

Does Trust Prevent Fear in the Aftermath of Terrorist Attacks?

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Abstract

This article examines the potentially buffering effect of generalized social trust on fear in the aftermath of terrorist attacks and in situations of terrorist threat. It draws on comparative, longitudinal survey data, examining the cases of the 2011 Utøya terrorist attack in Norway, the 2016 Nice attack in France and the 2017 Barcelona attack in Spain; it also draws on a comparative news story experiment that examined the bolstering effect of social trust in relation to terrorist threat. The results show that high levels of generalized social trust before exposure to terrorism are linked to lower levels of fear after the event. This relationship holds for the longitudinal survey data and the news story experiment, and across national contexts. This result indicates a general bolstering effect of social trust. However, the size of effects vary between national contexts and incidents of terrorism. This indicates that the effect of trust is dependent on the social and cultural structures of trust in the different countries and on specific factors related to the attacks.

Keywords: Trust, terrorism, fear, public opinion, resilience, Utøya, Barcelona, Nice.

Introduction

The threat of terrorism has become a permanent feature of public and political debates in the past few decades, and the question of how this threat affects citizens' political preferences and attitudes is of great interest. [1] Research on the political psychology of terrorism has increasingly emphasized the impact of emotions on people's political responses, and in particular, the role of fear.[2] Previous scholarship argued that fear reduces tolerance for outgroups,[3] increases support for hawkish foreign policies[4] and decreases political participation.[5] Given these potentially negative effects of fear, studying the preconditions for the development of fear among citizens in the context of terrorist attacks is important. This study delves into the relationship between generalized social trust before an attack and the fear of new attacks experienced in the aftermath. "Generalized social trust" is defined as "trust in people we do not know, and who are likely to be different from us." [6] We take as our point of departure existing evidence that generalized social trust may buffer fear in the wake of a terrorist attack. In the aftermath of the right-wing extremist terrorist attack in Norway on July 22, 2011, preexisting high levels of trust were shown to have a prophylactic effect on fear; that is, trust bolstered against the development of fear among individual citizens.[7]

We study three countries that have recently experienced terrorist attacks (Norway, France and Spain), using longitudinal and experimental survey data. Specifically, we examine the effect of generalized trust on fear after the terrorist attacks that occurred at Utøya in 2011, in Nice in 2016 and in Barcelona in 2017. By looking at three different national contexts, with different background histories and situations concerning terrorist attacks, we can gauge whether the buffering effect of trust found in Norway in 2011 reflects a general mechanism, or whether the effect is linked to this specific case or to features of Norwegian society. The article also examines the relationship between generalized trust and fear under the condition of terrorist *threat*, using a news story survey experiment conducted in these three countries in 2017.

Although the relationship between trust and fear may be general, and thus, valid across national and social contexts, the study of three countries and three different cases of terrorism also enables a discussion of whether characteristics of the context, such as aggregate levels of trust and fear, as well as previous and current experiences with terrorism, play a role in this relationship. In line with Barber,[8] we conceive of trust as a property not only of individuals but also of society, meaning that existing institutional, relational and cultural structures in a given society may, to a varying degree, be conducive to citizens' probability of trusting others, and influence the relationship between trust and fear.

The article contributes to the existing literature on the societal effects of terrorism, by examining generalized social trust as a factor that may serve to buffer the development of fear, not only in the Norwegian case but also more generally. The article also contributes to the use of unique longitudinal, experimental and comparative data that enable analyses of how factors preceding an attack impact reactions among the population.

Trust and the Regulation of Emotions: A Theoretical Perspective

Terrorist attacks and threats of future terrorism present citizens with complex stimuli, and emotional reactions may depend on a set of appraisals concerning the gravity of the attack, the danger of repetition and authorities' capacity to protect citizens in the future. Generalized social trust, in particular, might regulate emotions of fear in relation to terrorist attacks through processes of cognitive reappraisal. Defining generalized social trust as an individual characteristic, and as dependent on the social structure, we present the theoretical argument that individuals with high levels of are less fearful than other citizens in the context of terrorist attacks. The effect of trust is assumed to be dependent on characteristics of the social structure and the particular situation.

Social scientists have increasingly emphasized the role of emotions in political life, and investigated the influence of emotions in a wide array of political processes and outcomes, including information processing, trust and attitudes.[9] A growing literature also seeks to examine the interaction among emotions, norms and cognition in explaining outcomes in terms of political attitudes.[10] Although the role of emotions in cognitive attitudes is increasingly studied, the role of cognitive attitudes in emotions has not been investigated to the same degree. Studies of cognitive emotion regulation form a notable exception.[11]

Emotion regulation is defined as “the set of processes whereby people seek to redirect the spontaneous flow of their emotions.”[12] Emotion regulation can be deliberate, involving an effort to override spontaneous emotional responses, or can be automatic and effortless. Among diverse emotion regulation strategies,[13] a particularly relevant regulation strategy for this study is “cognitive reappraisal,” which involves rethinking the meaning of affectively charged stimuli or events in terms that alter their emotional impact. During cognitive reappraisal, people reduce the emotional impact of an event by changing their subjective evaluations of this event. From this viewpoint, as pointed out by Ochsner and Gross,[14] cognition and emotion are seen as interacting subsystems that are involved in emotional responses, entailing that individuals exert varying degrees and types of regulatory control over their emotions. Theories of emotion[15] underscore the role played by the interpretation or appraisal of an event in our emotional response. Cognitive emotion regulation alters the emotional response through the manipulation of the appraisal of the event. Reappraisal has been shown to be effective at reducing negative effects of emotion.[16]

Starting from this cognitive reappraisal perspective, we expect that trust influences reappraisal processes when individuals are confronted with threatening events. Trustful individuals can be expected to reappraise threatening events in a less threatening manner than less trustful individuals do, because trustful individuals have more positive expectations for other social actors. Following Castelfranchi and Falcone,[17] we consider trust a “layered relational construct,” involving psychological and social dimensions. The psychological dimension of trust is a mental and affective disposition toward others involving two basic types of beliefs: evaluations and expectations. Whereas such dispositions are relatively stable and formed through socialization, evaluations and expectations are partly socially shaped by the prevalent cultures of trust or distrust in a given context, and are partly dependent on the trustee.

Castelfranchi and Falcone's perspective on individual-level trust could be fruitfully combined with Barber's[18] perspective on trust as a social structure. Barber argued that specific institutional, relational and embodied (habitus) social structures influence expectations about the trustworthiness of unknown (generalized) others and institutions. According to Barber, three types of expectations are involved in trust: “The most general is the expectation of the persistence and fulfilment of the natural and moral social order. Second is the expectation of the technically competent role performance from those involved with us in social relationships and systems. Third is the expectation that partners in an interaction will carry out their fiduciary obligations

and responsibilities; that is, their duties in certain situations to place others' interests before their own.”[19] In this perspective, trust reflects the efficiency of society's normativity and morality, which enables a discussion of how different societies at different points in time may be conducive to finding others trustworthy and to trusting behavior.

Taking Barber's insights as a point of departure, when the three expectations about trustworthiness are fulfilled (i.e., when citizens get a strong sense of being within a moral social order, where individuals and institutions are expected to be willing to, and capable of, fulfilling their obligations), this should work as a strong impetus to reduce fear through cognitive reappraisal. Consequently, the buffering effect of trust could be assumed to be stronger in high-trust societies, such as Norway, than in low-trust societies, such as France and Spain. However, several caveats about this assumption should be mentioned in the context of terrorism. First, acts of terrorism may pose severe challenges to social trust in any country,[20] which means that generalized social trust might be just as disrupted in Norway under the condition of terrorism as in the two other countries. Second, factors pertaining to the attacks and the fear that these evoke, such as the danger of repetition, may also play a role in determining the role of trust in relation to fear. The strength of the present study is that we examine multiple cases of terrorism across time: in Norway, a right-wing attack with little chance of repetition; in France and Spain, Islamist attacks in a situation of continuous risk. Thus, this design may enable a discussion of the role of such context-specific factors.

The Context

This study is based on a three-country comparison of Spain, France and Norway, and is, at the same time, a study of three different cases of terrorism. Along with citizens in the other Nordic countries, Norwegian citizens typically express the highest levels of generalized social trust in international comparison,[21] as well as high levels of trust in politics and fair institutions.[22] France and Spain display substantially lower levels of social trust, as France is ranked among the low-trust societies, below Spain, which is in the middle group. [23] When it comes to institutional trust, France is situated in the middle, ranking lower than the Nordic countries, but a bit higher than countries such as Spain and Portugal.[24] Although the object of study in this article is generalized social trust, it is still of some contextual interest to present this information about levels of institutional trust as well, because levels of institutional trust may confer something about how citizens see the willingness and capability of their institutions to uphold the moral and social order. Moreover, a strong relationship is often found between levels of social trust and institutional trust in a society.[25]

The three terrorist attacks are distinct in terms of the ideology, scope and modus operandi of the terrorist or terrorist groups. The July 22 attacks in Norway (2011) were perpetrated by a lone-actor terrorist with a right-wing extremist ideology, and were directed against government buildings and a summer youth camp of the Labor Party at Utøya, using a homemade bomb and semiautomatic weapons. Altogether, 77 people died in the attacks, and more than 250 people were wounded. The Nice attack in 2016 was inspired by Islamic ideology, and was also carried out by a single terrorist, who drove a truck into a crowd during the July 14th national festivities, resulting in the deaths of 86 people and injury to 458. The Barcelona attacks in August 2017 were committed by an Islamic group, and involved van attacks in Barcelona and Cambrils, leaving 16 dead and more than 130 wounded. The explosion of a set of homemade bombs in a house in a nearby village the day before the attack was linked to the terrorist cell responsible for the attack.

All three attacks were likely to generate high levels of fear given that they were directed against civilians and involved the use of extreme violence. One main difference might be the danger of repetition. The Norwegian attacks were conceived mainly as an isolated incident of right-wing extremist violence, while the Nice and Barcelona attacks came as part of a wave of Islamist terrorist attacks in Western Europe. The Global Terrorism Database [26] reported 18 jihadist terrorist events in France in 2015 and 2016 (before Nice). Although there was just one reported incident in Spain in 2016 and 2017 (before Barcelona), we assume that the Barcelona attacks in Spain may have been conceived by citizens as part of a broader European wave. This might, in turn, have led to higher levels of fear of new attacks in France and Spain in 2016/2017 than was the case in Norway

in 2011.

This Study

To investigate the prophylactic role of generalized trust in fear generated by a terrorist threat, we combine *comparative, longitudinal* and *experimental* approaches. The longitudinal and experimental approaches allow for two different tests of the effect of generalized trust on fear, while the comparison among Norway, France, and Spain events enables control for potential contextual factors. The data do not allow us to test the psychological mechanism by which trust might regulate emotions, but allow us to inquire into whether the level of fear is lower for high-trusting individuals, and whether this effect is lower in high-trust societies in the aftermath of terrorist events and after exposure to a terrorist threat.

Generalized social trust is expected to have a prophylactic effect on anxiety in the analysis; that is, trustful individuals display lower levels of anxiety than less trustful individuals, when exposed to terrorist attacks or terrorist threats. We expect that this prophylactic effect may vary, depending on whether a society has a higher or lower level of generalized social trust, and according to the characteristics of the attacks in question. Thus, we present a hierarchical argument; that is, individuals who rank high or low in generalized social trust are nested within societies that have norms pertaining to trusting others.

Expectations about variations between national contexts may follow two different lines of thought. Trust may be more effective in societies where it is plentiful. High-trusting individuals may reap larger rewards when there are other trusting individuals, and a society with strong trust structures may also provide a stronger sense of security and cognitive reasons not to fear. Following this, the prophylactic effect of generalized trust should be stronger in Norway than in Spain and France, given that the former is a country with higher levels of social and institutional trust.

However, it may be that “a rising tide lifts all boats”; that is, individual-level trust matters less in high-trust societies, as everyone benefits from the high levels of trust (and social capital). Scholars have argued that individual trust seems to matter more in situations where there is less social capital,[27] because it becomes a distinctive individual resource in such contexts, and accordingly, more valuable. If this is true, then the effect of generalized trust on fear of terrorism should be stronger in Spain and France than in Norway. Adding to this argument is that Norwegian citizens may have been less reliant on trust in order not to experience fear in 2011. The Utøya attacker was quickly captured, and was not seen as linked to a larger network that could repeat the attacks, which meant that there was less immediate reason to fear new attacks in this context than what was presumably the case after the Nice and Barcelona attacks.

We examine the effect of generalized social trust on fear using two methods: a set of longitudinal surveys in France, Spain and Norway with pre- and post-measures linked to the Nice, Barcelona and Utøya attacks, respectively, and a news experiment embedded in a separate survey from 2017.[28] In the analysis, we ask three research questions (RQs) to answer with the use of these data:

RQ1: Does generalized social trust have a prophylactic effect on fear in the case of concrete terrorist attacks? (longitudinal data)

RQ2: Does generalized social trust have a prophylactic effect on fear in the case of exposure to a terrorist threat? (survey experiment data)

RQ3: Does the effect of trust on fear vary by national context? (longitudinal and survey experiment data)

Data and Method

Longitudinal Study

The longitudinal data are drawn from two separate surveys: the Social Media in the Public Sphere (SMIPS) survey from Norway (2011) and the Disruptive Events Survey (DES), collected as part of the comparative project Disruption, Social Capital and Resilience (RCN-SAMRISK II grant 238118), which covers Norway, France, and Spain (2015–2017). The SMIPS survey was fielded in 2011, and contains two waves of data: one collected before the Utøya attacks (in April 2011) and one collected three weeks after the event. For France and Spain, we make use of the DES, with pre-measures collected in December 2015 and post-measures after the terrorist attacks in Nice for France, and after the Barcelona attacks for Spain. The longitudinal analysis assesses respondents' generalized trust levels before the attacks (measured in April 2011 for Norway, in December 2015 for France and in January 2017 for Spain) on levels of fear measured after the terrorist attacks (August 2011 for Norway, July 2016 for France, and September 2017 for Spain). These data have a panel structure, which allows us to study within-individual variation over time, and allow us to investigate the differences characterizing the relationship between levels of generalized trust and levels of anxiety within these three countries. The panel data include 2,299 respondents for Norway, 393 respondents for France, and 674 respondents for Spain.

To assess respondents' degree of generalized social trust, they were asked to answer the following question: "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?" This question was measured on a 10-point scale for Norway in 2011 and on a 7-point scale for France in 2015 and for Spain in 2017.[29] To capture the emotional reaction to terrorism, respondents answered a question about egotrophic worry: "How worried are you about someone in your family or personally being a victim of a terrorist attack?" The question was measured on a 4-point scale ranging from "not at all worried" to "very worried."

Experimental Study

The experimental approach, based on identical survey experiments conducted in the Norwegian, French, and Spanish parts of the DES survey in 2017, allows us to test the existence of a mechanism linking generalized trust and anxiety in different national contexts. The experiments used news stories that presented an imminent terrorist threat. In the story, homeland security has disclosed a terrorist hideout, including concrete plans for a terrorist attack, and the terrorists are still on the loose (see the Appendix for a full description of the experiments).

The data consist of quantitative, representative web surveys in Norway, Spain and France. In the experiment conducted in the three countries, respondents were randomly assigned to four different groups. Three of the groups received identical news stories, describing the disclosure by the national security police of plans for a major terrorist attack in the country's capital city. The three stories were distinguished only by the type of perpetrator involved: an Islamist group of individuals who were born and raised in the country, an Islamist group of foreigners who had recently arrived in the country, and a right-wing extremist group in Norway and France or a Basque extremist group in Spain. The fourth group was a control group that received a neutral story about the finding of a mysterious stone slab with inscriptions. The news stories were modeled on real news stories describing a terrorist threat, and were designed to trigger a feeling of imminent threat. The questionnaire and the news stories were presented in Norwegian, Spanish and French, and country experts who were part of the project team ensured consistency across countries.

In the analysis, the three groups were collapsed and compared to the control group. The rationale for this analytical strategy was that the aim of the study was to examine the general effect of social trust on fear, the type of threat notwithstanding.[30]

To measure respondents’ emotional responses to the news stories, we used the emotional response battery developed by Marcus, Neuman, and Mackuen,[31] in which fear is measured with three items. After reading the story, respondents were asked: “How does what you have just read make you feel?” Respondents were then asked to indicate their responses using a slider format and a 7-point scale. The three fear items—feeling anxious, feeling scared, and fearing fearful—were combined into an additive index for the analysis.

The independent variable, generalized trust, was measured with the following question: “Generally speaking, would you say that most people can be trusted, or that you need to be very careful in dealing with people?” Respondents were then asked to indicate their responses using a slider scale, ranging from 1 (“You can’t be too careful in dealing with people”) to 7 (“Most people can be trusted”). The measure is identical to the one used in the longitudinal study.

Results

Based on our theoretical discussion, we expect that people who show higher levels of trust experience lower levels of fear as a result of a terrorist threat. The longitudinal analysis consisted of assessing the effect of generalized trust on the level of fear after the terrorist attacks, whereas the analysis of the experiment assessed whether individuals who have higher levels of generalized trust before exposure to a threatening news story display lower levels of fear after exposure.

Longitudinal Analysis

Table 1 shows the mean levels of generalized social trust and egotropic fear before and after the respective attacks in each country. Although we see an increase in social trust in Norway, there is stability in France, and seemingly a decline in Spain. Mean fear levels remain stable in France, and increase somewhat in Spain. In Norway, fear is at a lower level (the mean lies close to “somewhat worried”). We do not have a pre-measure for fear.

Table 1: Mean Trust and Personal Fear Before and After Terror Attacks (SMIPS and DES Data)

	Norway		France		Spain	
	Mean Before (April 2011)	Mean After (August 2011)	Mean Before (December 2015)	Mean After (August 2016)	Mean Before (December 2015)	Mean After (September 2017)
Generalized Social Trust	6.02 (.030)	6.86*** (.033)	3.00 (.035)	3.07*** (.050)	4.25 (.052)	4.04††† (.054)
Egotropic Fear	N/A	2.05 (.011)	2.81 (0.24)	2.85*** (0.29)	2.61 (.033)	2.89*** (.033)
N	5711	3150	2328	1000	681	673

*Two-sample t test with equal variances: *** prob diff < 0=0.000, ††† prob diff > 0=0.000*

Table 2 presents the results of the longitudinal analysis (linear regressions), measuring the effect of generalized trust before the three terrorist attacks under study, on the levels of egotropic fear experienced by the respondents in the aftermath of the attacks, controlling for individual background characteristics (age, gender, income and education).

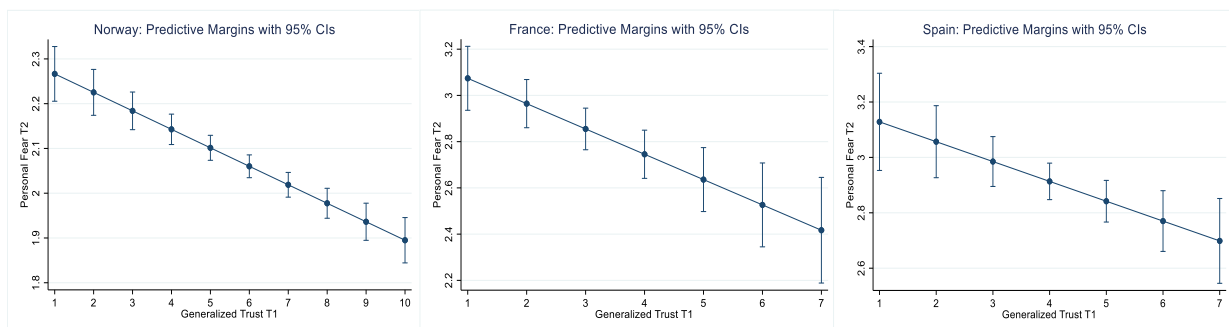
Table 2: Cross-Lagged Panel Linear Regression: Effect of Generalized Trust before Terrorist Attacks (T1) on Personal Fear after Terrorist Attacks (T2). Linear Regression (Standardized and Non-Standardized Coefficients and Standard Error)

	Norway		France		Spain	
	Non-standardized Coefficients	Standardized Coefficients	Non-standardized Coefficients	Standardized Coefficients	Non-standardized Coefficients	Standardized Coefficients
Age	.001 (.0008)	.023	.000 (.003)	.001	.004 (.002)	.060
Income	.003 (.008)	.008	.000 (.000)	.015	.040* (.019)	.080*
Gender (Male = 0)	.322*** (.026)	.248***	.061 (.095)	.061	-.181* (.066)	-.104*
Education	-.061*** (.011)	-.019***	-.042 (.022)	-.097	-.028 (.027)	-.041
Generalized trust (T1)	-.039*** (.005)	-.141***	-.101*** (.026)	-.189***	-.069** (.025)	-.103***
Constant	1.940*** (.073)	.000***	20.311*** (9.353)	.000	-4.840 (5.387)	.000
N	2299	2299	393	393	674	674

*** $p < .001$; ** $p < .05$; * $p < .10$

Table 2 shows that higher levels of generalized trust before the attacks are associated with lower levels of egotropic fear after the attacks in the three countries studied. This result indicates a prophylactic effect of generalized trust, which matches our expectations. Figure 1 further displays the predicted marginal effects of generalized trust on the fear of personally being harmed by future terrorism. The figure shows the predictions from the models (concerning levels of fear in the different countries at T2) while manipulating the values of a covariate (levels of generalized trust at T1). Consequently, the figure displays the effect of a discrete change in generalized trust at T1 on levels of fear at T2.

Figure 1: Predicted Marginal Effect of Generalized Trust before the Attacks on Personal Fear after the Attacks



The average effects are similar in the three countries, but are still somewhat stronger in France and Norway than in Spain. The difference in levels of fear when the lowest level of generalized trust and the highest level of generalized trust is compared is 0.8 on the fear scale for France, 0.5 points for Spain and 0.4 points for Norway,

and , respectively. Personal fear of being harmed by new attacks is lower in Norway than in the two other countries, but the slope is steeper in France than in the two other countries.

To come closer to the *effect* of generalized trust on the concrete response to the terrorist attack, we ran a linear regression on the effect of generalized trust controlling for fear at T1 for France and Spain. In the Norwegian study, there was no pre-measure for fear; thus, this analysis could be conducted only for the latter two countries. Results are in the expected direction, and significant, as displayed in Table 3.

Table 3: Effect of Generalized Trust before Terrorist Attacks (T1) on Personal Fear after Terrorist Attacks in Spain and France, with Control for Fear at T1. Linear Regression

	France		Spain	
	Non-standardized Coefficients	Standardized Coefficients	Non-standardized Coefficients	Standardized Coefficients
Age	.002 (.003)	.037	.003 (.002)	-.049
Income	.000 (.000)	.000	.028 (.016)	.055
Gender (Man = 0)	0.003 (.083)	0.002	-.082 (.057)	-.047
Generalized trust (T1)	-.049** (.025)	-.092**	-.043** (.021)	-.065** (.024)
Fear (T1)	0.496*** (.049)	0.492***	0.535*** (.033)	0.530***
Constant	14.160* (.211)	0.000*	-5.027 (4.591)	0.000

*** $p < .001$; ** $p < .05$; * $p < .10$

Based on these analyses, then, we can conclude only that there was a prophylactic effect of trust in the case of Spain and France. For Norway, the results are limited to showing that those who had higher levels of generalized social trust before the attacks expressed lower levels of fear after the attacks, as shown in Table 2.

Experimental Analysis

The experiments were designed to manipulate the presence of a terrorist threat, by presenting a constructed news story to respondents. The stories had an impact on the respondents. In the three countries, individuals who were exposed to the news stories reporting displayed, on average, a much higher level of anxiety than individuals exposed to a neutral story (the control group), as shown in Table 4. The treated and control groups displayed the same levels of generalized social trust before exposure to the experiment.

Table 4: Mean Social Trust and Anxiety Index for Control and Treated Groups

(Additive Index Scaled from 1 to 21)

	Norway		France		Spain	
	Control	Treated	Control	Treated	Control	Treated
Mean Trust	4.99 (.058)	4.99 (.033)	3.44 (.066)	3.41 (.037)	4.18 (.057)	4.21 (.035)
Mean Anxiety	5.16 (.146)	12.23*** (.094)	8.06 (.190)	13.28*** (.089)	6.56 (.177)	13.30*** (.101)

N	522	1541	494	1508	538	1462
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t-test of treated > control: *** $P > |t| = 0.000$

To examine the relationship between trust and reported fear within the context of the experiment, we ran a linear regression as shown in Table 5.

Table 5: Effect of Treatment and Generalized Trust on the Anxiety Index (Linear Regression)

	Norway		France		Spain	
	Non-standardized Coefficients	Standardized Coefficients	Non-standardized Coefficients	Standardized Coefficients	Non-standardized Coefficients	Standardized Coefficients
Treatment	6.128*** (.709)	.589***	6.999*** (.486)	.786***	7.313*** (.662)	.668***
Generalized trust	-.578*** (.118)	-.149***	.224** (.112)	.068***	-.040 (.130)	-.010
Treatment × Generalized Trust (Interaction)	.314** (.156)	.166***	-.502*** (.130)	-.234***	-.157 (.150)	-.031
Constant	8.056*** (.610)	0	7.256*** (.422)	0	7.041*** (.571)	0

*** $p < .001$; ** $p < .05$; * $p < .10$

Table 5 shows that generalized social trust reduces fear in Norway, and increases fear in France. The effect is not significant in Spain. Specific predictions for the control group compared to the treatment group (i.e., the interaction of generalized trust and the treatment for each level of trust) are shown in Figure 2.

Figure 2: Predicted Marginal Effect of Generalized Trust on Treated (Exposed to News Story about Terrorist Threats) and Control Groups

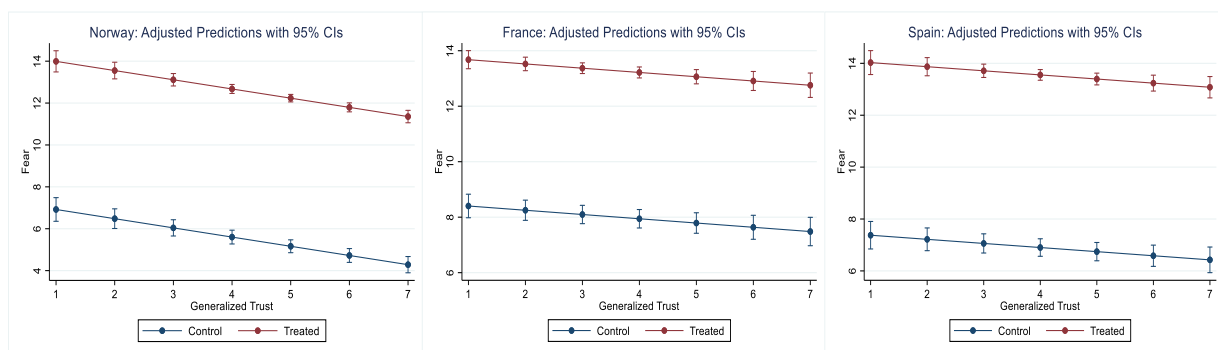


Figure 2 shows the predictions of the levels of fear for the treatment group and the control group in the three countries, while the levels of generalized trust are manipulated. The figure displays the effect of a discrete change in generalized trust levels of fear for both groups. It shows a negative relationship between generalized social trust and fear within the group that was exposed to the terrorist threat scenario, and the group that was exposed to the control story, in all three countries. The levels of fear are higher for the treatment groups than for the control groups in all three countries.

In order to take into account the heterogeneity of the effects of trust on fear, we have to look at the interaction term. The interaction term is significant for Norway and France, but not for Spain. The interaction effect is negative for France, whereas it is positive in Norway. This indicates that, in Norway, trustful individuals are generally less anxious, but get more anxious when exposed to terrorist threats. The overall combined effect of

being trustful and exposed to terrorist threat is to reduce anxiety (as illustrated in Figure 2). Conversely, in France, trustful individuals are, at the outset, more anxious than distrustful individuals. The combined effect of being trustful and exposed to terrorist threat is to reduce anxiety.

Discussion and Conclusion

In this article, we examined the potential prophylactic effect of generalized social trust on fear in the context of terrorism. The results from the longitudinal (RQ1) and experimental study (RQ2) provide partial evidence that trustful individuals are more likely to experience lower levels of anxiety than less trustful individuals, in situations where the individuals are exposed to concrete acts of terrorism or a terrorist threat.

This longitudinal study used data that measured trust *before* exposure to a real or experimental event and levels of fear *after* such exposure. The results showed, first, that citizens with higher levels of generalized trust before the terrorist attacks had lower levels of fear after the attacks, in all three countries. When controlling for fear at T1 in Spain and France, effects were in the expected direction and statistically significant. However, the analyses presented here cannot fully determine whether generalized trust impacts the reaction to terrorism in the form of fear, since we were not able to do the same analysis for Norway. Instead, the results demonstrate the stability of generalized social trust are linked to lower levels of fear, even under threatening conditions. Since we did a pre- and a post-test, generalized trust can be interpreted as influencing levels of fear, not vice versa. The finding that this relationship holds under conditions of terrorism indicates that trust may play an important role in bolstering against adverse reactions when societies are faced with disruptive events.

The results from the experimental study also show a statistically significant relationship between generalized social trust before news story exposure and expressed fear after the experiment in France and Norway - but not in Spain. The effects in France and Norway are distinct in the sense that in France there is a positive average effect of generalized social trust on fear, but a negative interaction effect. In Norway, we find the opposite; a negative average effect of social trust, and a positive interaction effect. This is indicative that, at least in an experimental situation, generalized social trust and fear may interact in different ways. Even though evidence is partial, the results from the experimental study still bolster findings from the longitudinal study, and indicate that the buffering effect of generalized social trust on fear may extend beyond the case of terrorism.

RQ3 raised the question whether the effects of trust vary by national context. The results support the theoretical assumption that the buffering effect of trust is general, and not exclusively linked to high-trust country contexts. An indication of this is found in the relatively strong consistency of the relationship between trust and fear across the three countries and in relation to threat and actual terrorist attacks. At the same time, the differences in effect sizes among countries indicate that social and normative trust contexts matter.[32] Although the differences are small, we found in the longitudinal study that the negative relationship between trust and fear was stronger in France than in Spain and Norway in relation to terrorist attacks. These findings do, however, not give unequivocal support to the argument that in conditions of lower aggregate trust, having trust is more important at the individual level, nor do the findings support the argument that generalized social trust has a stronger effect in high-trust contexts.[33] Still, it is interesting to note that within the high-trust and low-fear context of Norway, the act of trusting generalized others seems to have played a less distinctive role for regulation of emotions at the individual level than in the two other cases, especially compared to the French case. The low levels of fear in Norway may also have had specifically to do with the fact that the perpetrator was seen as an exception, and not as a representative of a continuous violent threat. Reacting without fear could then have been less reliant on social trust. Within the context of the massive Paris attacks that came as part of wave of terrorist attacks in France, generalized social trust may have had a more distinctive role to play.

The results of the experimental study tell a complementary story about the role of national context. In the Norwegian high trust/low fear context, it would appear that social trust provides a general protection against fear, but serves, to a lesser degree, as a distinctive resource when citizens are confronted with a terrorist threat. In France, which could be described as a high fear context at the time of the study, after a series of terrorist attacks in 2016-2017, generalized trusters are on average more fearful than others, but in the context of a

concrete terrorist threat generalized trust still serves as a buffer. These results, as well as the non-significant results in Spain, are indicative that the potential buffering effect of generalized social trust is context- and situation dependent.

It should be noted that many different factors may play a role in the reappraisal of emotions in a given context, and that we have not been able to include these in this analysis. Researchers have recently indicated that the interplay among norms, cognitions and attitudes may be very complex.[34] One such factor might be the “motivation to control prejudice,”[35] which might have led Norwegian high-trust responders to report lower fear than others. Research has also demonstrated the importance of cultural worldviews in regulating fear. [36] In the context of Norway, a strong cultural value structure linking trust, rationality, peacefulness and fearfulness post-2011 has been described.[37] Such historically forged value structures may differ between countries, and play a role when citizens are confronted with new threats of terrorism.

This study has several limitations. Given that we combined data from two different studies, there was a difference in the scales used to measure generalized social trust. The SMIPS survey used a 10-point scale, but the DES used a 7-point scale, which means that there is more variation in the Norwegian trust measure than in the measures for France and Spain. We also lacked a pre-measure for fear in the longitudinal Norwegian study, which means that we could test only the interaction between generalized trust and fear in the Spanish and French cases. Based on the available variables, we are not able to examine in detail the mechanisms through which cognitive appraisal takes place; analyses were limited to looking at the relationship between trust and fear at two points in time, under the condition of terrorism or terrorist threat. Future research should model the relationship among cognition, norms and emotions, using an expanded set of variables. It is also difficult to fully account for specific factors pertaining to the three terrorist attacks we investigated. This may have impacted the development of fear - for example, in terms of the modus operandi and ideology of the attackers, whether the act was committed by insiders or outsiders, and the danger of repetition. There is a need for additional comparative research that could include the comparison of a wider set of cases to assess the potential universality of the prophylactic effect of generalized social trust.

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Appendix

Description of Data Sets

Table A.1: *Longitudinal Study, SMIPS, 2011 and DES, Wave 1 (December 2015), Nice Wave (August 2016, France) and Barcelona (September, 2017, Spain)*

Time of survey	Norway	France	Spain
Before event	SMIPS survey, April 2011	DES survey, wave 1, December 2015	DES survey, wave 1, December 2015
After event	SMIPS survey, August 2011 (3 weeks after Utøya attack)	DES survey, Nice wave, August 2016 (4 weeks after attacks)	DES survey, Barcelona wave, September 2017 (4 weeks after attacks)
Response rate T1/ T2	66%	24%	44%
Total Panel N	N = 2299	N = 393	N = 674

Table A.2: *Survey Experiment Study, DES, Wave 2, January 2017*

(Random assignment to 1 of 4 conditions)	Norway	Spain	France
Terrorism manipulation	Terrorist threat <ol style="list-style-type: none"> 1. Islamic terror, native-born suspect 2. Islamic terror, foreign-born suspect 3. Right-wing terror, native-born suspect (n = 1541)	Terrorist threat <ol style="list-style-type: none"> 1. Islamic terror, native-born suspect 2. Islamic terror, foreign-born suspect 3. ETA terrorism, Basque suspect (n = 1508)	Terrorist threat <ol style="list-style-type: none"> 1. Islamic terror, native-born suspect 2. Islamic terror, foreign-born suspect 3. Right-wing terror, native-born suspect (n = 1462)
Control story	Mysterious stone slab (n = 521)	Mysterious stone slab (n = 494)	Mysterious stone slab (n = 538)
Total N	2062	2002	2000

News Story Experiment

Respondents were exposed to a news story about either an Islamist terrorist threat, or to a news story about a right-wing extremist threat (in Norway, France, or the Basque country in Spain) or to a control news story about a mysterious stone slab found in Mexico. For the news story about the Islamist terrorist threat, there were two versions, one describing homegrown terrorists and one describing terrorists coming from abroad; otherwise, the news stories were identical. All news stories were adapted with national versions of the names of cities and people.

Below, we display first the terrorist news story, with a slash [/] showing the variation between the homegrown scenario and the external scenario, and second, the control story. For the terrorist Islamic and right-wing news stories, we use the Norwegian version. We used the Basque version only in Spain.

Treatment: Terrorist threat [homegrown, external, right-wing extremist, Basque]

The two experiment groups received the same story, with the exception of information about the place of origin of the Islamist terrorists (see the brackets in the text).

We're interested in how people understand what they read in the news. Please read this recent article from a national newspaper and we'll ask you some questions about it afterwards

The Department of Homeland Security called for a press conference:

October 22, 2016

Fear of terror attacks in Oslo

The Department of Homeland security urges local law enforcement to increase surveillance after the discovery of suspicious documents in an Oslo apartment.

The documents purportedly plan a large-scale 9/11 style attack against a variety of public targets, including government building, schools, and athletic stadiums in Norway, said a spokesperson of the Department of Homeland Security when they today, on short notice, called a press conference.

Connections to [Islamist extremist/right wing extremist groups/ETA]

The apartment where the documents were found was rented to two young men [**who grew up in [Kongsvinger, the sons of immigrants from Iraq/who recently arrived from Iraq/from Hedmark/from San Sebastian]**]. According to sources we have spoken to, the two men are supposed to have ties with the [**Islamist State terrorist group/Right-Wing Extremist groups in Eastern Norway/the ETA]**. Documents found on their laptops are said to contain concrete plans for a major terrorist attack in Oslo in the coming weeks.

“We have reason to believe that the men could be working with [**Islamist State/right-wing extremist cells]** in other cities to attack civilians in one large event like the [**bombings in Paris in November 2015 or in smaller, coordinated events like the attacks in recent months in New York and New Jersey or in Brussels/Oklahoma City bombing or the Utøya attacks in Norway, or in smaller attacks in recent months such as the shooting at McDonald's in Munich]**], said the representative of the Department of Homeland Security.

Difficult to Prevent

There are a growing number of warnings from top security officials about the threat of a terror attack in Norway in the coming months. Officials fear a recent call to arms by [**the Islamist State/right wing terrorist/the ETA]** terror group may inspire a “lone wolf” attack. Lone wolf attacks are particularly hard for law enforcement to prevent and they can cause a great deal of destruction, says a representative of the PST to the newspaper.

The Department of Homeland Security is urging local law enforcement to increase surveillance and take precautions during large public gatherings. - Military bases are on high alert and being fortified as well. Major cities like Oslo are increasingly utilizing nuclear detection devices to identify potential dirty bombs, says the representative.

The Department of Homeland Security is asking citizens to be aware of their surroundings and immediately report suspicious individuals or packages to law enforcement when out in public.

The findings are of such a serious character that the authorities have chosen to inform the public, despite the danger of creating fear in the public.

The story will be updated as new information becomes available.

Control Group: Aztec Slab Stone

We're interested in how people understand what they read in the news. Please read this recent article from a national newspaper and we'll ask you some questions about it afterwards

Mysterious stone slab bears ancient writing

An ancient slab of green stone inscribed with insects, ears of corn, fish and other symbols is indecipherable so far, but one message is clear: It is the earliest known writing in the Western Hemisphere.

The ancient Olmec civilization probably produced the faintly etched symbols around 900 B.C., or roughly three centuries before what previously had been proposed as the earliest examples of writing in the Americas.

"We are dealing with the first, clear evidence of writing in the New World," said Stephen Houston, a Brown University anthropologist. Houston and his U.S. and Mexican colleagues detail the tablet's discovery and analysis in a study appearing this week in the journal *Science*.

The text contains 28 distinct symbols, some of which are repeated three and four times. The writing system does not appear to be linked to any known later scripts and may represent a dead end, according to the study.

"That's full-blown, legitimate text-written symbols taking the place of spoken words," said William Saturno, a University of New Hampshire anthropologist and expert in Mesoamerican writing.

Villagers in the Mexican state of Veracruz discovered the tablet sometime before 1999, while quarrying an ancient Olmec mound for road-building material. News of the discovery slowly trickled out, and the study's authors traveled to the site this year to examine and photograph the block.

"This is centuries before anything we've had. People have debated whether the Olmecs had any writing. This clears it up. This nails it for me," David Stuart, a University of Texas at Austin expert in Mesoamerican writing, said of the new find.

The find bolsters the early importance of the Olmecs, who flourished between about 1200 B.C. and 400 B.C., before other great Central American civilizations such as the Maya and Aztec.

"To me, this find really does bring us back to this idea that at least writing and a lot of the things we associate with Mesoamerican culture really did have their origin in this region," Stuart said.

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