

# The Impact of the November 2015 Terrorist Attacks in Paris on Public Opinion: A Natural Experiment

Michael A. Strebel\* and Marco R. Steenbergen\*

\*Department of Political Science, University of Zurich

March 24, 2017

## Abstract

Since 9/11, there is a renewed scholarly interest in the effect of terrorist attacks on public opinion. Social scientists analyze changes in a variety of perceptions such as perceived terror threat, trust in government and security policies. This paper analyzes the impact of the November 2015 terrorist attacks in Paris on public perceptions in Europe. We leverage a quasi-experimental setting in a Eurobarometer survey whose field phase coincided with the dreadful events in Paris. Employing both matching procedures and a regression discontinuity design, we analyze the causal effect of the Paris attacks on citizens' threat perceptions, trust in government and attitudes towards immigrants across European countries and we assess whether respondents react differently to the attacks depending on the local context they reside in. Across Europe, we find strong increases in citizens' threat perceptions after the attacks. The terrorist attacks have a stronger impact on personal threat perceptions of city dwellers than on residents of other areas. French people tend to "rally round the flag" and we might witness a turning point in Europeans' opinion towards refugees that has had important implications for politics and policies in Europe.

**Keywords:** Terrorism, Public Perceptions, Quasi-Experiment

# 1 Introduction

How do dramatic and highly visible events such as terrorist attacks affect public opinion? What is their impact on individuals' safety perceptions, their evaluation of political institutions, and their policy preferences? These questions have gained increased attention in the aftermath of 9/11.

Scholars have engaged in both experimental and non-experimental approaches to study these questions. What they generally agree on is that terrorist attacks have a strong impact on threat perceptions and safety evaluations (Bloch-Elkon, 2011; Finseraas and Listhaug, 2013; Sinclair and Antonius, 2013), that they can lead citizens to rally behind their government in the search for unity and security (Chanley, 2002; Lambert, Schott and Scherer, 2011) and they can even make citizens more intolerant and more supportive of illiberal practices (Echebarria-Echabe and Fernández-Guede, 2006; Davis and Silver, 2004; Bozzoli and Müller, 2011; Legewie, 2013).

In this paper, we leverage a quasi-experiment in the context of the Paris terrorist attacks of November 13, 2015: The Paris attacks occurred during the field phase of a standard Eurobarometer survey (European Commission, 2015). Using this exogenous event as a treatment, we analyze its effect on three types of attitudes: i.) threat perceptions ii.) trust in government and feeling of national attachment and iii.) attitudes towards immigrants. While we assess the treatment effect for the whole sample with two different identification strategies (propensity-score matching and a regression discontinuity design), we also engage in an analysis of causal heterogeneity across subsamples. More precisely, we test responses to the treatment differ based on an individuals' place of residence: If the latter resembles the location of the attacks - i.e. a larger city - we expect a stronger impact of the terrorist attacks on perceptions, than if the place of residence is less similar. The terrorist attacks in Paris had a strong impact on collective threat perceptions, there is evidence for a rally effect among French citizens as well as for a negative effect on attitudes towards immigrants among all Europeans. However, we only find evidence for the posited causal heterogeneity when it comes to personal threat perceptions of respondents.

## 2 Theoretical Argument

Terrorist attacks can have severe consequences for different groups in a society. Obviously, they cause physical harm to those killed or injured in an attack. Second, they also cause severe psychological harm among survivors and individuals that were directly involved in the attack. Third, however, they can - and are intended to - cause psychological harm among those indirectly affected by the attack: Individuals that are confronted with the events through media coverage. Indeed, Jackson (2011, 123) defines terrorism as “violence

or its threat intended as a symbolically communicative act in which the direct victims of the action are instrumentalized as a means of creating a psychological effect of intimidation and fear in a target audience for a political objective". Here, we are concerned with the effects of terrorist attacks on this last group of individuals - those indirectly affected by such attacks who learn about them mostly through the news media.<sup>1</sup>

Since 9/11 the effects of terrorist attacks on mass public opinion have been receiving increased attention by both psychologists and political scientists (Sinclair and Antonius, 2013). Scholars analyze how individual and collective threat perceptions change and evolve after an attack (Marshall et al., 2007; Bloch-Elkon, 2011; Sinclair and Antonius, 2012) and they shed a light on whether and how trust in incumbent governments and perceptions of national unity change after a terrorist strike (Chanley, 2002; Lambert, Schott and Scherer, 2011). The most important and interesting question, however, is how such events impact policy preferences. Scholars analyze how attitudes towards immigrants are affected by terrorist attacks and often find respondents to be less supportive of immigration after a terrorist attack (Echebarria-Echabe and Fernández-Guede, 2006; Legewie, 2013). Moreover, support for illiberal interrogation practices and restricting civil liberties at the expense of national security also tend to increase after terrorist attacks, especially among individuals that feel threatened (Davis and Silver, 2004; Huddy, Feldman and Weber, 2007; Bozzoli and Müller, 2011).

Most of the studies relying on a quasi-experimental setting have in common that they analyze the effect of a terrorist attack in the overall sample. They do not distinguish different geographical or functional subgroups.<sup>2</sup> At the same time, however, scholars agree that contextual factors matter a great deal for an individual's reaction to a terrorist attack. One to two months after 9/11, an estimated 11% of people living in the New York area showed symptoms of post traumatic stress disorder, compared to 4% of the people in the rest of the US (Sinclair and Antonius, 2012, 24). In a nation-wide population survey from November 2001, respondents living within a 100 mile radius of the World Trade Center reported a higher risk perception for a terrorist attack (Fischhoff et al., 2003). These examples show that contextual factors can shape the way an individual reacts to a terrorist attack.

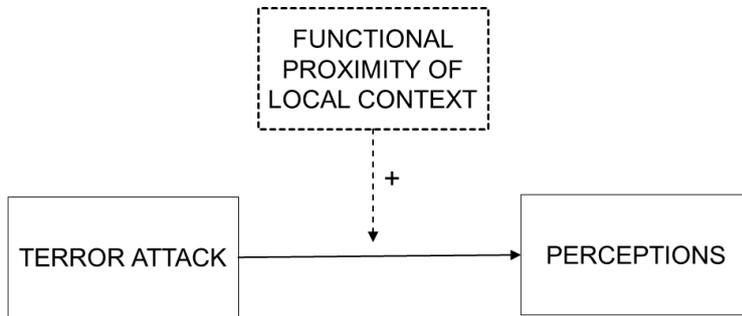
In this paper, we argue that besides physical proximity to the location of a terrorist event, functional proximity can also have an impact. We define *functional proximity* as a similarity in the characteristics of an individual's place of residence to the features of the place where a terrorist attack took place. When the local context an individual resides

---

<sup>1</sup>A fourth group that might face negative consequences as a result of a terrorist attack are minority groups that are tied to the perpetrators by majority groups. The prime example being muslims that face acts of retribution as a result of islamist terrorism.

<sup>2</sup>A notable exception is the study of Legewie (2013). In his analysis on the effect of the Bali attacks in 2002 on attitudes towards immigrants in Europe, he analyzes regional differences in mass publics' responses to the terrorist attack and indeed finds cross-regional differences.

**Figure 1:** Theoretical Model



*Note.* Own figure.

in strongly resembles the local context in which the event took place, it is more readily imaginable that such an event could also happen there. This functional proximity can in turn translate into a stronger reaction to the terrorist attack (see Figure 1 for a graphical depiction).

The contextual characteristic we look at in the case at hand is the degree of urbanity of an individual's place of residence. Since the attacks we analyze happened in the city of Paris - one of the most densely populated and urbanized municipalities in Europe and the world - we would expect a stronger reaction to the terrorist attack among individuals that live in large cities or metropolitan areas, compared to individuals living in rural areas or less densely populated suburbs.

In what follows, we present three different types of perceptions or phenomena that are usually studied in conjunction with terrorist attacks: i.) threat and problem perceptions, ii.) rally round the flag effects and iii.) attitudes towards immigrants. For each of them, we discuss in what sense functional proximity of local contexts as an intervening variable might play a role or not.

## 2.1 Threat Perceptions

Threat perceptions are frequently studied in conjunction with terrorist attacks. Sinclair and Antonius (2012) provide a comprehensive overview of the state of the art. As mentioned earlier, for a minority of the general population terrorist attacks can have serious impacts on their mental health: After 9/11, the number of people with symptoms of post-traumatic stress disorder (PTSD) increased both among directly and indirectly affected

individuals. Among the latter, heavy TV consumers had higher chances of exhibiting PTSD symptoms (Marshall et al., 2007).

A much bigger proportion of the population engages in an upwards adjustment of its evaluation of terrorism-related threat to their country or the likelihood that a terrorist attack happens in the near future (Sinclair and Antonius, 2012). While changes in these perceptions are found to be strongest among those living in the region or country affected by the event, individuals on the other side of the world can also be affected. Finseraas and Listhaug (2013, 220) show that the terrorist attacks on a hotel in Mumbai in 2008 led to a rise in the perceived likelihood of a terrorist attack of about ten percentage points on average among Western Europeans.

An important distinction has to be made with respect to personal and collective threat perceptions, because the former are less sensitive to terrorist attacks than the latter (Sinclair and Antonius, 2012, 89).<sup>3</sup> Bloch-Elkon (2011) shows that both personal and collective threat perceptions increased after the 9/11 attacks. Yet, personal threat perceptions are much lower than collective threat perceptions and they decline faster after the 9/11 events than the collective threat perceptions. Huddy et al. (2002) confirm the important distinction between personal and collective threat perceptions. Furthermore, they demonstrate that the impact of personal threat perceptions on evaluations of national security and the perceived future development of the economy is rather limited.

Based on these findings, we expect an increase in the number of people perceiving terrorism as a threat for them personally as well as for their political communities in the aftermath of the terrorist attacks in Paris. Our first hypothesis thus reads as follows:

H1: Terrorism-related threat perceptions increase significantly after the Paris attacks.

Further, we expect collective threat and problem perceptions to increase more strongly than personal threat perceptions.

H1<sub>a</sub>: Perceptions of terrorism as a threat for the political community increase more strongly than perceptions of terrorism as a threat for one personally.

Finally, we expect the strength of these effects to be different across different local contexts. As outlined above, not only physical proximity to such a dreadful event might increase the strength of its impact on perceptions but also functional proximity. The more your place of residence resembles Paris, the more readily imaginable it is for you that such an attack happens in your backyard as well. Furthermore, terrorists choose the location for their attack according to features like visibility and damage that can be caused. On both of these parameters, large cities rank much higher than small towns,

---

<sup>3</sup>Personal threat perceptions refer to the fear or the perceived probability that you become a victim yourself. Collective threat perceptions usually refer to the perceived probability that the country as a whole experiences a terrorist attack in the near future.

suburbs and rural villages. It is thus *rational* for individuals living in cities to feel more threatened by potential terrorist attacks. Our third hypothesis thus reads as follows:

H1<sub>b</sub>: Terrorism-related threat perceptions increase more strongly in large cities than in suburban or rural areas.

## 2.2 Rally Round the Flag

Not only threat perceptions are subject to change as an effect of terrorist attacks, but also evaluations of political elites or citizens' perceptions and orientations towards the political community.

A default reaction by political elites and news media after terrorist attacks and other dreadful events is on the one hand to condemn the culprits and ask for their prosecution and on the other hand to emphasize the unity and strength of the people and the country (or the political community they represent) in the face of danger. This behavior and rhetoric of political elites in times of crisis can lead significant portions of the public to “rally round the flag”, i.e. to show stronger support for incumbents in particular and for the political community in general in the aftermath of such an event (cf. Mueller, 1970; Lambert, Schott and Scherer, 2011).

Numerous scholars have analyzed the conditions and the contexts in which the rally round the flag-phenomenon occurs and they have done so from different perspectives. Baum (2002) shows that citizens with loose party ties and low political sophistication are especially prone to rally, because they are more easy to convince. Groeling and Baum (2008) focus on the role of the media in transferring elite messages to the public and highlight the fact that only *mediated* elite messages trigger rally effects. Lambert, Schott and Scherer (2011) analyze the role of anger for the probability of an individual to rally and find that anger about an event and not changes in perceived threat is the most important determinant of whether a person rallies or not.

While scholars come to different conclusions about what micro-level conditions cause rallying behavior among mass publics, they tend to agree on the macro conditions under which these effects are strongest. An event that triggers a strong rally effect has an international dimension (i.), it must be “specific, dramatic and sharply focused” (ii.) and it must require a reaction from incumbents (iii.) (Mueller, 1970, 21). The most prominent example of a strong rally effect is the change in approval of President Bush after 9/11. His popularity rose by “40 points in a matter of a few days, to 90%” after the terrorist attacks (Lambert, Schott and Scherer, 2011, 343). In a similar vein, also trust in the US government markedly increased as compared to the pre-attack levels (Chanley, 2002, 472). Large-scale terrorist attacks, thus, seem to represent a paradigmatic condition under which we might expect rally around the flag effects.

The terrorist attacks from November 2015 in Paris clearly fulfill the second and the third condition for triggering a rally round the flag effect: The attacks represent a concentrated event that is highly visible and they demand a reaction from government officials.<sup>4</sup> However, the first condition, the international dimension of the event, is debatable. Most of the attackers lived in France and some of them were French citizens. It could, thus, be argued that the terrorist attacks represent a domestic crisis and do not have an international dimension. Yet, the perpetrators were acting in the name of ISIS and the attacks were also framed as a reaction to France's engagement in the Syrian civil war. Already in the first public reactions of leading political figures, the terrorist attacks were framed as attacks on the French nation as a whole and as a declaration of war on France.<sup>5</sup> Only days after the events in Paris, the French government intensified its airstrikes against ISIS in Syria to previously unknown levels. The reactions of both the French government and political elites show that the terrorist attacks were clearly attributed an international dimension from the beginning. We can thus state that the Paris attacks represent a case in which we would expect rather strong rally effects.

However, we can not expect these effects to be present in all European countries that are analyzed here. Since rally effects are contingent on elite messages and their mediation by mass media (see Groeling and Baum, 2008), this phenomenon is likely to be present in France - where leading political figures engaged in a discourse of national unity and defense - but not in other European countries. While the head of states of other European countries expressed their condolences and offered help in finding the perpetrators after the attacks, they did not make similar appeals to national unity in their own countries. Furthermore, for this type of perceptions, we do not expect functional proximity to matter. The speeches of political actors are equally received in different local contexts. More importantly, since the speeches paint a picture of national unity - and not of local or regional unity, or of the strength of particular places - there's no reason to expect that city inhabitants are affected differently than residents of suburban or rural areas. Our second hypothesis is thus:

H2: In France, but not in other European countries, people "rally round the flag" in the aftermath of the Paris attacks.

---

<sup>4</sup>The Hollande government declared the state of emergency with restrictions on civil liberties and rule of law as an immediate reaction to the attacks. The state of emergency remains in force until today, also as a reaction to the terrorist attack in Nice in July 2016.

<sup>5</sup>Former French president Nicolas Sarkozy stated right after the attacks on Twitter that the terrorists declared war on France and that the French reaction must express firmness and determination in every moment (Original: "Les terroristes ont déclaré la guerre à la France. Notre réponse doit exprimer une fermeté et une détermination de chaque instant." <https://twitter.com/NicolasSarkozy/status/665325797519966208>).

## 2.3 Attitudes Towards Immigrants

Finally, we discuss the impacts of terrorist attacks on preferences for one particular policy, immigration. Attitudes towards immigration and immigrants have been analyzed in conjunction with terrorist attacks in numerous studies (Finseraas and Listhaug, 2013; Legewie, 2013; Jakobsson and Blom, 2014). In the new millennium terrorism in the “Western world” has been strongly associated with fatal attacks by Islamist extremists. Indeed, a look at the global terrorism database<sup>6</sup> shows that the attacks with the largest death tolls in the last two decades are predominantly committed by perpetrators with an Islamist ideology.

A number of studies has dealt with changes in mass opinion towards immigrants after large-scale terrorist attacks - expecting that orientations towards (Muslim) immigration would become more hostile after such an event: The rationale behind this conjunction is that terrorist attacks can activate fears or anger directed against certain groups that are perceived to be linked - in some or the other way - to the perpetrators. Legewie (2013) analyzes attitudes towards immigrants among European citizens before and after a terrorist attack in Bali 2002. He finds that attitudes towards immigrants become more negative after the attacks in some European countries and regions (i.e. economically weak regions with a large immigrant population) but not in others. In contrast, Finseraas and Listhaug (2013) find no change in attitudes towards immigrants among European citizens after the 2008 terrorist attacks in Mumbai. In both cases, the terrorist attacks did not take place in the world region in which the respondents live - even though Europeans were among the victims in both cases and the events received relatively extensive coverage by European media outlets.

Scholars analyzing the effects of terrorist attacks on mass public opinion towards immigration in the affected country or region find that attitudes towards immigrants become more negative when the attackers were Islamist extremists - as in the case of the Madrid 2004 terrorist attacks (Echebarria-Echabe and Fernández-Guede, 2006) - or that they become more positive when the attacker was a right-wing extremist belonging to the “majority group” in a country - as was the case after the terrorist attack by the right-wing extremist Anders Breivik in Norway 2011 (Jakobsson and Blom, 2014). The latter finding can be explained by the so-called “black sheep effect”: Individuals want to distance themselves from members of their in-group when they are negatively perceived in public discourse; for example by refusing the value orientations the attackers hold.

Attitudes towards immigrants or support for (illiberal) policies are intricately linked to individuals’ threat perceptions. In a survey among US citizens conducted shortly after 9/11, Davis and Silver (2004) found that individuals feeling more threatened were less supportive of upholding civil liberties. In a very similar study on individuals’ attitudes

---

<sup>6</sup><https://www.start.umd.edu/gtd/>

towards policies restricting civil liberties and increasing military activity in the aftermath of 9/11, Huddy, Feldman and Weber (2007, 143-148) find that among people who have a more insecure outlook on life, a high threat perception strongly increases support for illiberal migration policies, surveillance and overseas military activity. These findings suggest that terrorist attacks erode support for individual freedom - especially among those who feel threatened in the aftermath of such an event. This is in line with a more general pattern known in public opinion research: Threat perceptions have been found to be linked to political intolerance and support for more radical policies (Feldman and Stenner, 1997; Shambaugh, 2013).

For the case of the Paris attacks, we can thus expect that attitudes towards immigrants become more negative after the event. Shortly after the attacks there was little doubt that the perpetrators were acting in the name of islamist groups and ideologies. This in turn could have led many people to make a conjunction between immigration from countries in the near- and middle-east<sup>7</sup> and become more critical towards this development.

H3: Attitudes towards immigrants from outside Europe become less favorable in the aftermath of the Paris attacks.

For attitudes towards immigrants, we might expect different effects across different local contexts. Following our argument outlined in the beginning, we expect that the negative effect of the terrorist attacks on attitudes towards immigration is stronger in cities than in suburban or rural areas for two reasons. First, we expect threat perceptions to rise more strongly in cities than in suburbs or rural areas. If this is the case, we would also expect a stronger rise in the intolerance towards outgroups in these areas given the relationship between threat perceptions and intolerance discussed above. Second, city dwellers are known to generally have more liberal orientations and more positive attitudes towards immigrants. Living in such a context potentially leads individuals being less supportive of such value orientations to hold their opinions back - because they perceive them not to be appropriate in such a context. However, an event like a terrorist attack might activate such value orientations and lead more ambivalent individuals to switch to more negative attitudes. This effect might be stronger in cities than in suburbs or rural areas, where the general consensus often lies on more restrictive immigration policies and more conservative value orientations in general.

H3<sub>a</sub>: The negative change in attitudes towards immigrants is stronger in cities than in suburban or rural areas in the aftermath of the Paris attacks.

---

<sup>7</sup>As a consequence of the war in Syria, the movement of refugees from this region to European countries rose to unparalleled levels. In fall 2015 the number of people seeking refuge in Europe peaked.

## 3 Research Design

### 3.1 Data: The Paris Terror Attacks and the Eurobarometer Survey

At 9.50 pm on the evening of the 13<sup>th</sup> of November 2015, BBC started its "live of a series of attacks taking place in Paris." (BBC, 2015). By that time, dozens of people were already killed and many more seriously injured. The dreadful record of the attack are 130 killed and another 368 injured people. The events in Paris were the first large-scale terrorist attacks in Western Europe since the 2005 London tube bombings. For ten years, Western Europeans were spared by large-scale terrorist attacks directed at the general population.<sup>8</sup> Accordingly, the shockwave these attacks sent across Western Europe (and the world) were quite big. This is also reflected in the media coverage following the events: For the November 13 and 14 2015, a search for "Paris attacks" in the newspaper database LexisNexis yields 2416 articles for UK-based press only. A search for "Paris AND attentat" in the French-based press yields 921 articles in the same period. This massive amount of news coverage indicates that it was almost impossible not to learn about the terrorist attacks within a very short period of time.

The terror attacks in Paris occurred during the field phase of a standard Eurobarometer survey (EB). The EB opinion poll is conducted several times a year and assesses citizens' perceptions of EU institutions, European integration and EU policies (European Commission, 2015). EB 84.3 was conducted between November 7 and 17 2015. The survey was fielded in the 28 EU member states as well as in five candidate countries<sup>9</sup>. In each country, a stratified random sample of around 1,000 persons of the population aged 15 and older was drawn with whom Computer Assisted Personal Interviews (CAPI) were conducted. The stratification reflects the distribution of a country's population across NUTSII-units<sup>10</sup> as well as its distribution "in terms of metropolitan, urban and rural areas" (European Commission, 2015). The pre- and post-attack distribution for the French as well as for the overall sample and the different local contexts are shown in Table 1.

The almost 33000 interviews were conducted within 11 days. The terror attacks in Paris occurred between the seventh and the eighth day of data collection. Around one quarter

---

<sup>8</sup>We are by no means saying that "smaller" attacks are not worth mentioning. However, a difference between the events in Paris compared to other terrorist attacks in the years between 2005 and 2015 are both the targets as well as the scale. For example, in the attacks on Charlie Hebdo in January 2015, the targets were mostly journalists who were repeatedly threatened by islamist groups because of displaying caricatural representations of Mohamed. In contrast, the targets in the November 2015 attacks were "ordinary citizens" and there was no obvious reason for them to be attacked apart from living in a country whose military is involved in armed conflict with islamist groups in the Middle east.

<sup>9</sup>Albania, Macedonia, Montenegro, Serbia, and Turkey.

<sup>10</sup>NUTSII are the second highest regional level in the classification the statistical office of the European Union and represent the "basic regions for the application of regional policies" (EUROSTAT, 2017).

**Table 1:** Observations over Time

Date	France	Full Sample	Cities	Towns/Suburbs	Rural Areas
11/07/2015	157 (15.3%)	2605 (7.93%)	859 (7.56%)	888 (8.87%)	814 (7.83%)
11/08/2015	33 (3.22%)	2282 (6.95%)	751 (6.61%)	728 (7.06%)	734 (%)
11/09/2015	169 (16.47%)	3827 (11.66%)	1306 (11.49%)	1339 (13.38%)	1109 (10.67%)
11/10/2015	174 (16.96%)	4,191 (12.76%)	1506 (13.25%)	1189 (11.88%)	1312 (12.62%)
11/11/2015	36 (3.51%)	3,504 (10.67%)	1177 (10.36%)	965 (9.64%)	1135 (10.92%)
11/12/2015	211 (20.57%)	4,054 (12.35%)	1455 (12.80%)	1110 (11.09%)	1312 (12.62%)
11/13/2015	149 (14.52%)	3,794 (11.56%)	1302 (11.46%)	1140 (11.39%)	1226 (11.79%)
TREATMENT: PARIS ATTACKS					
11/14/2015	90 (8.77%)	3,430 (10.45%)	1134 (9.98%)	1088 (10.87%)	1096 (10.54%)
11/15/2015	3 (.29%)	2,716 (8.27%)	998 (8.78%)	765 (7.64%)	908 (8.73%)
11/16/2015	4 (.39%)	2,162 (6.58%)	745 (6.65%)	740 (7.39%)	672 (6.46%)
11/17/2015	– –	268 (.82%)	132 (1.16%)	59 (.59%)	77 (.74%)
Total	1026 (100%)	32833 (100%)	11365 (100%)	10011 (100%)	10395 (100%)

of the respondents in the full sample were interviewed after the attacks. This gives us enough leverage to analyze the effect of the terror attacks on respondents' perceptions. For the case of France, the distribution is more skewed, however. Less than 10% of the respondents were interviewed after the attacks. Analysis of the treatment effect in the French sample are thus fraught with higher uncertainty.

### 3.2 Operationalization

In section 2 we have discussed three types of perceptions that might be subject to change due to a terrorist attack: i.) threat perceptions, ii.) political trust and national attachment and iii.) attitudes towards immigrants. The EB contains several items that can be linked to one of these three groups of attitudes.

Table 2 provides an overview of the items we use here. Unfortunately, when it comes to terrorism-related threat perceptions, the EB does not include direct questions on a respondent's perceptions of terrorism as a *threat* for national security or for her personal

wellbeing. Yet, the EB contains so-called most important problem questions (MIP). More precisely, respondents were asked to choose two issues out of a list of thirteen issues that represent the most important problem at the moment for their country, for them personally and for the European Union. One of the issues on the list is terrorism. We thus analyze whether there is a significant increase in the amount of respondents choosing terrorism as one of the two most important problems.

While this is not an ideal measure, one could argue that the MIP questions tap into the same dimension as more established measures of threat perceptions: Indicating that terrorism is one of the two most important problems for one's country most likely reflects a heightened fear that a terrorist attack might occur in one's country. In that sense, the MIP questions can be seen as a more indirect measure of threat perceptions. If we thus find an effect for these perceptions, we can be rather certain that we would find effects with more precise measures of threat perceptions as well.

To assess whether the terrorist attacks in Paris led to rally effects we first and foremost rely on respondents' trust in their own government, which is a standard way to operationalize rallying (Chanley, 2002; Lambert, Schott and Scherer, 2011). An additional measure that we use to operationalize this concept is a respondent's attachment to his country. Unlike trust in government, national attachment is less subject to fluctuations and less dependent on current events than political trust. At the same time such feelings of national unity and pride are often evoked in speeches by public officials in the context of a terror attack. This was also the case in France in the aftermath of the terror attacks in Paris. We might thus witness an increase in feelings of national attachment.

Finally, to test our third set of hypotheses, we use two different items that capture respondents' attitudes towards immigration. In a rather general way, the first item asks respondents to report their feelings about immigration from people *outside of the EU*. The second item, more specifically, is directed at respondents' attitudes towards the prevailing refugee situation in fall 2015. They were asked, whether their country should help refugees or not. Both of these items can be seen as good indicators of attitudes towards a specific "out-group", namely immigrants coming from predominantly muslim countries in the Near and Middle East. As we have pointed out above, immigration from near- and middle-eastern countries was one of the most salient political and societal issues in fall 2015. When a respondent in this context is asked about her opinion on "immigration from outside of the EU" or about "helping refugees", she is most likely thinking about immigrants from this region.

To test the argument on functional proximity and on causal heterogeneity across different contexts, we rely on an indicator that distinguishes respondents' place of residence according to three categories: living in a large metropolitan area, living in a small town or suburb and living in a rural area. This indicator is based on postal code information

**Table 2: Question Wording**

Variable Name	Question Wording
<b>THREAT PERCEPTIONS</b>	
MIP Country: Terrorism	QA3a: What do you think are the two most important issues facing (OUR COUNTRY) at the moment? (6) Terrorism [0=not chosen, 1=chosen]
MIP Personal: Terrorism	QA4a: And personally, what are the two most important issues you are facing at the moment? (6) Terrorism [0=not chosen, 1=chosen]
MIP EU: Terrorism	QA5: What do you think are the two most important issues facing the EU at the moment? (6) Terrorism [0=not chosen, 1=chosen]
<b>RALLY ROUND THE FLAG</b>	
Trust: Government	QA8a: I would like to ask you a question about how much trust you have in certain media and institutions. For each of the following media and institutions, please tell me if you tend to trust it or tend not to trust it. (8) The (NATIONALITY) Government [0=tend not to trust, 1=tend to trust]
National Attachment	QD1a: Please tell me how attached you feel to... (2) (OUR COUNTRY) [1=very attached, 4=not at all attached; recoded: 1/2=1, 3/4=0]
<b>ATTITUDES TOWARDS IMMIGRANTS</b>	
Immigration: Outside EU	QB4: Please tell me whether each of the following statements evokes a positive or negative feeling for you. Immigration of people from outside the EU [1=very positive, 4=very negative; recoded, 1/2=1, 3/4=0]
Immigration: Help Refugees	QD11: To what extent do you agree or disagree with each of the following statements? (6) (OUR COUNTRY) should help refugees [1=totally agree, 4=totally disagree; recoded, 1/2=1, 3/4=0]

given by the respondent. Unfortunately, only this aggregated and rather unprecise indicator of a respondent’s place of residence is available (European Commission, 2015). For reasons of data privacy there’s no access to more detailed geocoded information on the respondents.

### **3.3 Identification Strategies: A Quasi-Experimental Setting**

The terrorist attacks from November 13 in Paris represent an event that is exogenous to the data collection in the survey. The event thus establishes a quasi-experimental setting with a control group consisting of respondents who answered the survey before the event and a treatment group consisting of respondents that answered the survey after it.

A fundamental problem of this setting is that a respondent’s membership in the control or the treatment group is not determined by the researcher. Rather, it results from the behavior of the interviewers which make contact with some respondents prior to and with others after the treatment. While unlikely, it is thus possible that respondents filling in the survey prior to the event differ systematically from respondents filling in the survey after the event. This would inhibit the possibility to attribute potential attitude changes to the occurrence of the event.

To circumvent the problem of non-random assignment of respondents to treatment and control group, we rely on two different identification strategies: propensity score matching and regression discontinuity design.

#### **3.3.1 Matching**

To determine whether the terrorist attacks in Paris really had an effect on mass publics’ perceptions, we need to make sure that the treatment and the control group are as similar as possible. Otherwise, we cannot infer that a potential difference between the two groups in the outcome variables is due to the treatment and not to some other factors. Matching is one way to circumvent the problem of assignment to treatment and control group. The idea of matching is to pick observations from the treatment and the control group that are as similar as possible and to compare the effect of the treatment among these observations. It can be used as a method of “strategic subsampling” of treated and control cases: For each observation that is treated, one or several control observations are picked which share the same set of  $\mathbf{X}_i$  observed characteristics (Morgan and Harding, 2006, 6). For each pair or group of matched observations, one can calculate the difference in the outcome variable. Doing so for all pairs or groups yields an average treatment effect - the average change in the outcome variable that is due to the treatment, in our case the terrorist attacks in Paris.

Table A.1 (France) and Table A.2 (Full Sample) contain descriptive statistics for core

socio-demographic variables (age, gender and education), as well as for political interest, left-right self-placement and media use. The control and the treatment group neither differ significantly in the French sample nor in the overall sample - with two exceptions: The treatment group in the French sample is slightly more educated than the control group. And in the overall sample, the amount of individuals using media daily<sup>11</sup> is six percentage points higher in the treatment group compared to the control group. Apart from these two indicators, there are no significant deviations between treatment and control group. We use these variables to match respondents that are as similar as possible on these different characteristics. This allows us to obtain an estimate of the average treatment effect of the Paris attacks on the different dependent variables discussed in subsection 3.2.

### 3.3.2 Regression Discontinuity Design

A drawback of matching is that it can only take into account *observed* differences between treatment and control group. However, these groups might differ in *unobserved* characteristics as well and these characteristics could in turn influence the outcome variable independently of the treatment. This is why we employ a second identification strategy, a regression discontinuity design. A regression discontinuity design (RDD) is based on the idea that an observed characteristic of an individual determines whether he belongs to the treatment or the control group (Angrist and Pischke, 2009). The discontinuity arises when the outcome variable is regressed on the observed characteristic upon which treatment status is conditioned. If the treatment has an effect on the outcome variable, we would observe a “jump” in the regression function at the value of the observed variable where treatment status switches from untreated to treated. In our case, the observed characteristic determining treatment status is the point in time  $Z$  at which a respondent was interviewed. If she completed the survey before the evening of November 13, she belongs to the control group ( $X=0$ ). By contrast, those who were interviewed after that time point belong to the treated group ( $X=1$ ). The value of the assignment variable  $Z$  thus perfectly determines the value of treatment variable  $X$ . If the terrorist attacks in Paris had an effect on public perceptions ( $Y$ ), we would expect a jump in the relationship between  $Z$  and  $Y$  when  $X$  switches from 0 to 1. Formally, this can be expressed in the following equation:  $Y_i = \alpha + \beta_1 X_i + \beta_2 Z_i + \beta_3 X_i Z_i + \varepsilon_i$ . Since  $X$  is perfectly determined by  $Z$ , the coefficient  $\beta_1$  of  $X$  represents the change in the outcome variable  $Y$  when we move across the threshold on the assignment variable  $Z$ .

---

<sup>11</sup>This measure is a dummy variable that we created based on a question about respondents’ use of different information sources (watching television on TV, watching television on the Internet, listening to radio and reading the written press). The variable equals one, when a respondent indicated to use any of these information sources at least once a day. It equals zero, when none of these information sources are used daily.

An important issue of regression discontinuity designs is the choice of an appropriate bandwidth, i.e. the value range of  $Z$  before and after treatment. The assumption underlying regression discontinuity designs is that individuals with  $Z$  values in the vicinity of the change in treatment status can be regarded as very similar and that both observed and unobserved confounders are distributed randomly across individuals close to this threshold. The further away we move on the assignment variable in both directions, the more dissimilar individuals become and the less “random” treatment assignment is.<sup>12</sup> Practically, it is very difficult to know what the appropriate bandwidth is. Therefore, it has become common practice to display results for different bandwidths. In our case, the bandwidth choice is restricted by both data availability and sample size. We have to rely on a very small bandwidth, because data collection in most countries stopped on the third day after the Paris attacks (11/16/2015). We thus choose a three day bandwidth on each side of the cut-off point (indicated by dashed lines in Table 1). While we cannot assess the impact of the bandwidth selection on the treatment effects and are thus incapable to analyze the development of the treatment effect over time<sup>13</sup>, for the short period we are analyzing, we have a substantial amount of observations. In this short time period, the core assumption of the RDD, random assignment to treatment and control group, is more likely to hold than over a long period of time.

## 4 Results

Did the terrorist attacks of November 13, 2015 in Paris have effects on individuals’ perceptions and attitudes? Can we confirm the findings of existing studies that tend to find considerable effects of terrorist attacks on public perceptions? We present the results for both the matching and the discontinuity regressions in the same order as we presented the hypotheses.

### 4.1 People Feel More Threatened

Recall our first set of hypotheses on threat perceptions. We argued that threat perceptions generally increase after the Paris attacks, that collective threat perceptions increase more strongly than personal threat perceptions and that we find a stronger increase in cities than in suburban or rural areas.

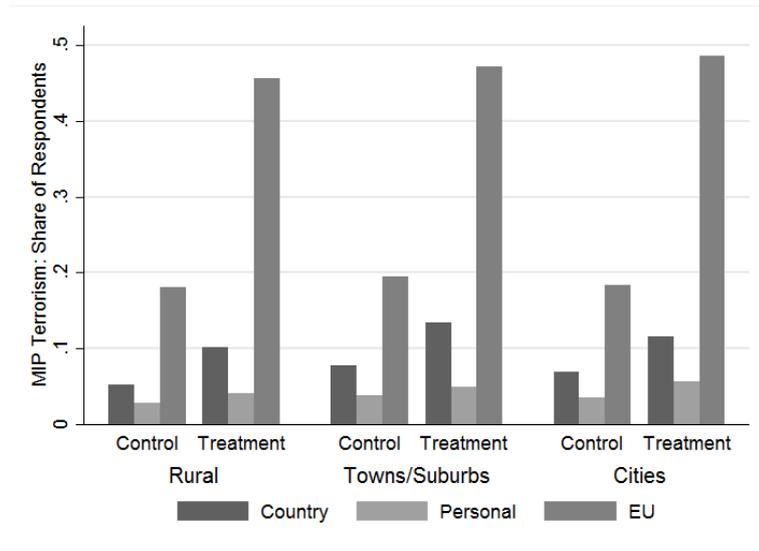
Figure 2 gives a first descriptive impression of the change in the share of respondents’

---

<sup>12</sup>This is also why the effects of the treatment on the outcome variable are called “local average treatment effects” in the regression discontinuity design. Strictly speaking, they only apply to the observations that are close to the cutoff point of assignment variable  $Z$ .

<sup>13</sup>Other studies on the impact of terror attacks use bandwidths of up to 20 days (see e.g. Legewie, 2013).

**Figure 2:** Threat Perceptions



*Note.* Own figure; Data Source: Eurobarometer 84.3

mentioning terrorism as one of the two most important problems. The figure yields descriptive support for our first two hypotheses (H1 and H1<sub>a</sub>): Terrorism-related problem perceptions generally increase but they do so much more for the country or the EU and much less for the personal level. Yet, for the third hypothesis on threat perceptions (H1<sub>b</sub>), there's mixed evidence at best. While the *level* of threat perceptions tend to differ across these local contexts, these differences are also somewhat reflected in pre-attack perceptions. Yet, when looking at personal threat perceptions, the figure indicates that there might be a larger increase in cities than in towns/suburbs and rural areas.

Are these descriptive assessments confirmed when we test our hypotheses with propensity score matching? Table 3 displays the results for this analysis. Across the board we find significant increases in respondents' threat perceptions as a result of the terrorist attacks, no matter whether we look at personal or collective threat perceptions or at different local contexts. But the size of the effects differs substantially across the different types of threat perceptions. While the share of respondents identifying terrorism as the most important problem for the country increases by 7.5 percentage points in the overall sample, the share of those identifying it as a the most important problem for the EU increases by 27.5 percentage points. By contrast, the share of respondents mentioning terrorism as one of the most important problems for them personally only increases by 2.6 percentage points. Differences across local contexts are negligible for collective threat perceptions - even if the order is the one posited in H1<sub>b</sub>: In cities the effects are generally strongest. Yet, for personal threat perceptions, we can see that the effect for the cities is double the size (3 percentage point increase) compared to small towns/suburbs and rural areas (1.5 percentage point increase).

**Table 3:** Propensity Score Matching: Average Treatment Effects for Threat Perceptions

		Full Sample	Cities	Towns/ Suburbs	Rural Areas
THREAT PERCEPTIONS					
MIP Country:	ATE	.075***	.079***	.069***	.076***
Terrorism	( $p >  z $ )	(.000)	(.000)	(.000)	(.000)
	N	25170	8798	7871	7745
	Matches (Min-Max)	1-21	1-14	1-10	1-9
MIP Personally:	ATE	.026***	.030***	.015***	.014***
Terrorism	( $p >  z $ )	(.000)	(.000)	(.000)	(.000)
	N	25170	8798	7871	7745
	Matches (Min-Max)	1-21	1-14	1-10	1-9
MIP EU:	ATE	.275***	.296***	.290***	.271***
Terrorism	( $p >  z $ )	(.000)	(.000)	(.000)	(.000)
	N	21889	8231	6803	6855
	Matches (Min-Max)	1-21	1-14	1-10	1-9

*Note.* Cell entries are average treatment effects. Estimates are obtained through -teffects psmatch- command in Stata; Observations are matched by age, gender, education, political interest, left-right self-placement, media use and country; \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ .

These results are largely confirmed when we use regression discontinuities as an identification strategy. Table 4-Table 6 contain the results for a multi-level logistic regression with random intercepts for the different countries. The perceptions of terrorism as the most important problem for the country increase significantly in the full sample and in the three subsamples. While the interaction effects of treatment and local context point into the expected direction, i.e. the effects in suburbs and rural areas are smaller, their effects are not significant. The same is true for the problem perceptions at the EU level. Yet, the treatment effect is not significant for the subsample of the rural areas. The results for respondents' personal problem perceptions confirm what is suggested by the results of the propensity score matching: Respondents living in large cities show a stronger reaction than respondents from suburban or rural areas. The interaction model shows a significant effect of the treatment for the baseline category of the local context (the cities) and strong negative interaction effects of the treatment variable with the other two local contexts - effectively erasing the effect of the treatment. Furthermore, when we turn to the subsample results, we can see that the effect for towns/suburbs and rural areas are negative and the effect for the cities is positive and almost significant with 95% confidence.

In sum, we do find support for our hypotheses H1 and H1<sub>a</sub>. Threat perceptions generally increase and they do so more strongly for the collective than for the personal level. While H1<sub>b</sub> needs to be rejected for collective threat perceptions, we find evidence that it might hold for personal threat perceptions: Respondents living in cities show stronger changes in personal threat perceptions than respondents residing in other local contexts.

**Table 4:** Multilevel RD: Most Important Problem for the Country: Terrorism

	Full Sample $\beta$ (p> z )	Cities $\beta$ (p> z )	Towns/Suburbs $\beta$ (p> z )	Rural $\beta$ (p> z )	Interaction $\beta$ (p> z )
Treatment	0.684*** (0.000)	0.768** (0.003)	0.672* (0.013)	0.644* (0.028)	0.758*** (0.000)
Time	-0.026 (0.642)	0.148 (0.128)	-0.136 (0.168)	-0.132 (0.205)	-0.034 (0.555)
Treatment*Time	0.277*** (0.000)	-0.023 (0.860)	0.435*** (0.001)	0.480*** (0.000)	0.292*** (0.000)
<i>Type of Community (B=Cities)</i>					
Rural Areas					0.073 (0.506)
Towns/Suburbs					0.157 (0.142)
Treatment*Rural Area					-0.060 (0.677)
Treatment* Towns/Suburbs					-0.174 (0.210)
Constant	-3.439*** (0.000)	2.902 (0.562)	-3.745*** (0.000)	-3.611*** (0.000)	-3.519*** (0.000)
N	19528	6788	5758	6290	18836
Countries	35	33	34	34	34
Log. Lik.	-4603.570	-1693.491	-1503.920	-1410.299	-4502.558
LR $\chi^2$	358.199	145.551	105.672	105.087	354.109
p > $\chi^2$	0.000	0.000	0.000	0.000	0.000

*Note.* Estimates are logit coefficients obtained through multi-level logistic regression with -xtmelogit- in Stata. \*p<.05 \*\*p<.01 \*\*\*p<.001.

## 4.2 Is There a French Rallying?

Our hypothesis for the second type of perceptions we analyze in this paper states that we find rally effects in France but not in other European countries. Again, Figure 3 shows the share of respondents with a moderate or strong national attachment and the share of respondents trusting the government before and after the Paris attacks. National attachment being already very high among French respondents prior to the terrorist attacks (over 90% feel moderately or strongly attached), we do not see a big change as a results of the terrorist attacks. This is different for trust in the national government. The government of François Hollande was very unpopular prior to the terrorist attacks (with under 20% of respondents tending to trust it). The Paris attacks brought a sweeping increase in trust of almost 20 percentage points.

**Table 5:** Multilevel RD: Most Important Problem EU: Terrorism

	Full Sample	Cities	Towns/Suburbs	Rural	Interaction
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
	(p> z )				
Treatment	0.847*** (0.000)	1.275*** (0.000)	1.109*** (0.000)	0.246 (0.142)	0.875*** (0.000)
Time	0.029 (0.416)	-0.040 (0.488)	-0.051 (0.434)	0.186** (0.002)	0.028 (0.420)
Treatment*Time	0.269*** (0.000)	0.211** (0.006)	0.328*** (0.000)	0.233** (0.004)	0.269*** (0.000)
<i>Type of Community (B=Cities)</i>					
Rural Areas					-0.020 (0.760)
Towns/Suburbs					-0.017 (0.804)
Treatment*Rural Area					-0.095 (0.281)
Treatment* Towns/Suburbs					0.013 (0.890)
Constant	-1.576*** (0.000)	-1.706*** (0.000)	-1.744*** (0.000)	-1.340*** (0.000)	-1.565*** (0.000)
N	16862	6294	5004	5564	16862
Countries	30	30	30	30	30
Log. Lik.	-9165.353	-3425.138	-2721.175	-3004.311	-9163.009
LR $\chi^2$	1556.707	590.357	476.912	493.605	1560.976
p > $\chi^2$	0.000	0.000	0.000	0.000	0.000

*Note.* Estimates are logit coefficients obtained through multi-level logistic regression with -xtmelogit- in Stata. \*p<.05 \*\*p<.01 \*\*\*p<.001.

The results of the propensity score matching do not confirm this picture (see Table 7). While the average treatment effect is small but significant for national attachment, it is insignificant for trust in government. However, this might be due to the small number of treated respondents (N=97). As one can see, the effect is sizeable (an increase of 12.5 percentage points in the share of respondents trusting the government), but significantly different from zero with only 93.7% confidence.

Turning to the results of the discontinuity regression we find a different picture (Table 8): Here, we find a significant and strong increase of trust in government.<sup>14</sup> At the same time the treatment effect for national attachment is not significant. This is in line with the descriptive evidence from Figure 3. In the overall sample, we find close to no

<sup>14</sup>The probability to trust the government is 4.4 times higher for treated compared to untreated respondents (Odds Ratio= $e^{1.478}$ ).

**Table 6:** Multilevel RD: Most Important Problem Personally: Terrorism

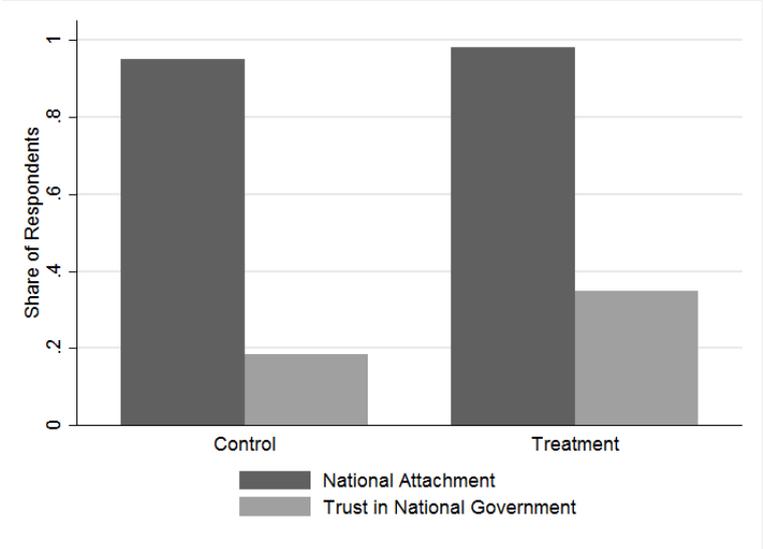
	Full Sample	Cities	Towns/Suburbs	Rural	Interaction
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
	(p> z )				
Treatment	0.200 (0.325)	0.613 (0.066)	-0.287 (0.443)	-0.060 (0.877)	0.451* (0.049)
Time	0.075 (0.287)	0.176 (0.150)	-0.155 (0.206)	0.211 (0.113)	0.067 (0.357)
Treatment*Time	0.071 (0.467)	-0.208 (0.211)	0.632*** (0.000)	-0.150 (0.428)	0.102 (0.305)
<i>Type of Community (B=Cities)</i>					
Rural Areas					0.073 (0.605)
Towns/Suburbs					0.159 (0.246)
Treatment*Rural Area					-0.416* (0.032)
Treatment* Towns/Suburbs					-0.516** (0.006)
Constant	-3.733*** (0.000)	-3.606*** (0.000)	-4.266*** (0.000)	-3.549*** (0.000)	-3.834*** (0.000)
N	19528	6788	5758	6290	18836
Countries	35	33	34	34	34
Log. Lik.	-2874.050	-1080.140	-893.254	-815.401	-2767.684
LR $\chi^2$	66.950	45.686	26.119	11.664	76.741
p > $\chi^2$	0.000	0.000	0.000	0.009	0.000

*Note.* Estimates are logit coefficients obtained through multi-level logistic regression with -xtmelogit- in Stata. \*p<.05 \*\*p<.01 \*\*\*p<.001.

rally effects as expected (see Table A.3-Table A.5 in the appendix). The only exception are significant increases in trust in government among respondents residing in cities and significant increases in national attachment among residents of rural areas. However, both of these effects can not be reproduced for the full sample with interaction effects. Furthermore, the LR  $\chi^2$  tests for model significance are only barely (trust in cities) or not significant (attachment in rural areas).

Overall, there is mixed evidence for rally effects after the Paris attacks in France - the results of the two identification strategies point into different directions. In other European countries, the Paris attacks did not produce significant changes in respondents' orientations towards the government and the nation.

**Figure 3: Rally Effects**



*Note.* Own figure; Data Source: Eurobarometer 84.3

**Table 7: Propensity Score Matching: Average Treatment Effects France**

RALLY ROUND THE FLAG		
Trust: National Government	ATE	.125
	(p> z )	(.063)
	N	797
	Matches (Min-Max)	1-8
National Attachment	ATE	.035***
	(p> z )	(.000)
	N	832
	Matches (Min-Max)	1-8

*Note.* Cell entries are average treatment effects. Estimates are obtained through -teffects psmatch- command in Stata; Observations are matched by age, gender, education, political interest, left-right self-placement and media use; \*p<.05 \*\*p<.01 \*\*\*p<.001.

**Table 8:** RD: Rally Effects France

	Trust Government	National Attachment
	$\beta$	$\beta$
	(p> z )	(p> z )
Treatment	1.478*	42.442
	(0.041)	(0.989)
Time	-0.352	-0.403
	(0.106)	(0.286)
Treatment*Time	0.396	-14.483
	(0.463)	(0.988)
Constant	-2.158***	2.215***
	(0.000)	(0.001)
N	468	491
Log. Lik.	-234.132	-84.181
LR $\chi^2$	14.700	17.348
p > $\chi^2$	0.002	0.001

*Note.* Estimates are logit coefficients obtained through logistic regression with -logit- in Stata. \*p<.05 \*\*p<.01 \*\*\*p<.001.

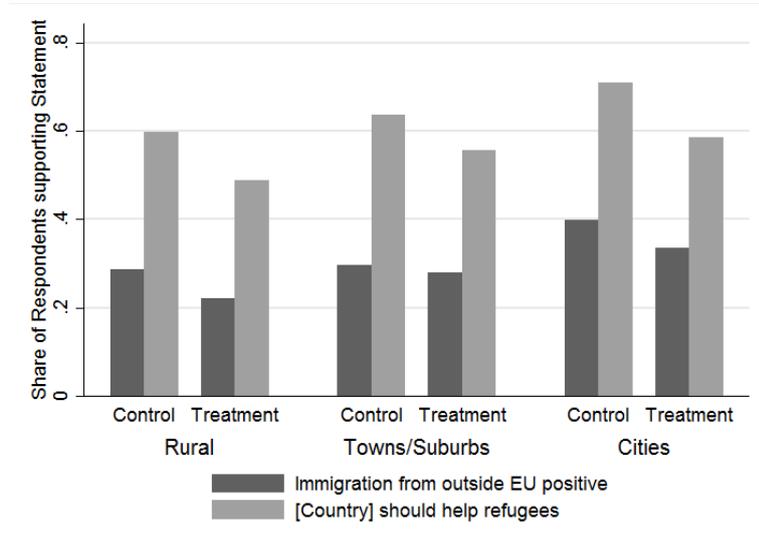
### 4.3 Immigrants and Refugees Less Welcome?

Our final set of hypotheses is concerned with attitudes towards immigrants. As a result of the Paris attacks we expect a decline of respondents' support for immigration from near- or middle-eastern countries (H3<sub>a</sub>) and we expect this decline to be stronger among city respondents compared to respondents residing in other local contexts (H3<sub>b</sub>). Figure 4 shows that there is a general decline of both support for immigration and for helping refugees. However, the decrease seems to be stronger for helping refugees. This could be due to the generally positive orientation towards refugees becoming less positive compared to generally negative orientations towards immigrants becoming more negative. In the latter case, we might witness a certain “floor” effect: When you're already low you cannot go much lower.

Again, evidence for the idea of functional proximity and H3<sub>b</sub> is mixed at best. While city dwellers generally have a more positive orientation towards immigration from outside the EU and towards helping refugees, the decrease of these positive orientations is not stronger here than in rural or suburban areas - with the exception of orientations towards immigration which do not change much in towns and suburbs.

In Table 9, the average treatment effects obtained through the propensity score matching are negative across the board. Support for immigration from outside of the EU decreases by 3.8 percentage points on average, while support for helping refugees decreases by 5.2 percentage points. The results also point to differences across different local contexts, but not in the way we expected. For respondents in rural areas - where functional proximity

**Figure 4:** Attitudes towards Immigrants



*Note.* Own figure; Data Source: Eurobarometer 84.3

**Table 9:** Propensity Score Matching: Average Treatment Effects for Attitudes towards Immigrants

		Full Sample	Cities	Towns/ Suburbs	Rural Areas
ATTITUDES TOWARDS IMMIGRANTS					
Immigration (from outside EU): Positive	ATE	-.038***	-.042***	-.030*	-.064***
	( $p >  z $ )	(.000)	(.000)	(.048)	(.000)
	N	20815	7799	6504	6512
	Matches (Min-Max)	1-21	1-13	1-10	1-9
Immigration: Help Refugees	ATE	-.052***	-.045***	-.042***	-.063***
	( $p >  z $ )	(.000)	(.000)	(.000)	(.000)
	N	21889	8231	6803	6855
	Matches (Min-Max)	1-21	1-14	1-10	1-9

*Note.* Cell entries are average treatment effects. Estimates are obtained through `-teffects psmatch-` command in Stata; Observations are matched by age, gender, education, political interest, left-right self-placement, media use and country; \* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$ .

to the location of the terrorist attacks is lowest - we do find the strongest effects. They are around 1.5 times stronger than in cities and almost double the size compared to suburban residents - at least for attitudes towards immigration from outside the EU.

**Table 10:** Multilevel RD: Immigration from outside EU positive

	Full Sample	Cities	Towns/Suburbs	Rural	Interaction
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
	(p> z )				
Treatment	-0.077 (0.420)	0.009 (0.956)	-0.338 (0.052)	0.047 (0.793)	-0.100 (0.347)
Time	-0.013 (0.667)	-0.044 (0.356)	0.076 (0.185)	-0.042 (0.444)	-0.014 (0.653)
Treatment*Time	-0.018 (0.696)	-0.006 (0.939)	-0.014 (0.866)	-0.076 (0.381)	-0.017 (0.720)
<i>Type of Community (B=Cities)</i>					
Rural Areas					-0.346*** (0.000)
Towns/Suburbs					-0.393*** (0.000)
Treatment*Rural Area					-0.051 (0.571)
Treatment* Towns/Suburbs					0.118 (0.188)
Constant	-0.839*** (0.000)	-0.674*** (0.000)	-0.814*** (0.000)	-1.032*** (0.000)	-0.616*** (0.000)
N	15849	5915	4713	5221	15849
Countries	30	30	30	30	30
Log. Lik.	-9004.795	-3557.824	-2653.826	-2760.226	-8959.915
LR $\chi^2$	18.334	9.334	3.951	16.227	108.104
p > $\chi^2$	0.000	0.025	0.267	0.001	0.000

*Note.* Estimates are logit coefficients obtained through multi-level logistic regression with -xtmelogit- in Stata. \*p<.05 \*\*p<.01 \*\*\*p<.001.

The results of the regression discontinuity design are generally not significant. From Table 10 we can see that the local average treatment effect of the terrorist attacks on support for immigration from outside the EU is not significant, neither in the full sample, nor in any of the subsamples. The significant effects in the interaction model only reflect the different “starting levels” across different local contexts. The evidence for helping refugees is more mixed (Table 11). We find a significant negative treatment effect among city dwellers but not for suburbanites or respondents from rural areas.<sup>15</sup> Finally, the

<sup>15</sup>Yet, for the rural areas, we find a significant negative effect of the interaction between treatment and time. This means that over the short three day period after the attacks, attitudes towards refugees have

**Table 11:** Multilevel RD: Help Refugees

	Full Sample	Cities	Towns/Suburbs	Rural	Interaction
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
	(p> z )	(p> z )	(p> z )	(p> z )	(p> z )
Treatment	-0.160 (0.076)	-0.427** (0.007)	0.126 (0.437)	-0.158 (0.304)	-0.223* (0.030)
Time	0.018 (0.556)	0.025 (0.630)	-0.057 (0.292)	0.077 (0.125)	0.017 (0.578)
Treatment*Time	-0.101* (0.022)	-0.002 (0.982)	-0.060 (0.452)	-0.236** (0.002)	-0.102* (0.021)
<i>Type of Community (B=Cities)</i>					
Rural Areas					-0.314*** (0.000)
Towns/Suburbs					-0.255*** (0.000)
Treatment*Rural Area					0.055 (0.512)
Treatment* Towns/Suburbs					0.137 (0.117)
Constant	0.775*** (0.000)	0.980*** (0.000)	0.526** (0.009)	0.792*** (0.000)	0.955*** (0.000)
N	16862	6294	5004	5564	16862
Countries	30	30	30	30	30
Log. Lik.	-9837.937	-3390.720	-2983.427	-3471.811	-9812.604
LR $\chi^2$	67.694	28.134	14.486	34.760	117.165
p > $\chi^2$	0.000	0.000	0.002	0.000	0.000

*Note.* Estimates are logit coefficients obtained through multi-level logistic regression with -xtmelogit- in Stata. \*p<.05 \*\*p<.01 \*\*\*p<.001.

interaction model suggests a significant negative effect of the treatment that becomes more negative over time (significant interaction of treatment and time). Yet, there's no significant difference of the effect across different local contexts - even if the subsample analysis gives this impression.

In sum, the results presented here indicate are mixed. If anything, the indicate that attitudes towards immigrants have become slightly less favorable as a result of the terrorist attacks in Paris - over a very short period of time. This lends some support to hypothesis H3<sub>a</sub>. However, when it comes to the difference of effects across different contexts, we do not find support for hypothesis H3<sub>b</sub>. To the contrary, the results of the propensity score matching suggest that the negative attitude change has been the strongest among those become significantly more negative in rural areas.

living in a context that is least proximate to the one in which the attacks happened.

## 5 Discussion

In this paper we have assessed the causal effect of the terrorist attacks of November 2015 in Paris on threat perceptions, rallying around the flag, as well as attitudes towards immigrants. While we expected all of these perceptions to change as a result of the attacks, we also expected these changes to be stronger for city dwellers than for residents of other localities: Living in a local context that resembles the one in which the attacks took place render it more readily imaginable that such an attack might also take place at one's place of residence.

In an analysis of Eurobarometer survey data for the EU-28 and candidate countries, we find strong treatment effects for collective threat perceptions but only small effects for individual threat perceptions. The strength of the latter is also differentiated according to respondents' place of residence. City dwellers feel more threatened by terrorism as a result of the attacks than respondents in suburban and rural areas. French respondents seem to have become more trustful of their government as a result of the attacks but not respondents in other countries. Finally, attitudes towards immigrants tend to be more negative as a result of the attacks. Yet, this effect is not stronger among city dwellers. To the contrary, there's evidence that among respondents from rural areas, which resemble the least the location of the attacks, show the strongest preference change.

In sum, we have only found little evidence for causal heterogeneity based on our analysis of respondents' *functional proximity* to the location of the attacks. Only for personal threat perceptions, city dwellers show stronger effects than respondents from other areas. This result suggests that respondents make a rational risk assessment - at least when it comes to the potential impact of terrorism on their personal life. The risk of becoming the victim of a terrorist attack is much higher in a densely populated city than in a remote rural village. However, this differentiated risk assessment does not seem to translate into other perceptions and preferences: Neither the change in the problem evaluation of terrorism for the country or the EU as a whole, nor the negative effect for attitudes towards immigrants is significantly stronger among city dwellers than among suburbanites or respondents from rural areas. This means that the applicability of our theoretical argument is rather limited. Furthermore, it seems that personal threat perceptions do not immediately translate into more intolerant policy preferences among the respondents in our sample. This is in line with previous work by Huddy et al. (2002). They find that it is not personal but collective threat perceptions that are linked to preferences for more illiberal policies. Yet another reason why we do find causal heterogeneity for personal threat perceptions but not for attitudes towards immigrants might be that - according to a study by Lambert, Schott

and Scherer (2011) - support for more radical and illiberal policies is driven by a feeling of anger and not by a feeling of fear in the first place.

On a more general note, our findings indicate that respondents perceive terrorism to be a problem that primarily concerns the European community and much less their own country. This is already the case before the attacks, but the differences become much more pronounced afterwards.<sup>16</sup> To a certain extent this is at odds with the fact that security policy is still a national prerogative in the European Union and it might indicate a slow shift of perspective among European publics - accelerated by such events - to view security as a European and not a national public good. A limitation of our analysis is certainly the short time frame for which data is available. We can only speculate about the development of public opinion over the weeks following the attacks in Paris. If anything, we can expect the effects to have become more pronounced, however. The perpetrators were on flight across Western Europe and it took a long time to arrest or neutralize them. Furthermore, details about their background was only revealed incrementally. The fact that two of them entered Europe as refugees might have additionally contributed to the swing in opinion towards refugees. In a next step we will analyze in how far the treatment effect differs across different countries or country groups to get a better understanding of whether and where the impact of the terrorist attacks on public perceptions is more or less strong. Furthermore, we need to flesh out in more detail why we find rather strong variation in the significance of the treatment effect for rallying and attitudes towards immigrants when we use different identification strategies.

In sum, our results suggest that the terrorist attacks in Paris had a strong and significant impact on citizens' perceptions across Europe. The evidence for changes in citizens' policy preferences in this very short time period of three days after the attack might indicate the relevance of this event for both French and European politics and policy-making over the long run.

---

<sup>16</sup>With the exception of France: While the pattern is the same as in the overall sample before the attacks, terrorism-related problem perceptions for the country increase much more than for the EU (see Figure 5).

## References

- Angrist, Joshua David and Jörn-Steffen Pischke. 2009. *Mostly Harmless Econometrics. An Empiricists Companion*. Princeton: Princeton University Press.
- Baum, Matthew A. 2002. “The Constituent Foundations of the Rally-Round-the-Flag Phenomenon.” *International Studies Quarterly* 46(2):263–298.
- BBC. 2015. “Paris Attacks: As They Happened.”  
**URL:** <http://www.bbc.com/news/live/world-europe-34815972>
- Bloch-Elkon, Yaeli. 2011. “Public Perceptions and the Threat of International Terrorism After 9/11.” *Public Opinion Quarterly* 75(2):366–392.
- Bozzoli, Carlos and Cathérine Müller. 2011. “Perceptions and Attitudes Following a Terrorist Shock: Evidence from the UK.” *European Journal of Political Economy* 27:89–106.
- Chanley, Virginia A. 2002. “Trust in Government in the Aftermath of 9/11: Determinants and Consequences.” *Political Psychology* 23(3):469–483.
- Davis, Darren W. and Brian D. Silver. 2004. “Civil Liberties vs. Security: Public Opinion in the Context of the Terrorist Attacks on America.” *American Political Science Review* 48(1):28–46.
- Echebarria-Echabe, Agustin and Emilia Fernández-Guede. 2006. “Effects of Terrorism on Attitudes and Ideological Orientation.” *European Journal of Social Psychology* 36(2):259–265.
- European Commission. 2015. “Eurobarometer 84.3 (2015).”  
**URL:** <https://dbk.gesis.org/dbksearch/sdesc2.asp?no=6643>
- EUROSTAT. 2017. “NUTS 2013 Classification - Overview.”  
**URL:** <http://ec.europa.eu/eurostat/web/nuts/overview>
- Feldman, Stanley and Karen Stenner. 1997. “Perceived Threat and Authoritarianism.” *Political Psychology* 18(4):741–770.
- Finseraas, Henning and Ola Listhaug. 2013. “It Can Happen Here: The Impact of Mumbai Terror Attacks on Public Opinion in Europe.” *Public Choice* 156:213–228.
- Fischhoff, Baruch, Roxana M. Gonzalez, Deborah A. Small and Jennifer S. Lerner. 2003. “Judged Terror Risk and Proximity to the World Trade Center.” *The Journal of Risk and Uncertainty* 26(2/3):137–151.
- Groeling, Tim and Matthew A. Baum. 2008. “Crossing the Water’s Edge: Elite Rhetoric, Media Coverage, and the Rally-Round-the-Flag Phenomenon.” *The Journal of Politics* 70(4):1065–1085.
- Huddy, Leonie, Stanley Feldman and Christoph Weber. 2007. “The Political Consequences of Perceived Threat and Felt Insecurity.” *The Annals of the American Academy of Political and Social Science* 614(1):131–153.

- Huddy, Leonie, Stanley Feldman, Theresa Capelos and Colin Provost. 2002. "The Consequences of Terrorism: Disentangling the Effects of Personal and National Threat." *Political Psychology* 23(3):485–509.
- Jackson, Richard. 2011. "In Defence of Terrorism: Finding a Way Through a Forest of Terms, Context, and Causes." *Behavioral Sciences of Terrorism and Political Aggression* 3(2):116–130.
- Jakobsson, Niklas and Svein Blom. 2014. "Did the 2011 Terror Attacks in Norway Change Citizens' Attitudes Toward Immigrants?" *International Journal of Public Opinion Research* 26(4):475–486.
- Jonathan-Zamir, Tal and David Weisburd. 2013. "The Effects of Security Threats on Antecedents of Police Legitimacy: Findings from a Quasi-Experiment in Israel." *Journal of Research on Crime and Delinquency* 50(1):3–32.
- Lambert, Alan J., J.P. Schott and Laura Scherer. 2011. "Threat, Politics, and Attitudes: Toward a Greater Understanding of Rally-'Round-the-Flag Effects." *Current Directions in Psychological Science* 20(6):343–348.
- Legewie, Joshua. 2013. "Terrorist Events and Attitudes Towards Immigrants: A Natural Experiment." *American Journal of Sociology* 118(5):1199–1245.
- Marshall, Randall D., Richard A. Bryant, Lawrence Amsel, Euh Jung Suh, Joan M. Cook and Yuval Neria. 2007. "The Psychology of Ongoing Threat. Relative Risk Appraisal, the September 11 Attacks, and Terrorism-Related Fears." *American Psychologist* 62(4):304–316.
- Morgan, Stephen L. and David J. Harding. 2006. "Matching Estimators of Causal Effects: Prospects and Pitfalls in Theory and Practice." *Sociological Methods & Research* 35(3):3–60.
- Mueller, John E. 1970. "Presidential Popularity from Truman to Johnson." *American Political Science Review* 64(1):18–34.
- NCCR Democracy. 2016. "Democratic Governance and Citizenship Survey: Electronic Dataset and Codebook."  
**URL:** <http://www.nccr-democracy.uzh.ch/research/module1>
- Shaleva, Anna E. 2016. "How Does External Conflict Impact Social Trust? Evidence from the 9/11 Attacks as a Natural Experiment." *Journal of Applied Security Research* 11(3):267–297.
- Shambaugh, George. 2013. Perceptions of Threat, Trust in Government, and Policy Support for the War in Iraq. In *The Political Psychology of Terrorism Fears*, ed. Samuel Justin Sinclair and Daniel Antonius. Oxford: Oxford University Press pp. 20–50.
- Sinclair, Samuel Justin and Daniel Antonius. 2012. *The Psychology of Terrorism Fears. Understanding the Terror in Terrorism*. New York: Oxford University Press.
- Sinclair, Samuel Justin and Daniel Antonius. 2013. *The Political Psychology of Terrorism Fears*. Oxford: Oxford University Press.

# Appendix

## A Descriptive Statistics

**Table A.1:** EB France: Descriptive statistics

Variable	Control						Treatment					
	Obs	Mean	SD	Min	Max	P50	Obs	Mean	SD	Min	Max	P50
Female(=1)	929	.49	.5	0	1	0	97	.49	.50	0	1	0
Age	929	53.47	19.15	15	95	55	97	50.24	19.48	15	91	52
Education: 5 levels <sup>a</sup>	923	2.23	.81	0	4	2	97	2.45	.854	0	4	2
Pol. Inter- est Index	929	.50	.5	0	1	0	97	.56	.50	0	1	1
L-R Self- placement	766	5.08	2.22	1	10	5	71	5.06	2.29	1	10	5
Daily Media Use(=1)	929	.94	.22	0	1	1	97	.97	.17	0	1	1

*Note.* <sup>a</sup> Difference between control and treatment group significant with 95% confidence.

**Table A.2:** EB EU-28 & Candidate Countries: Descriptive Statistics

Variable	Control						Treatment					
	Obs	Mean	SD	Min	Max	P50	Obs	Mean	SD	Min	Max	P50
Female(=1)	24257	.53	.50	0	1	1	8576	.54	.50	0	1	1
Age	24257	49.56	18.33	15	99	50	8576	49.25	17.86	15	96	49
Education: 5 levels	23576	2.28	.86	0	4	2	8322	2.29	.84	0	4	2
Pol. Inter- est Index	24257	.67	.47	0	1	1	8576	.68	.47	0	1	1
L-R Self- placement	19383	5.29	2.31	1	10	5	6701	5.26	2.28	1	10	5
Daily Media Use(=1) <sup>a</sup>	24257	.77	.42	0	1	1	8576	.83	.38	0	1	1

*Note.* <sup>a</sup> Difference between control and treatment group significant with 99% confidence.

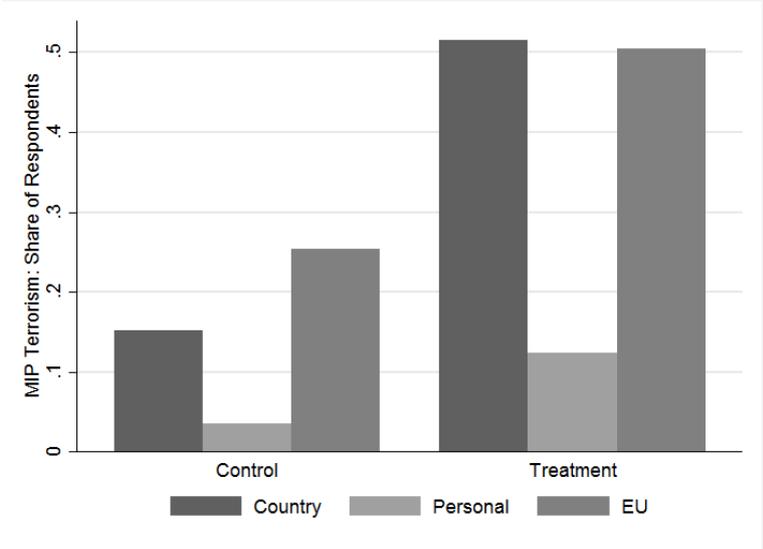
# B Additional Results

**Table A.3:** Propensity Score Matching: Average Treatment Effects for Rallying

		Full Sample	Cities	Towns/ Suburbs	Rural Areas
<b>RALLY ROUND THE FLAG</b>					
Trust National Government	ATE	.001	.012	.002	.013
	(p> z )	(.862)	(.478)	(.893)	(.428)
	N	23682	8314	7434	7228
	Matches (Min-Max)	1-21	1-13	1-10	1-9
National Attachment	ATE	.006	.012	-.007	-.003
	(p> z )	(.178)	(.055)	(.392)	(.601)
	N	25120	8780	7855	7732
	Matches (Min-Max)	1-21	1-14	1-10	1-9

*Note.* Cell entries are average treatment effects. Estimates are obtained through -teffects psmatch- command in Stata; Observations are matched by age, gender, education, political interest, left-right self-placement, media use and country; \*p<.05 \*\*p<.01 \*\*\*p<.001.

**Figure 5:** Threat Perceptions France



*Note.* Own figure; Data Source: Eurobarometer 84.3

**Table A.4:** Multilevel RD: Trust in National Government

	Full Sample	Cities	Towns/Suburbs	Rural	Interaction
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
	(p> z )	(p> z )	(p> z )	(p> z )	(p> z )
Treatment	-0.037	0.414**	-0.194	-0.191	-0.028
	(0.674)	(0.006)	(0.210)	(0.222)	(0.777)
Time	-0.019	-0.123**	0.069	0.018	-0.017
	(0.489)	(0.009)	(0.169)	(0.716)	(0.532)
Treatment*Time	0.063	0.063	-0.019	0.091	0.052
	(0.129)	(0.390)	(0.802)	(0.231)	(0.218)
<i>Type of Community (B=Cities)</i>					
Rural Areas					0.006
					(0.918)
Towns/Suburbs					-0.060
					(0.279)
Treatment*Rural Area					0.041
					(0.613)
Treatment* Towns/Suburbs					0.050
					(0.545)
Constant	-0.711***	-0.989***	-0.553***	-0.646***	-0.700***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
N	18046	6366	5337	5709	17412
Countries	35	33	34	34	34
Log. Lik.	-10938.869	-3785.789	-3316.400	-3437.531	-10531.652
LR $\chi^2$	2.528	8.875	3.088	4.267	4.827
p > $\chi^2$	0.470	0.031	0.378	0.234	0.681

*Note.* Estimates are logit coefficients obtained through multi-level logistic regression with -xtmelogit- in Stata. \*p<.05 \*\*p<.01 \*\*\*p<.001.

**Table A.5:** Multilevel RD: National Attachment

	Full Sample	Cities	Towns/Suburbs	Rural	Interaction
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
	(p> z )	(p> z )	(p> z )	(p> z )	(p> z )
Treatment	0.222	-0.006	-0.097	0.616*	0.315
	(0.148)	(0.982)	(0.724)	(0.024)	(0.083)
Time	0.040	0.102	0.109	-0.125	0.011
	(0.382)	(0.222)	(0.218)	(0.131)	(0.818)
Treatment*Time	-0.185*	-0.143	-0.211	-0.087	-0.131
	(0.011)	(0.288)	(0.101)	(0.513)	(0.081)
<i>Type of Community (B=Cities)</i>					
Rural Areas					-0.076
					(0.430)
Towns/Suburbs					0.054
					(0.587)
Treatment*Rural Area					-0.085
					(0.568)
Treatment* Towns/Suburbs					-0.214
					(0.152)
Constant	2.829***	3.009***	3.010***	2.591***	2.819***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
N Countries	19468	6765	5740	6271	18776
Log. Lik.	-4700.763	-1494.946	-1435.570	-1464.271	-4393.871
LR $\chi^2$	7.633	2.882	3.164	6.592	8.811
p > $\chi^2$	0.054	0.410	0.367	0.086	0.266

*Note.* Estimates are logit coefficients obtained through multi-level logistic regression with -xtmelogit- in Stata. \*p<.05 \*\*p<.01 \*\*\*p<.001.