models and has a negative coefficient, suggesting that women

²⁶Generalized trust in non-post-conflict-countries ranges from 3.86 to -2.27, a range of 6.15. Therefore, $0.85/6.15=0.1382$

²⁷As indicated in the text, the main results in Table 1 include *all* terrorism events. The theoretical mechanism in the study is agnostic to the type of terrorism but Table 7 in the supplementary information checks if excluding international terrorist events changes the main results. Note that the number of international terrorist events in the study time frame is relatively low. Of the 37,533 GTD events for the World Values Survey countries (from 2009 to 2015), there are only 310 international terrorist events, based on variable INT_LOG in the Global Terrorism Database, which is coded as 1 if perpetrators crossed the national border to carry out an attack. Compared to the main table, results show that excluding the international attacks makes hardly any difference in the main result.

²⁸Generalized trust in post-conflict-countries range from 3.86 to -2.27, a range of 6.15. Therefore, $2.13 \times 0.044 = 0.09$. This represents $0.09/6.15 = 0.0146$ or lower by 1.46%

are less likely to express generalized trust compared to men (Goodwin et al. 2005). Finally, it is important to note that the country-level variable *polity* is positive and statistically significant at $p < 0.1$ for models 1 and 2 but not for post-conflict countries.

Robustness Check: Reverse Causality, Effects of More Recent or More Intense Terrorism?

The above analysis explored the result of perceived and actual terrorist threat on generalized interpersonal trust. But the analysis does not systematically rule out the possibility of a reverse-causality that low-trust individuals may be the ones who express greater level of perceived threat and react strongly to actual terrorism. In order to test this conjecture, I include two other variables to the main model, which correlate with individual trust levels, measure of authoritarianism and individual income level. As the past studies have shown that individuals with high authoritarianism and low household income correlate strongly with low trust levels (Sullivan and Transue 1999; Leigh 2006). To measure authoritarianism, we rely on a battery of childhood value items in the WVS that asks respondents to pick from a list of 11 qualities they consider to be especially important for children to learn at home. Similar to prior studies (Feldman and Stenner 1997; Duckitt 1989), individuals who selected “obedience” as one of five most important values in children are considered *Pre-disposed authoritarians*.²⁹ The other variable in the WVS used here is self-reported household *income level* ranging from lowest (1) to highest (10). Results from this model is included in the supplementary note. The result shows that the two variables, authoritarianism and

²⁹The other choices are independence; hard work; feeling of responsibility; imagination; tolerance and respect for other people; thrift, saving money and things; determination, perseverance; religious faith; unselfishness; and self-expression.

income level, are both statistically significant and in expected direction. But including these variables does not change the main results.

Results so far have established that nearby terrorist incidents in the last six months tend to have a greater impact on the region's generalized trust levels. As discussed above, nearby terrorist events either provide an opportunity to express pro-social trust and solidarity for individuals in stable countries or induce anxiety in post-conflict countries. But if terrorist events act as a heuristic to trigger their behavioral responses, then both temporal closeness and greater intensity of terrorist events should produce a more enhanced effect on their trust levels. In this section, I test this conjecture by examining individual trust levels when (1) reducing the temporal distance to last three months since the start of the survey, (2) only considering the greater intensity of terrorist events which produce at least one fatality within the last 6 months, and (3) combining both by considering greater intensity terrorist events (fatal incidents) within the three months time frame prior to the survey. I start by creating a regional terror scale as defined by these criteria and then using them in models identical to Table 1. Tables 2(a), 2(b) and 2(c) show results with revised *terrorism scale*.³⁰ The number of terrorist incidents in these three scenarios are much lower compared to that in Table 1, but if true, their impact should be greater.

Table 2(a) reports results with a new *terror scale* that takes into account terrorist events within the last three months. As expected, compared to Table 1, the absolute value of the coefficient for *terror scale* is greater in models 2 and 4. Comparing the coefficients in Tables 1 and 2(a), we find that, on average, the impact of terrorist events in the last 3 months is nearly two times greater than the impact of events in the last 6 months. This suggests

³⁰Full models are included in the online supplementary information.

that recent terrorist events in non-post-conflict countries create a spike in generalized trust, which dissipates to some extent with passage of time. Some recent studies (Geys and Qari 2017; Arvanitidis et al. 2016) discuss similar temporal trends among respondents in some European countries after terrorist incidents. This study contributes further with stronger theory and more robust empirical results after considering both temporal and geo-spatial measures.

As depicted in model 4 in Table 2(c), 3-monthly terrorist incidents produce a similar impact of reducing generalized trust among residents of a region. But compared to model 4 in Table 1, its magnitude is only slightly greater compared to the 6-monthly terrorist incidents. In sum, these results suggest that temporally closer terror incidents generate a relatively greater impact in non-post-conflict countries than in post-conflict countries.

[Table 2(a), 2(b) and 2(c) about here.]

The regional-level *terror scale* in Table 2(b) considers only fatal terrorist incidents in the last six months. For instance, according to the GTD, the total number of all terrorist incidents in India within 6 months prior to the survey was 146. This number shrinks to only 51 incidents when considering fatal terrorist incidents with at least one killing. Examining coefficients of this variable in Tables 2(b) and 1, we find that fatal terrorist events has much greater impact on trust levels. Comparing its coefficients in model 2 of the two tables indicates that fatal terrorist incidents generate nearly three times greater impact in increasing generalized trust in non-post-conflict countries. But comparing its coefficients in model 4 of the two tables suggests that this impact is even greater in post-conflict countries. The coefficient for variable *terror scale* in model 4 is five times smaller in Table 2(b) compared

to Table 1. This suggests that terrorist events that involve killings dampen generalized trust among the citizens in post-conflict countries at a much higher rate.

Finally, variable *terror scale* in Table 2(c) is generated with both reduced time-frame and fatal terrorist events only. The number of terrorist events considered in this table is even less. For instance, in India, there were only 24 fatal terrorist incidents in the 3-month time-frame prior to the survey. But despite so few events, the impact of this revised *terrorist scale* in models 2 and 4 is the highest. Compared to its coefficients in Table 1, its coefficients in Table 2(c) suggests that the impact of fatal terrorist events within the last 3 months is nearly seven times greater for regions in non-post-conflict countries and five times greater for regions in post-conflict countries.

One noteworthy observation in these models is how the effect of terrorist violence change over time. Comparing results in Table 1, 2(a), 2(b), and 2(c), we find that *fatal* terrorist events have a greater impact on both post-conflict and non-post-conflict countries. But these effects change over time only in non-post-conflict countries. For instance, in a non-post-conflict country, coefficients of the 3-monthly terrorism scale, both in fatal and all terrorist events, are nearly twice that of the 6-monthly terrorism scale. In other words, soon after a terrorist event in a non-post-conflict country, we see a spike in generalized trust among people residing in regions close to terrorist events, which tends to dissipate over time. However, we do not see such a change in post-conflict countries, where terrorist events tend to dampen generalized trust among nearby citizens. For instance, compared to all types of terrorist events (variable *Terror Scale* in Table 1), fatal terrorist incidents lower generalized trust nearly five times more (variable *Fatal Terror Scale (6 months)* in Table 2(b)). Yet, when comparing these coefficients with those from the 3-monthly terror scale in Table 2(a)

and 2(c), we find that this dampening effect in post-conflict countries does not change much over time.³¹

Conclusion

This paper shows a variety of effects that terrorism has on citizens' generalized interpersonal trust. More specifically, it shows that terrorist violence impacts our generalized trust levels depending on how close terrorist incidents occur and whether or not we are in a post-conflict country. The results show that the higher degree of *threat perception* from terrorism systematically lowers generalized trust across all contexts. But exposure to actual violence has more distinct effects on individual trust. Being physically close to actual terrorist events in a *non-post-conflict country* is found to increase an individual's generalized trust level. Quite the contrary, nearby terrorist events in a *post-conflict country* tend to lower generalized trust levels substantially.

This study paves a way to refine our understanding of factors that shape individual trust in post-conflict countries, where institution-building and recovery are already difficult. It also raises questions about the consequences of lower or greater levels of trust in these contexts. What may be the societal consequence of a low generalized trust due to terrorism?

Existing research on post-conflict peacebuilding suggests that peace is more sustainable if the

³¹The current version of the terrorist index incorporates the closeness and frequency of *all* terrorist events from a survey location. Each of these terrorist events is treated the same irrespective of their intensities. Can more intense terrorism produce a stronger or more exaggerated impact on the dependent variable? The results in Table 2(b) and 2(c) support this line of argument, where the coefficient for *terror scale* increases in magnitude and significance level when we consider only fatal terrorist incidents as opposed when including *all* terror incidents. In other words, terrorist incidents involving one or more deaths have greater impact on generalized trust compared to non-fatal incidents. We show in the supplementary information that the main result is robust to including terrorism intensity in the terror scale.

country waits for a year or two to hold the first post-conflict elections (Flores and Nooruddin 2012). The reason is that the time helps to cool off the anxiety level among the voters in these countries, who, as consequence, are less likely to vote in fear. One implication from this study is that terrorist violence in such a setting can reverse whatever societal trust they may have accumulated.

Although the paper uses randomized survey and the terrorist events are, by default seemingly random interventions, this is not an experimental design and therefore the claims made here are not causal. An important avenue of future research would be to experimentally alter the design of intervention and test the salience of the mechanism proposed in this study. This study also brings forth a number of questions that researchers can focus in the future. Can the increasing negative effects of perceived threat from terrorism lead to the collapse of societal trust even in a non-post-conflict country? What should be the duration of peace episode in a post-conflict country, after which we are likely to see an increase in generalized trust? Lastly, can repeated terrorist events even in a non-post-conflict country produce regional trust-levels that are similar to that of a post-conflict country?

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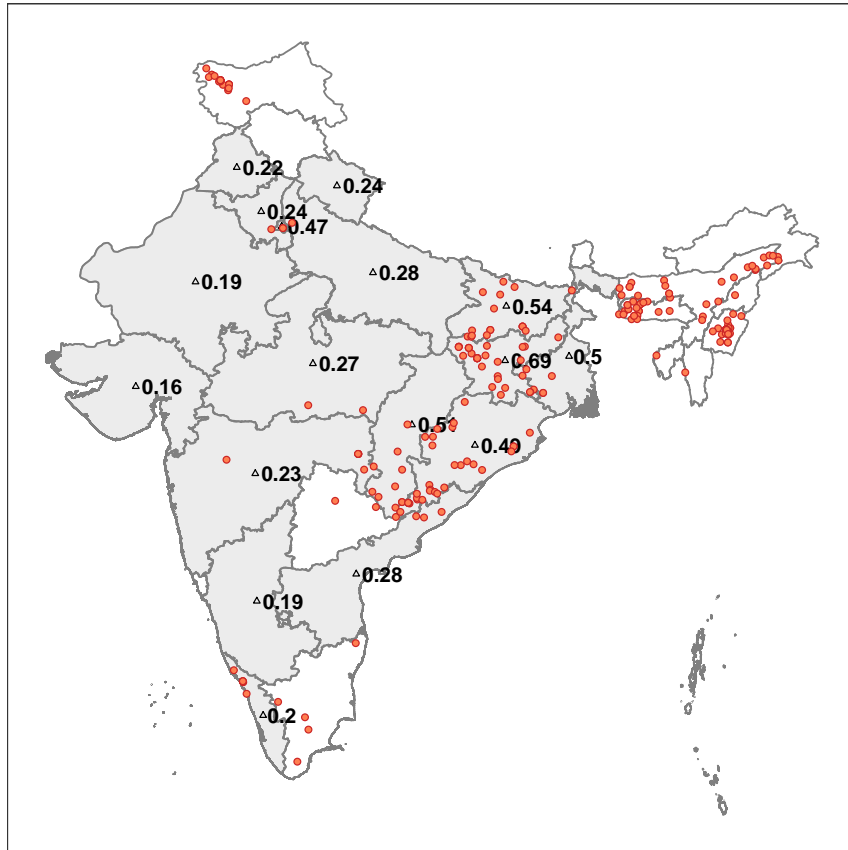
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Figure 1: Terror Scale for Survey Regions in India



Note: The shaded region in the figure above shows survey regions in India. Red dots are the terror incidents within six months from the survey date. Small triangle and the number beside it shows the terror scale for the region based on the distance and frequency of nearby terrorist events. Higher terror scale for a survey region indicates more frequent terrorist incidents in nearby areas.

Figure 2: Mean Generalized trust across countries

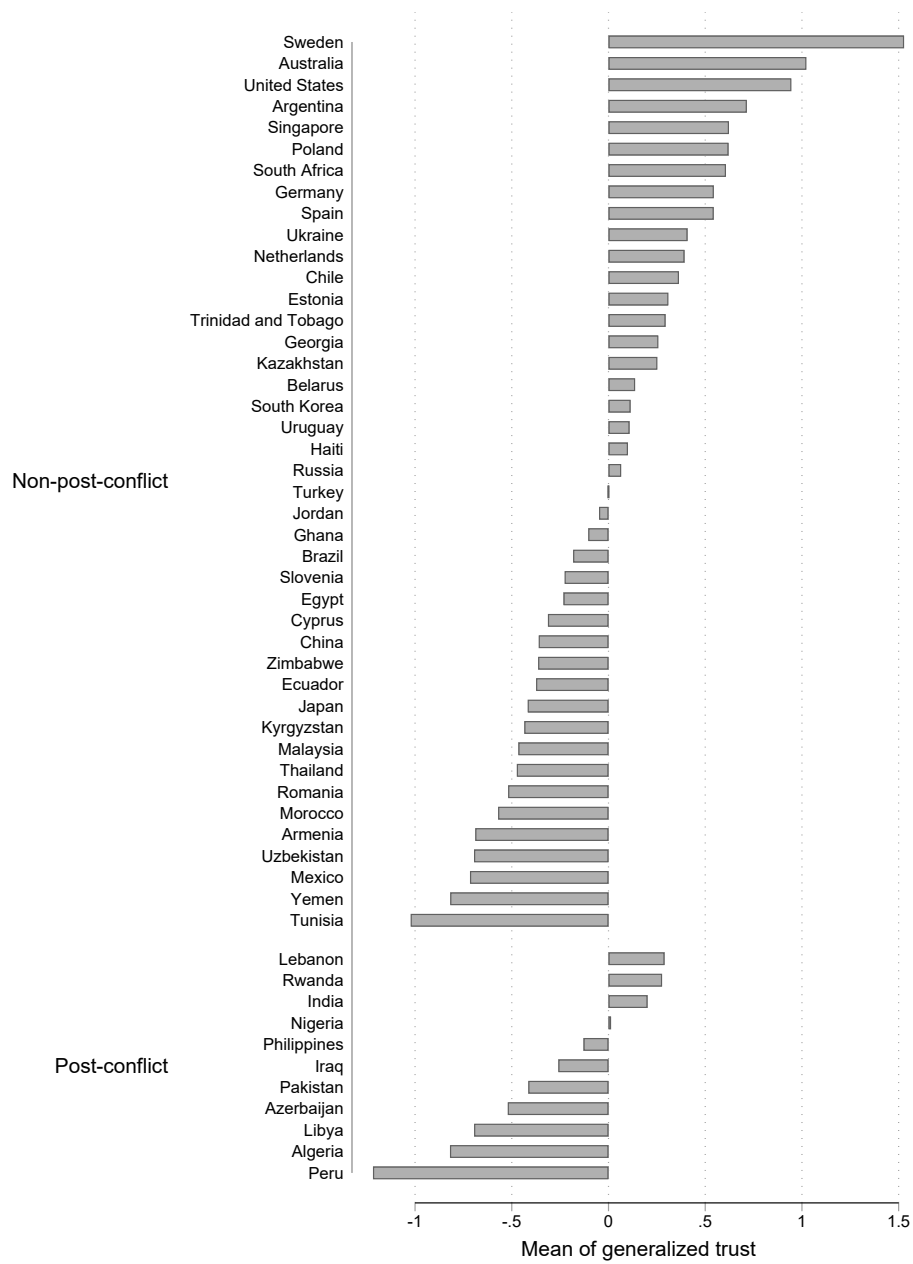
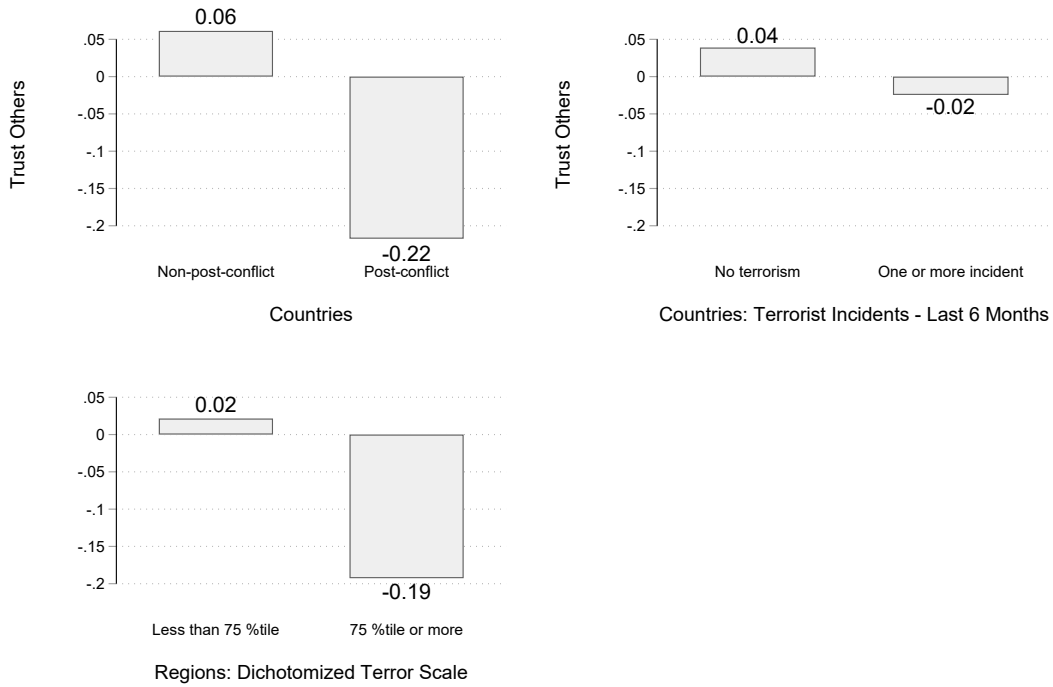
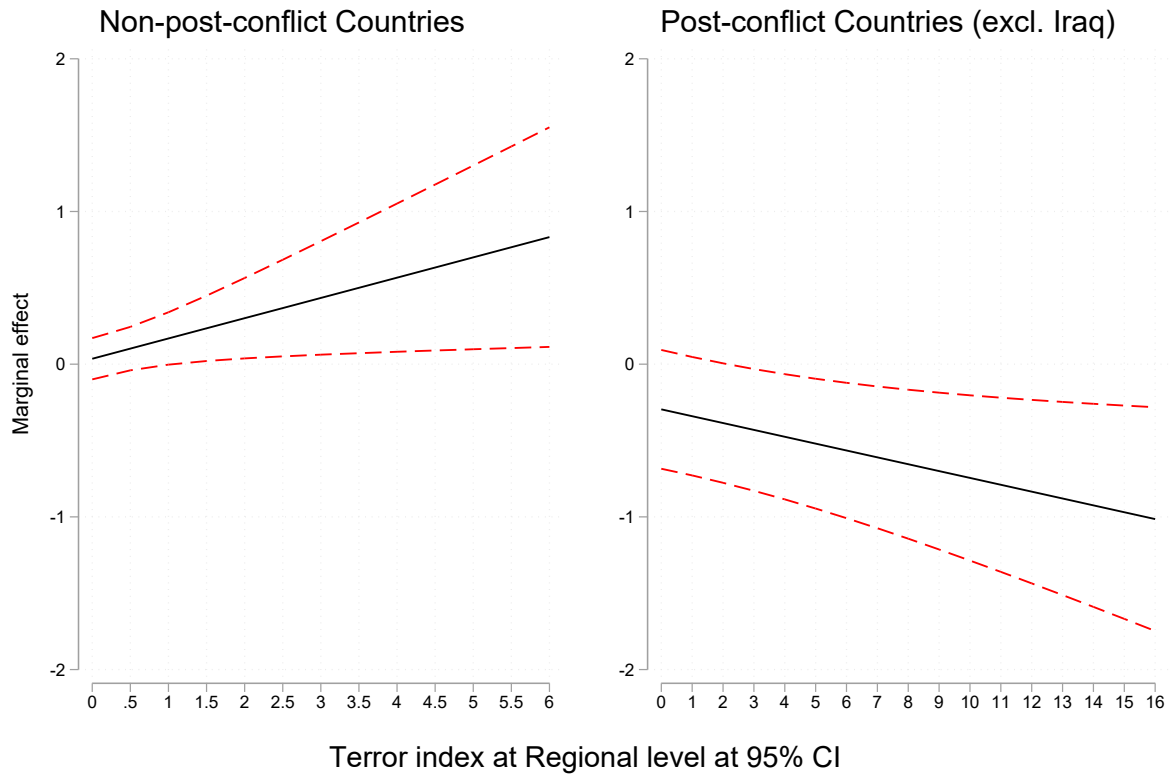


Figure 3: Mean Trust level by across countries and regions



Note: Bar graphs above shows level of generalized trust across indicated categories of countries and regions. Generalized trust index in the dataset ranges from a low of -2.9 to +3.8. They show that mean trust levels are lower in post-conflict countries, countries with one or more terrorism incidents, and regions with higher terrorist incidents in the last 6 months.

Figure 4: Effects of terrorist events at regional level on generalized trust



Note: Figure above are marginal effects of variable *terror scale* at the regional level in models 2 and 4 in Table 1

Table 1 Effect of actual terrorist violence (last six months) on *generalized* interpersonal trust

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Individual level)				
Threat perception	-0.077*** (0.012)	-0.073*** (0.013)	-0.085*** (0.031)	-0.112*** (0.032)
Emancipatory values	0.107*** (0.006)	0.117*** (0.007)	0.060*** (0.014)	0.045*** (0.015)
female	-0.060*** (0.011)	-0.046*** (0.012)	-0.116*** (0.023)	-0.113*** (0.024)
Age	0.006*** (0.000)	0.007*** (0.000)	0.002** (0.001)	0.002** (0.001)
Education level	0.051*** (0.003)	0.057*** (0.003)	0.034*** (0.005)	0.036*** (0.005)
(Regional level)				
Terror scale	-0.003 (0.002)	0.141** (0.063)	-0.003 (0.002)	-0.044** (0.021)
Regional Population	0.006 (0.009)	0.027*** (0.010)	-0.071*** (0.020)	-0.043* (0.022)
(Country level)				
Country population (log)	0.007 (0.040)	0.001 (0.045)	0.098 (0.127)	0.081 (0.139)
Polity	0.020* (0.011)	0.022* (0.012)	-0.018 (0.042)	-0.011 (0.046)
Constant	-0.621 (0.410)	-0.647 (0.465)	-1.284 (1.273)	-1.133 (1.401)
lns1_1_1	-0.839*** (0.106)	-0.867*** (0.122)	-0.621** (0.267)	-0.527* (0.282)
lns2_1_1	-0.983*** (0.036)	-1.023*** (0.041)	-0.862*** (0.078)	-0.870*** (0.081)
lnsig_e	0.254*** (0.003)	0.240*** (0.003)	0.296*** (0.006)	0.301*** (0.006)
AIC	212538	162887	49580	46237
BIC	212656	163001	49679	46334
Observation	63111	48768	14343	13339

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: The table above shows the effect of terrorism on generalized trust. These results exclude Egypt since some questions for emancipation were missing for the country. However, these results hold in the baseline model, which includes Egypt but excludes all other control variables.

Table 2(a) Effect of actual terrorist violence (last three months) on *generalized* interpersonal trust

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Regional level)				
Terror scale (3 months, all)	-0.006 (0.004)	0.260** (0.118)	-0.005 (0.004)	-0.053* (0.028)
AIC	212544	162893	49516	46179
BIC	212662	163007	49614	46276
Observation	63113	48770	14343	13339

Table 2(b) Effect of actual terrorist violence with at least one death (last six months) on *generalized* interpersonal trust

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Regional level)				
Fatal Terror scale (6 months)	-0.003 (0.002)	0.344* (0.180)	-0.003 (0.003)	-0.233** (0.106)
AIC	212545	162894	49516	46178
BIC	212662	163008	49615	46275
Observation	63113	48770	14343	13339

Table 2(c) Effect of actual terrorist violence with at least one death (last three months) on *generalized* interpersonal trust

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Regional level)				
Fatal Terror scale (3 months)	-0.006 (0.004)	0.767** (0.359)	-0.005 (0.005)	-0.224** (0.112)
AIC	213387	163738	49516	46178
BIC	213505	163852	49615	46276
Observation	63340	48997	14343	13339

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: Only key variables are shown in the above tables to facilitate easy comparison. Full models for 2(a), 2(b) and 2(c) are included in the supplementary information.

Should I Signal Trust? Effect of Terrorism on
Interpersonal Trust in Post-conflict and
Non-post-conflict Countries

Supplementary Material

This study explores the various effects of perceived and actual terrorist threats on generalized interpersonal trust. One of the findings in the empirical analysis shows that individuals with a high perceived threat from terrorism are more likely to express a lower level of trust towards others. But it does not systematically rule out the possibility of a reverse-causality, whether low-trust individuals may be the ones who express a greater level of the perceived threat and seemingly react strongly to actual terrorism. To examine if low-trust individuals react strongly to perceived threats from terrorism, I include two other variables to the main model in the following. According to past studies, the individual-level variables *authoritarianism* and *income level* correlate positively and negatively with individual trust levels. It is shown that individuals with high authoritarianism and low household income correlate strongly with low trust levels (Sullivan and Transue 1999; Leigh 2006). To measure authoritarianism, I rely on a battery of childhood value items in the WVS that asks respondents to pick from a list of 11 qualities they consider to be especially important for children to learn at home. Following prior studies (Feldman and Stenner 1997; Duckitt 1989), individuals who selected “obedience” as one of five most important values in children are considered pre-disposed authoritarians.¹ For the other variable individual *income level*, I use self-reported household income level from the WVS, ranging from lowest (1) to highest (10).

As shown in Table 1 below, the two variables, individual *authoritarianism* and *income level*, are both statistically significant and in the expected direction. The negative coefficient for the variable *authoritarianism* suggests that individuals who are higher on an authoritarianism scale are less likely to trust others. Similarly, a positively significant coefficient for the variable *income level* suggests that those with lower income levels are less likely to express generalized interpersonal trust towards others. While these control variables are statistically significant, including the two variables does not change the main results.

¹The other choices are independence; hard work; feeling of responsibility; imagination; tolerance, and respect for other people; thrift, saving money and things; determination, perseverance; religious faith; unselfishness; and self-expression.

Table 1 Testing Reverse Causality

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Individual level)				
Threat perception	-0.064*** (0.013)	-0.058*** (0.014)	-0.082*** (0.031)	-0.109*** (0.032)
Emancipatory	0.096*** (0.007)	0.109*** (0.007)	0.040** (0.015)	0.026 (0.016)
Female	-0.059*** (0.011)	-0.044*** (0.012)	-0.115*** (0.023)	-0.112*** (0.024)
Age	0.006*** (0.000)	0.007*** (0.000)	0.002** (0.001)	0.002** (0.001)
Education	0.047*** (0.003)	0.056*** (0.003)	0.023*** (0.005)	0.025*** (0.005)
Authoritarianism	-0.059*** (0.013)	-0.056*** (0.014)	-0.065** (0.028)	-0.056* (0.029)
Income level	0.034*** (0.003)	0.028*** (0.003)	0.054*** (0.006)	0.055*** (0.006)
(Regional level)				
Terror scale	-0.003* (0.002)	0.132** (0.062)	-0.003 (0.002)	-0.045** (0.021)
Regional population	-0.000 (0.010)	0.023** (0.011)	-0.071*** (0.020)	-0.043* (0.022)
(Country level)				
Population (log)	0.002 (0.041)	-0.004 (0.045)	0.102 (0.125)	0.084 (0.137)
Polity	0.022* (0.011)	0.022* (0.012)	-0.016 (0.041)	-0.009 (0.045)
Constant	-0.700* (0.416)	-0.705 (0.468)	-1.535 (1.254)	-1.389 (1.375)
lns1_1_1	-0.834*** (0.107)	-0.871*** (0.122)	-0.637** (0.269)	-0.547* (0.283)
lns2_1_1	-1.003*** (0.037)	-1.057*** (0.043)	-0.853*** (0.078)	-0.862*** (0.081)
lnsig_e	0.251*** (0.003)	0.235*** (0.003)	0.293*** (0.006)	0.297*** (0.006)
AIC	197402	148048	49273	45953
BIC	197536	148178	49386	46065
Observation	58715	44439	14276	13278

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: The table above shows the effect of terrorism on generalized trust levels. It shows that the key results hold when including the two variables individual *authoritarianism* and *income level*, which control for respondents' pre-disposed low generalized trust. In fact, including these variables increases the effect of the main variable *threat perception*.

Table 2 Effect of actual terrorist violence (last six months) on *generalized trust*, without control variables

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Individual level)				
Threat perception	-0.074*** (0.012)	-0.080*** (0.013)	-0.048 (0.029)	-0.066** (0.030)
(Regional level)				
Terror scale	-0.003 (0.002)	0.139** (0.062)	-0.003 (0.002)	-0.044** (0.020)
(Country level)				
Constant	-0.000 (0.074)	0.057 (0.085)	-0.289* (0.153)	-0.254 (0.175)
lns1_1_1	-0.659*** (0.103)	-0.636*** (0.116)	-0.737*** (0.240)	-0.648*** (0.251)
lns2_1_1	-1.001*** (0.036)	-1.048*** (0.042)	-0.871*** (0.077)	-0.878*** (0.080)
lnsig_e	0.262*** (0.003)	0.250*** (0.003)	0.301*** (0.006)	0.305*** (0.006)
AIC	227566	173342	54177	50539
BIC	227621	173395	54222	50584
Observation	67265	51614	15651	14564

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: The table above shows the baseline version of the main Table 1 in the paper, which are models without control variables. It shows that the key results hold even without adding the control variables.

Table 3(a) Effect of actual terrorist violence (last three months) on *generalized* interpersonal trust (Full models)

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Individual level)				
Threat perception	-0.077*** (0.012)	-0.073*** (0.013)	-0.085*** (0.031)	-0.112*** (0.032)
Emancipatory values	0.107*** (0.006)	0.117*** (0.007)	0.060*** (0.014)	0.045*** (0.015)
Female	-0.060*** (0.011)	-0.046*** (0.012)	-0.116*** (0.023)	-0.113*** (0.024)
Age	0.006*** (0.000)	0.007*** (0.000)	0.002** (0.001)	0.002** (0.001)
Education level	0.051*** (0.003)	0.057*** (0.003)	0.034*** (0.005)	0.036*** (0.005)
(Regional level)				
Terror scale (3 months, all)	-0.006 (0.004)	0.260** (0.118)	-0.005 (0.004)	-0.053* (0.028)
Regional population	0.006 (0.009)	0.027*** (0.010)	-0.070*** (0.020)	-0.043* (0.022)
(Country level)				
Country population (log)	0.007 (0.040)	0.001 (0.045)	0.098 (0.108)	0.086 (0.115)
Polity	0.021* (0.011)	0.022* (0.012)	-0.018 (0.036)	-0.012 (0.038)
Constant	-0.617 (0.411)	-0.640 (0.464)	-1.289 (1.083)	-1.194 (1.155)
lns1_1_1	-0.838*** (0.106)	-0.869*** (0.121)	-0.792*** (0.233)	-0.730*** (0.242)
lns2_1_1	-0.983*** (0.036)	-1.022*** (0.041)	-0.869*** (0.078)	-0.872*** (0.081)
lnsig_e	0.254*** (0.003)	0.240*** (0.003)	0.296*** (0.006)	0.301*** (0.006)
AIC	212544	162893	49516	46179
BIC	212662	163007	49614	46276
Observation	63113	48770	14343	13339

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3(b) Effect of actual terrorist violence with at least one death (last six months) on *generalized trust* (Full models)

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Individual level)				
Threat perception	-0.077*** (0.012)	-0.073*** (0.013)	-0.085*** (0.031)	-0.112*** (0.032)
Emancipatory values	0.107*** (0.006)	0.117*** (0.007)	0.060*** (0.014)	0.045*** (0.015)
Female	-0.060*** (0.011)	-0.046*** (0.012)	-0.116*** (0.023)	-0.113*** (0.024)
Age	0.006*** (0.000)	0.007*** (0.000)	0.002** (0.001)	0.002** (0.001)
Education	0.051*** (0.003)	0.057*** (0.003)	0.034*** (0.005)	0.036*** (0.005)
(Regional level)				
Fatal Terror scale (6 months)	-0.003 (0.002)	0.344* (0.180)	-0.003 (0.003)	-0.233** (0.106)
regionpop	0.006 (0.009)	0.027*** (0.010)	-0.070*** (0.020)	-0.043* (0.022)
(Country level)				
Country population (log)	0.007 (0.040)	0.001 (0.045)	0.100 (0.107)	0.083 (0.116)
polity2	0.021* (0.011)	0.022* (0.012)	-0.018 (0.035)	-0.010 (0.038)
Constant	-0.618 (0.411)	-0.646 (0.464)	-1.307 (1.077)	-1.137 (1.168)
lns1_1_1	-0.838*** (0.106)	-0.870*** (0.122)	-0.798*** (0.234)	-0.719*** (0.241)
lns2_1_1	-0.983*** (0.036)	-1.021*** (0.041)	-0.866*** (0.078)	-0.878*** (0.081)
lnsig_e	0.254*** (0.003)	0.240*** (0.003)	0.296*** (0.006)	0.301*** (0.006)
AIC	212545	162894	49516	46178
BIC	212662	163008	49615	46275
Observation	63113	48770	14343	13339

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3(c) Effect of actual terrorist violence with at least one death (last three months) on *generalized trust* (Full models)

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Individual level)				
Threat perception	-0.074*** (0.012)	-0.069*** (0.013)	-0.085*** (0.031)	-0.112*** (0.032)
Emancipatory values	0.106*** (0.006)	0.116*** (0.007)	0.060*** (0.014)	0.045*** (0.015)
Female	-0.060*** (0.010)	-0.046*** (0.012)	-0.116*** (0.023)	-0.113*** (0.024)
Age	0.006*** (0.000)	0.007*** (0.000)	0.002** (0.001)	0.002** (0.001)
Education level	0.051*** (0.003)	0.058*** (0.003)	0.034*** (0.005)	0.036*** (0.005)
(Regional level)				
Fatal Terror scale (3 months)	-0.006 (0.004)	0.767** (0.359)	-0.005 (0.005)	-0.224** (0.112)
Regional population	0.006 (0.009)	0.027*** (0.010)	-0.070*** (0.020)	-0.043* (0.022)
(Country level)				
Country population (log)	0.007 (0.040)	0.002 (0.045)	0.100 (0.108)	0.085 (0.115)
Polity	0.021* (0.011)	0.023* (0.012)	-0.018 (0.035)	-0.012 (0.038)
Constant	-0.622 (0.412)	-0.657 (0.468)	-1.306 (1.078)	-1.181 (1.155)
lns1_1_1	-0.834*** (0.106)	-0.860*** (0.122)	-0.797*** (0.234)	-0.731*** (0.242)
lns2_1_1	-0.983*** (0.036)	-1.022*** (0.041)	-0.866*** (0.078)	-0.873*** (0.081)
lnsig_e	0.254*** (0.003)	0.241*** (0.003)	0.296*** (0.006)	0.301*** (0.006)
AIC	213387	163738	49516	46178
BIC	213505	163852	49615	46276
Observation	63340	48997	14343	13339

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4 Effect of actual terrorist violence (last six months, excluding international terrorist events) on *generalized* interpersonal trust

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Individual level)				
Threat perception	-0.077*** (0.012)	-0.073*** (0.013)	-0.085*** (0.031)	-0.111*** (0.032)
Emancipatory values	0.111*** (0.006)	0.124*** (0.007)	0.059*** (0.015)	0.044*** (0.015)
Female	-0.063*** (0.011)	-0.051*** (0.012)	-0.115*** (0.023)	-0.112*** (0.024)
Age	0.006*** (0.001)	0.006*** (0.001)	0.002** (0.001)	0.002** (0.001)
Education	0.051*** (0.003)	0.057*** (0.003)	0.034*** (0.005)	0.036*** (0.005)
Religiosity	0.060*** (0.013)	0.084*** (0.014)	-0.012 (0.026)	-0.015 (0.027)
(Regional level)				
Terror scale	-0.003 (0.002)	0.140** (0.063)	-0.003 (0.002)	-0.045** (0.021)
Regional population	0.005 (0.009)	0.027*** (0.010)	-0.071*** (0.020)	-0.043* (0.022)
(Country level)				
Population (log)	0.008 (0.040)	0.004 (0.045)	0.128 (0.129)	0.110 (0.143)
Polity	0.020* (0.011)	0.022* (0.012)	-0.016 (0.041)	-0.009 (0.046)
Ethnic Fractionalization	-0.151 (0.275)	0.123 (0.314)	-0.780 (0.728)	-0.787 (0.810)
Constant	-0.591 (0.418)	-0.737 (0.487)	-1.241 (1.261)	-1.078 (1.407)
lns1_1.1	-0.837*** (0.106)	-0.860*** (0.121)	-0.631** (0.287)	-0.523* (0.305)
lns2_1.1	-0.982*** (0.036)	-1.020*** (0.041)	-0.862*** (0.078)	-0.870*** (0.081)
lnsig_e	0.253*** (0.003)	0.239*** (0.003)	0.296*** (0.006)	0.301*** (0.006)
AIC	212511	162848	49587	46244
BIC	212647	162979	49701	46356
Observation	63109	48766	14343	13339

Note: The table above shows the effect of terrorism on generalized trust. The models in the table are identical to main table in the manuscript (Table 1), but includes two other variables as controls, (1) *Religious level* from the World Values Survey (Inglehart et al. 2018), which is coded for 1 if respondents chooses “religious faith as the most important quality for children and 0 for choosing any other traits, and (2) ethnic fractionalization at the country level (Alesina et al. 2003). The coefficients in the table indicate that the main result is robust to such controls.

Including Intensity in Terrorism Scale

The increase in terrorism intensity, as measured by the number of fatalities, is expected to have a more significant impact on an individual's generalized trust. But this association may not be on a perfectly linear scale but closer to a logarithmic scale. For instance, a terrorist incident involving one death could have a substantively larger impact than a non-fatal terrorist event, as shown by the evidence in the main text. But the effects of two separate terrorist events involving 2 and 3 deaths may not be substantively different. In other words, the impact of the terror scale index on trust could be better operationalized with intensity on a log scale, as shown in the equation below. Table below shows result with *terror scale (including intensity)*:

$$\text{Error scale (Index) (including intensity)} = \sum_{i=1}^n \frac{\mathbf{n}_i}{\mathbf{Distance}_i}, \text{ where}$$
$$\left\{ \begin{array}{l} \mathbf{Distance}_i = \text{distance between survey location and terrorist event } i \\ \mathbf{n} = \log(\text{number of fatalities}+1) \end{array} \right.$$

Table 5 Effect of actual terrorist violence intensity (last six months) on *generalized* interpersonal trust

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Individual level)				
Threat perception	-0.077*** (0.012)	-0.073*** (0.013)	-0.085*** (0.031)	-0.112*** (0.032)
Emancipatory values	0.107*** (0.006)	0.117*** (0.007)	0.060*** (0.014)	0.045*** (0.015)
Female	-0.060*** (0.011)	-0.046*** (0.012)	-0.116*** (0.023)	-0.113*** (0.024)
Age	0.006*** (0.000)	0.007*** (0.000)	0.002** (0.001)	0.002** (0.001)
Education	0.051*** (0.003)	0.057*** (0.003)	0.034*** (0.005)	0.036*** (0.005)
(Regional level)				
Terror scale (with intensity)	-0.002 (0.002)	0.367** (0.185)	-0.002 (0.002)	-0.065* (0.034)
Regional population	0.006 (0.009)	0.027*** (0.010)	-0.071*** (0.020)	-0.043** (0.022)
(Country level)				
Country population (log)	0.007 (0.040)	0.002 (0.045)	0.099 (0.127)	0.084 (0.138)
Polity	0.020* (0.011)	0.023* (0.012)	-0.018 (0.042)	-0.012 (0.045)
Constant	-0.621 (0.410)	-0.654 (0.466)	-1.296 (1.269)	-1.175 (1.385)
lns1_1_1	-0.839*** (0.106)	-0.865*** (0.122)	-0.624** (0.267)	-0.538* (0.283)
lns2_1_1	-0.983*** (0.036)	-1.022*** (0.041)	-0.860*** (0.078)	-0.865*** (0.081)
lnsig_e	0.254*** (0.003)	0.240*** (0.003)	0.296*** (0.006)	0.301*** (0.006)
AIC	212539	162888	49581	46237
BIC	212656	163002	49679	46334
Observation	63111	48768	14343	13339

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: The table above shows the effect of terrorism on generalized trust. Terrorism scale index in the table includes three factors: frequency, closeness and log of intensity of all terrorism incidents from each survey location. Intensity is measured as the count of fatalities in each event.

Pro-choice values in place of Emancipatory values

Another recent study (Sokolov 2018) has re-evaluated the construct and external validity of the “Emancipatory value,” since the concept has been used a lot in the literature. While the author agrees with its conceptual link to “generalized trust” (p. 395), he doubts its generalizability in a cross-national context. He argues that the index’s four sub-dimensions are noninvariant across cultural zones and countries. But when using the Bayesian method, the author finds that one of the four sub-dimensions, choice or pro-choice values, truly exists and serves as a reliable benchmark for cross-national comparisons of the prevalence of a mass-level desire for emancipation. As in this study, Sokolov Sokolov (2018) measures choice or pro-choice values using three items in the survey: how acceptable respondents find (a) divorce, (b) abortion, and (c) homosexuality. Since the sample in this study is the cross-country World Values Survey, I cross-check the main findings by using this *Pro-choice values* in place of Welzel’s more comprehensive ‘*emancipatory values*’ in the main model. As shown in the table below, the key findings remain unchanged, indicating the robustness of the result.²

²Note that using pro-choice values increases the number of observations since there are fewer missing observations.

Table 6 Effect of actual terrorist violence (last 6 months) on *generalized* interpersonal trust — including *pro-choice values*

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Individual level)				
Threat perception	-0.076*** (0.012)	-0.075*** (0.013)	-0.064** (0.030)	-0.089*** (0.031)
Pro-choice values	0.070*** (0.005)	0.065*** (0.005)	0.089*** (0.012)	0.087*** (0.012)
Female	-0.038*** (0.010)	-0.023** (0.011)	-0.098*** (0.022)	-0.099*** (0.023)
Age	0.006*** (0.000)	0.006*** (0.000)	0.002** (0.001)	0.002** (0.001)
Education	0.055*** (0.003)	0.063*** (0.003)	0.033*** (0.005)	0.033*** (0.005)
(Regional level)				
Terror scale	-0.003 (0.002)	0.137** (0.063)	-0.003 (0.002)	-0.042** (0.021)
Regional population	0.013 (0.009)	0.033*** (0.010)	-0.060*** (0.020)	-0.035 (0.022)
(Country level)				
Population (log)	0.008 (0.040)	0.003 (0.046)	0.108 (0.128)	0.092 (0.141)
Polity	0.023** (0.011)	0.025** (0.012)	-0.020 (0.042)	-0.013 (0.046)
Constant	-0.678 (0.415)	-0.719 (0.475)	-1.391 (1.281)	-1.232 (1.418)
lns1_1_1	-0.826*** (0.106)	-0.842*** (0.121)	-0.613** (0.266)	-0.514* (0.281)
lns2_1_1	-0.985*** (0.036)	-1.024*** (0.041)	-0.868*** (0.078)	-0.876*** (0.081)
lnsig_e	0.255*** (0.003)	0.242*** (0.003)	0.295*** (0.006)	0.300*** (0.006)
AIC	221400	169975	51367	47976
BIC	221518	170089	51466	48074
Observation	65692	50825	14867	13850

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: The table above shows the effect of terrorism on generalized trust. The models here are the same as that in the main table of the manuscript (Table 1) except for variable *Pro-choice values*, in place of *Emancipatory values*. The similar results in the table indicate that the main result is robust to the different measures of emancipative values.

Table 7 Effect of actual terrorist violence (last six months, excluding international terrorist events) on *generalized* interpersonal trust

	All	Not Postconflict	Postconflict	Postconflict w/o outlier
(Individual level)				
Threat perception	-0.077*** (0.012)	-0.073*** (0.013)	-0.085*** (0.031)	-0.112*** (0.032)
Emancipatory values	0.107*** (0.006)	0.117*** (0.007)	0.060*** (0.014)	0.045*** (0.015)
Female	-0.060*** (0.011)	-0.046*** (0.012)	-0.116*** (0.023)	-0.113*** (0.024)
Age	0.006*** (0.001)	0.007*** (0.001)	0.002** (0.001)	0.002** (0.001)
Education	0.051*** (0.003)	0.057*** (0.003)	0.034*** (0.005)	0.036*** (0.005)
(Regional level)				
Terror scale	-0.003 (0.002)	0.140** (0.063)	-0.003 (0.002)	-0.045** (0.021)
Regional population	0.006 (0.009)	0.027*** (0.010)	-0.071*** (0.020)	-0.043** (0.022)
(Country level)				
Population (log)	0.007 (0.040)	0.001 (0.045)	0.098 (0.127)	0.081 (0.139)
Polity	0.020* (0.011)	0.022* (0.012)	-0.018 (0.042)	-0.011 (0.046)
Constant	-0.621 (0.410)	-0.647 (0.465)	-1.285 (1.273)	-1.140 (1.399)
lns1_1_1	-0.839*** (0.106)	-0.867*** (0.122)	-0.621** (0.267)	-0.528* (0.282)
lns2_1_1	-0.983*** (0.036)	-1.023*** (0.041)	-0.862*** (0.078)	-0.869*** (0.081)
lnsig_e	0.254*** (0.003)	0.240*** (0.003)	0.296*** (0.006)	0.301*** (0.006)
AIC	212538	162887	49580	46237
BIC	212656	163001	49679	46334
Observation	63111	48768	14343	13339

Note: The table above shows the effect of terrorism on generalized trust. The models in the table are identical to the main table (Table 1) in the paper except for the index variable *Terror scale*, which in the main table includes *all* terrorism events in the country, but here, excludes international terrorism—terrorism events carried out by perpetrators by crossing the border. While the theory is agnostic about the type of terrorism event, results on the above table show that excluding international terrorist events does not affect the main results.

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