

International Terror Attacks and Local Out-Group Hate Crime

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Abstract

This paper studies the effects of international terror attacks on out-group hate crimes committed against Muslims in a local setting. Event studies of ten terror attacks based upon rich administrative data from Greater Manchester reveal an immediate big spike up in Islamophobic hate crimes and incidents when an attack occurs. In subsequent days, hate crime incidence becomes amplified by real-time media. The attacks create an attitudinal shock in resident populations leading them to perceive minority groups that share the religion of the attack's perpetrators as an out-group threat. The overall conclusion is that, even when they reside in places far away from where jihadi terror attacks take place, local Muslim populations face a media magnified likelihood of hate crime victimization. But it is only those incidents that are salient to local resident populations, because of where they happen or due to the media magnification, that impact local hate crime.

Keywords: International terror attacks; Out-group; Islamophobic hate crime; Media magnification.

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1. Introduction

In recent decades, terrorism has become pervasive around the world (Horowitz, 2015; Chenoweth, 2013). Existing scholarship discusses how terrorism leads to increasing hostile attitudes and changes in policy support (Epifanio et al, 2023; Bohmelt et al, 2020; Merolla and Zechmeister, 2009; Bozzoli and Muller, 2011). Some of this research agenda examines the effects of terrorism on attitudes towards minorities (Nägel and Lutter, 2020; Giani, 2020; Giani and Merlino 2021) and preferences about immigration policies (Breton and Eady, 2022; Solheim, 2019; Legewie, 2013). Less well understood is whether and how changes in attitudes directly affect minority groups in society who share the identity of the perpetrators of terrorism. This is currently an oversight in the literature, and is one that matters at least in part because the existence of these anti-minority attitudes in turn yields anti-democratic outcomes (Abrajano and Lajevardi, 2021; Hobbs and Lajevardi, 2019).

Previously researchers have been hindered in their ability to rigorously study this important question by a lack of systematic data. As such, research to date has tended to focus on either explaining changes in self-reported attitudes rather than observed anti-minority hate, or it has lacked credible identification strategies, or has been limited to study the effect of one attack in isolation (Hanes and Machin, 2014; Panagopoulos, 2006; Swahn, Mahendra, and Paulozzi, 2003).

This paper first considers whether and how jihadi terrorist attacks contribute to greater anti-Muslim sentiment that triggers increased hate crime incidence at a local level. Second, it asks whether these consequences of jihadi terrorist attacks are short-lived or persist through time. Finally, in a world where information travels instantly and terror attacks occur almost daily worldwide, and immigration and race feature prominently in populist politics, the paper studies what characterises terror attacks that lead to a contagion of hate far away from the location of the terror attacks.

To study these questions, this research focuses on a decade of jihadi terrorist attacks and studies their consequences on out-group hate – specifically, hate against the local Muslim community in Greater Manchester. It uses rich, high frequency administrative data from Greater Manchester Police. A relatively long-time window offers an opportunity to carefully appraise how a series of jihadi attacks have scope to impact local hate crime. The unique nature of the data, and the unpredictability of terror attacks, provide a quasi-experimental setting allowing conclusions to be drawn on the temporal impact of jihadi terror attacks on local Islamophobic hate crimes and incidents. In addition, the novelty of the data means that the analysis is able to show evidence that these effects are driven by changes in reporting, or only a consequence of local attacks. Lastly, the mechanism through which hate incidents are triggered is studied, placing a particular focus on the role of media in transmitting information on terrorist attacks.

To preview the main findings, immediately following ten international terror attacks of high salience to UK residents, the number of Islamophobic hate crimes and incidents in Manchester rapidly surge. In the week of the terror attack, there is an instant spike up in magnitude of between 0.75 and 0.96 log points. Moreover, this persists and, whilst there is attenuation relative to the attack week, hate crime incidence remains significantly higher than pre-attack levels three weeks after the attacks took place. A peak in hate crime on the second and third day following the attack features frequently. Islamophobia is not only an immediate response to the attack but is additionally incited by the ways in which the media present news on perpetrators and victims. Daily real-time media data play an important magnification role in the days following an attack. A range of statistical tests and placebos based upon terror attacks that are less salient to local resident populations (because they did not involve UK victims and received very little UK media coverage, despite their magnitude and cost in terms of victims) are presented to further bolster this magnification hypothesis.

As societies have become ever more globalised, the insight that international events can conflict religious and national identities in a local area far away from where the event took place becomes crucial for understanding the obstacles to inter-religious and inter-ethnic cohesion. Over and above the significant costs to individuals involved in these incidents, the findings matter for community cohesion in places affected by discriminatory hate crime (Gould and Klor, 2016; Abdelgadir and Fouka, 2020).

A theoretical backdrop comes from the idea that terror related events taking place elsewhere change intergroup relations in places that are geographically remote from the attack location (Lake and Rothchild, 1998; Christensen and Enlund, 2021).¹ The theory connects two arguments, on the role of terrorism in inducing fear and a state of threat, and the role of media coverage of terrorism with relation to marginalised groups. While international terror attacks need not lead to a direct exposure to trauma, local populations far away from the event, experience an emotional response to the terrorism. These emotional responses are linked to the “psychological effects of terrorism on audiences” (Crenshaw, 1986), with threat as the main catalyst of individuals’ reactions.

The attacks create an attitudinal emotional shock in resident populations leading them to perceive minority groups that share the religion of the attack’s perpetrators as an out-group threat. And in turn, research in psychology documents how the emergence of inter-group threat leads to negative out-group attitudes (for a review, Riek et al., 2006). The result of this out-group perceptions is the rise in direct and indirect discrimination and hate against the individuals now perceived as the out-group. The populations affected can include those indirectly or remotely affected—individuals who are not in close geographic proximity

¹ Terror related events can change intergroup relations not only between towards the minority population that shares the religious or ethnic identity with the attacker, but also can spill over to other minority populations. An example of this is the McConnell and Rasul (2021) evidence from the US criminal justice system following 9/11.

to the incident, but who witness the event through the media. At the same time, as we explore in the fourth section, the media is not neutral in its reporting (Hanif, 2019), particularly when it reports on minority groups in society, such as Muslims (Lajevardi, 2021). Media coverage of marginalized groups adopts binary distinctions of “us” versus “them”, in this case reinforcing the image of British Muslims as Jihadi-prone Muslims, and perpetuating negative stereotypes (Kellstedt, 2003).

Existing empirical evidence demonstrates that terror attacks do induce opportunistic hate crimes. The most well-known and studied terrorist attacks – 9/11 in the US and 7/7 in London – featured significant spikes up in hate crimes committed against Muslims (Hanes and Machin, 2014; Panagopoulos, 2006; Swahn, Mahendra, and Paulozzi, 2003). These studies look at short-term windows around a single terror attack. The analysis presented in this paper offers broader evidence than this and, in doing so, moves on from them in several directions. The focus is on local hate crime responses to multiple terror attacks where most take place elsewhere. And through the use of high-frequency individual level confidential data on incidents, victims and perpetrators, this paper generates new evidence on the dynamics of local hate crime, on perpetrators and victims, and on the role of media.

The rest of the paper is structured as follows. Section 2 outlines the data and the research design where jihadi terror attacks can provide natural or quasi-experimental variations that have scope to alter attitudinal perceptions of minority groups and thereby lead to hate crime. Section 3 reports the main statistical results, and further assesses and probes the robustness of the key findings. Section 4 asks what characterises terrorist attacks that lead to hate crime and considers the potential role of the media to amplify local hate crime. Section 5 concludes by discussing the implications of the different pieces of evidence assembled in the paper.

2. Data and Research Design

Data

This paper uses uniquely detailed, confidential high-frequency administrative data from a major police force in the United Kingdom, the Greater Manchester Police (GMP). This features five source datasets on the population of calls and crimes over an eleven-year period, which include the command and control, crime, hate marker, and victim and perpetrator datasets. These are combined to produce a highly novel data resource that allows empirical investigation on how terrorist attacks affect Islamophobic hate to be undertaken.

The data are administrative records, made available by the GMP from 1st April 2008 to 31st July 2018. Islamophobic hate crimes are one of the various hate crimes recorded by the police. GMP defines Islamophobia as “the fear and/or hatred of Islam, Muslims or Islamic culture. It is also a phrase that is used to describe any remark, insult or act, the purpose or effect of which is to violate a Muslim person’s dignity or create an intimidating, hostile, degrading, humiliating or offensive environment. This definition can be applied to individuals and to the Muslim community as a whole.” The three other hate crime subgroups used in the empirical analysis refer to Disability², Antisemitism³ and Sexual Orientation.^{4 5}

² Disability hate crimes are recorded in accordance with the definitions of the Equality Act 2010, covering a wide variety of disabilities and can include the following: sensory impairment, mental health, learning difficulties, mobility, hidden (for example, muscular dystrophy and HIV) and other. Hence, if anyone perceives an incident to be motivated by hostility or prejudice due to a person’s disability or perceived disability, GMP will record it as such.

³ Antisemitism refers to any remark, insult or act, the purpose or effect of which is to violate a Jewish person’s dignity or create an intimidating, hostile, degrading, humiliating or offensive environment. The definition can be applied to individuals and to the Jewish community as a whole. An antisemitic incident is any incident which is perceived to be antisemitic by the victim, or any other person.

⁴ Sexual Orientation describes an individual’s physical and/or emotional attraction to others and, therefore, includes people who identify themselves as gay, lesbian, bisexual or heterosexual. A hate incident marked as such is any incident that is perceived to be motivated by the sexual orientation of the victim.

⁵ In common with other police forces in England and Wales, Greater Manchester Police records and categorises hate incidents and hate crimes according to national standards. Since recording was first introduced in 1994, a number of refinements have been made to definitions and classifications to recognise changes in society – the most recent refinement was the recognition of ‘hate’ motivated by an individual’s alternative sub-culture. Antisemitic and Islamophobic hate incidents and crimes have been recorded since April 2007. This defines the starting point of the analysis of this paper, namely April 2008. Since 2008, there have been no changes in

These records are complemented with highly confidential individual level records on the identities of victims and perpetrators involved in the hate crime and incidents. To the best of our knowledge, this is the first-time individual level data on victims and perpetrators of hate incidents has been available to researchers. These records contain individual level information on the ethnicity, nationality, place of birth, religion, gender, age, and residential postcode of victim and perpetrator, and their co-perpetrators or co-victims.

Jihadi Terror Attacks

The main analysis considers ten jihadi terrorist attacks that took place between 2008 and 2018 that satisfied the following choice criteria: occurring in the UK; occurring in Western Europe with five or more fatalities; and the attack in Tunisia (in 2015) which was an attack on a resort with a considerable number of UK victims. These are viewed as attacks that are salient to the UK and therefore to the resident population in Greater Manchester. Below we confirm this by showing that these are the key terrorist attacks whose occurrence the UK population was made aware of through significant media coverage (this is further backed up in the empirical analysis of newspaper reporting). The ten attacks are: the Lee Rigby murder in London (May 2013); the Charlie Hebdo attack in Paris (January 2015); the Sousse attack in Tunisia (June 2015); the Paris attack (November 2015); the Brussels attack (March 2016); the Nice attack (July 2016); the Berlin attack (December 2016); the London Westminster attack (March 2017); the Manchester Ariana Grande concert attack (May 2017); and the London Bridge attack (June 2017).⁶

Additionally, comprehensive data on all global terrorist attacks from April 2008 to July 2018 is drawn upon to study how terrorist attack characteristics shape media attention

recording practice in Greater Manchester Police nor has the College of Policing's Hate Crime Operational Guidance (upon which GMP bases its policy and procedure on) changed the definitions of hate crime offences.

⁶ As a robustness analysis in Section 4, we also use the number of articles on jihadi terrorist attacks in UK National newspapers to allow for the effect of other international jihadi attacks than the ten we have identified.

and consequently hate incidents in the UK. The source of this data is the Global Terrorism Database (GTD). For each event, a wide range of information is available, including the date and location of the attack, the weapons used, nature of the target, the number of casualties and the characteristics that describe the casualties (inter alia, their military or civilian status and nationalities), and – when identifiable – the group or individual responsible. For each of the groups and individuals responsible, it is possible to manually code whether they are a Jihadi terrorist group or not from Wikipedia pages.⁷

Finally, we gathered data on all newspaper articles on jihadi terror attacks from April 2008 to August 2018. We obtained this data by running a keyword search on LexisNexis using the following algorithm: "(terror or terrorist or terrorism) AND (attack or bomb or bombing or incident) AND (muslim or islam or islamist or jihadi or isil or al-qaeda or isis or islamic state)" for the entire population of articles published online or in print in UK national newspapers.

Research Design

A difference-in-differences (D-i-D) empirical research design is set up to study the covariation in international jihadi attacks and anti-Muslim hate crime in Greater Manchester. Data is available on hate crimes committed against four different groups *i* (*i* = Islamophobic, Disabled, Antisemitic, Sexual Orientation). The variation in the three other types of hate

⁷ The following groups or individuals are coded as jihadi terrorism groups: "Taliban" "Islamic State of Iraq and the Levant (ISIL)" "Boko Haram" "Al-Shabaab" "Tehrik-i-Taliban Pakistan (TTP)" "Al-Qaida in the Arabian Peninsula (AQAP)" "Al-Qaida in Iraq" "Fulani Militants" "Muslim Fundamentalists" "Al-Qaida in the Lands of the Islamic Maghreb (AQLIM)" "Jund al-Khilafa" "Al-Nusrah Front" "Islamic State of Iraq (ISI)" "Bangsamoro Islamic Freedom Movement (BIFM)" "Lashkar-e-Jhangvi" "Lashkar-e-Islam (Pakistan)" "Huthis" "Abu Sayyaf Group (ASG)" "Janjaweed" "Haqqani Network" "Ansar Bayt al-Maqdis (Ansar Jerusalem)" "Moro Islamic Liberation Front (MILF)" "Hizbul Mujahideen (HM)" "Allied Democratic Forces (ADF)" "Lashkar-e-Taiba (LeT)" "Caucasus Emirate" "Hamas (Islamic Resistance Movement)" "Algerian Islamic Extremists" "Movement for Oneness and Jihad in West Africa (MUJAO)" "Free Syrian Army" "United Baloch Army (UBA)" "Ansar al-Sharia (Libya)" "Muslim Separatists" "Al-Naqshabandiya Army" "Indian Mujahideen" "Mujahideen Ansar" "Jaish-e-Islam" "Jundallah" "Islamic Front (Syria)" "Muslim Brotherhood" "Military Council of the Tribal Revolutionaries (MCTR)" "Runda Kumpulan Kecil (RKK)" "Hizb-I-Islami" "Hizballah" "Jund al-Khilafah (Tunisia)" "Jamaat-ul-Ahrar" "Hizbul al Islam (Somalia)".

crimes and incidents (Anti-Semitic, Disabled and Sexual Orientation) are used to infer the counterfactual trends of Islamophobic hate crime. The identification assumption underlying this design is that if the terror attacks had not occurred, Islamophobic hate crime would have evolved similarly to the other hate crimes. To visualise this approach, Figure OA1 in the Online Appendix plots the time series dynamics of the three control groups.

A baseline D-i-D specification for modelling the log of the four hate crime types i (where i = Islamophobic, Disabled, Antisemitic, Sexual Orientation) for time period t (t denotes weeks in some specifications, and days in others) is:

$$\text{Log}(\text{Hate}_{it}) = \beta[1(\text{Islamophobic}_i) \times 1(\text{Terrorattack}_t)] + \delta_t + \alpha_i + [\alpha_i \times f(t)] + u_{1it} \quad (1)$$

where Hate_{it} is the number of hate crimes and incidents committed against group i at time t , $1(\text{Islamophobic}_i)$ is a dummy variable indicating Islamophobic hate crime, $1(\text{Terror attack})_t$ is a dummy variable indicating that a jihadi attack occurred in period t , α_i is a set of dummy variable identifiers/fixed effects for each of the four hate crime groups i , δ_t is a full set of time dummies and, in some specifications reported below, we also add time effects varying by hate crime category $\alpha_i \times f(t)$ (group $\times$ quarter or group $\times$ year interactions are included). Finally, u_{1it} is a random error term. A logarithmic specification is adopted for the dependent variable (adding 1 before the log is taken), but results from other functional forms for the dependent variable are discussed later.

In (1), the estimated coefficient β on the interaction term $[1(\text{Islamophobic}_i) \times 1(\text{Terror attack})_t]$, is the D-i-D estimate of the impact of the international jihadi attacks on Islamophobic hate crime in time period t . For the estimates of β to be interpreted as causal, there should be no differential pre-trends between the Islamophobic hate and the three control groups (Anti-Semitic, Disabled and Sexual Orientation). This can be formally tested in the

following more general event study specification where the estimated effect is allowed to differ in both pre- and post-attack time periods as follows:

$$\text{Log}(\text{Hate}_{it}) = \sum_{t=-\tau}^{t=\tau} \beta_t [1(\text{Islamophobic}_i) \times 1(\text{Terror attack}_t)] + \delta_t + \alpha_i + [\alpha_i \times f(t)] + u_{1it} \quad (2)$$

The specification in (2) allows for τ before and after time interactions over and above the $t = 0$ baseline impact from (1). With the inclusion of pre-attack interactions, it is possible to test whether the parallel pre-trends assumption required for the D-i-D estimate to be unbiased holds. Inclusion of the post-attack interactions permits structure to be placed to inform one of the key questions we want to study, namely the dynamic effects of the terror attacks. Their inclusion enables a formal discussion about whether any impact is short run, or whether it persists beyond the attack incident period.

The effects of each individual terrorist attack are also separately estimated to formulate a robustness check to show how the average of individual estimates compares to the D-i-D estimate from equation (1) (as, for example, in Callaway and Sant'Anna, 2020).⁸ Additionally, several sources of heterogeneity across attacks, and dynamic effects, are presented and discussed in the results reported below.

Descriptives

Summary statistics are presented in Table 1. The upper part of the Table shows that over all weeks there are around 5 Islamophobic recorded hate crimes per week, and around 4 Disabled, 3 Antisemitic and 11 Sexual Orientation hate crimes respectively.

⁸ There are some issues that arise in the event study setting in Equation (2) which display similarities to the recent emerging literature examining methodological issues when conducting a difference-in-differences research designs that extend the standard two-way fixed effects model (Callaway and Sant'Anna, 2021; Goodman Bacon, 2021; De Chaisemartin and d'Haultfoeuille, 2020). In the language used in this recent work, the research design used here (a treatment group of Islamophobic hate crimes with a control group of Disability, Antisemitism and Sexual Orientation hate crimes) features a control group that can be thought of as 'never-treated' and constant throughout the study period as they are never affected by a terrorist attack (De Chaisemartin and d'Haultfoeuille, 2020).

Table 1: Summary Statistics, Weeks from April 2008 to August 2018

	Weeks	Mean
A. Sample statistics		
Terror attack incidence	538	0.02
Islamophobic hate crimes	538	4.69
Disabled hate crimes	538	4.09
Antisemitic hate crimes	538	3.40
Sexual Orientation hate crimes	538	10.80
B. Terror and non-terror attack weeks		
Islamophobic hate crimes Terror attack (H_1)	10	19.40
Islamophobic hate crimes No terror attack (H_0)	528	4.41
Non-Islamophobic other hate crimes Terror attack (O_1)	10	21.40
Non-Islamophobic other hate crimes No terror attack (O_0)	528	18.23
C. Gaps		
Difference in Islamophobic hate crimes [$H_1 - H_0$]	538	14.99 (1.67)
Difference in non-Islamophobic hate crimes [$O_1 - O_0$]	538	3.17 (3.09)
Difference in differences, [$H_1 - H_0$] - [$O_1 - O_0$]	538	11.82 (2.67)

Notes: Weekly counts of hate crimes for the four crime types (Islamophobic, Disabled, Antisemitic, Sexual Orientation) in 538 weeks between April 2008 and August 2018. Standard errors in parentheses.

There is a big divergence in the case of the Islamophobic hate crimes that feature an average of 19 across the ten terror weeks as compared to 4 in the non-terror weeks (the gap of 14.99 is strongly significant in statistical terms). The month-by-month temporal variation

in Islamophobic crimes and incidents in the period of April 2008 to August 2018 is shown in the upper panel of Figure OA2. The lower panel of Figure OA2 plots the weekly variation in Islamophobic crimes and incidents in 2017.

3. Statistical Results

Main Results

Table 2 presents difference-in-differences estimates based on weekly panel data. The specifications in columns (1) to (3) show the baseline terror attack impact (specification (1) from earlier) in the week of the attacks, and those in columns (4) to (6) show event study estimates (specification (2) from earlier, in which τ is set equal to 3) that include additional impacts for three preceding and post-attack weeks. There are three specifications in each case, which differ in how the various fixed effects are entered. Columns (1) and (4) are conventional models where additive fixed effects for the four hate crime groups i and a full set of time fixed effects for the 538 weeks are included. The other specifications allow for time varying group effects by including crime group by year interactions (in (2) and (5)) and crime group by quarter interactions (in (3) and (6)).

Table 2: Hate Crimes and Jihadi Terror Attacks

Log (Hate Crimes)						
	(1)	(2)	(3)	(4)	(5)	(6)
[Islamophobic X (Terror attack)], t+3				0.388	0.281	0.166

				(0.162)	(0.154)	(0.146)
[Islamophobic X (Terror attack)], t+2				0.480	0.385	0.282
				(0.162)	(0.155)	(0.151)
[Islamophobic X (Terror attack)], t+1				0.735	0.630	0.522
				(0.113)	(0.100)	(0.137)
[Islamophobic X (Terror attack)]	0.990	0.836	0.751	0.959	0.851	0.751
	(0.300)	(0.316)	(0.294)	(0.289)	(0.314)	(0.299)
[Islamophobic X (Terror attack)], t-1				-0.168	-0.238	-0.393
				(0.164)	(0.141)	(0.143)
[Islamophobic X (Terror attack)], t-2				0.090	0.017	-0.163
				(0.182)	(0.153)	(0.207)
[Islamophobic X (Terror attack)], t-3				-0.027	-0.108	-0.306
				(0.129)	(0.136)	(0.127)
Sample size	2152	2152	2152	2128	2128	2128
Crime group fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Week fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Crime group x Year fixed effects	No	Yes	No	No	Yes	No
Crime group x Quarter fixed effects	No	No	Yes	No	No	Yes

Notes: The sample covers 538 weeks between April 2008 and August 2018 and is pooled across the four crime types (Islamophobic, Disabled, Antisemitic, Sexual Orientation). The coefficients reported are for the

interaction of the terror attack dummy variable and the Islamophobic identifier (the difference-in-differences estimator). Standard errors are clustered at the crime type-year level.

As the dependent variable is the log of the hate crime count, the reported estimates can be read as proportionate effects.⁹ In all specifications, there is a positive and statistically significant effect of jihadi terror attacks on Islamophobic hate crimes and incidents. The magnitudes are large. Columns (1) to (3) show a significant spike up in the week of the attack which, dependent on specification, is of the order of 0.75 to 0.99 log points higher relative to the other hate crimes. The event study estimates in columns (4) to (6) show that there is not any discernible pre-trend, and that the terror attack week spike up is of similar magnitude (between 0.75 and 0.96 log points). The column (5) specification of Table 2 shows that in the week of the attack hate crimes increased by 0.85 log points, the following week by 0.63 log points, and in the third week after the attack by 0.39 log points. This shows persistence and, whilst they attenuate compared to the attack week, they remain significantly higher than pre-attack levels three weeks after the attacks took place.¹⁰ In sum, during the week of the terrorist attack and the two weeks following, there was on average an additional 13 Islamophobic hate crimes and incidents occurring. For the study sample covering ten terrorist attacks, this would have resulted in around 130 Islamophobic hate crimes and incidents.

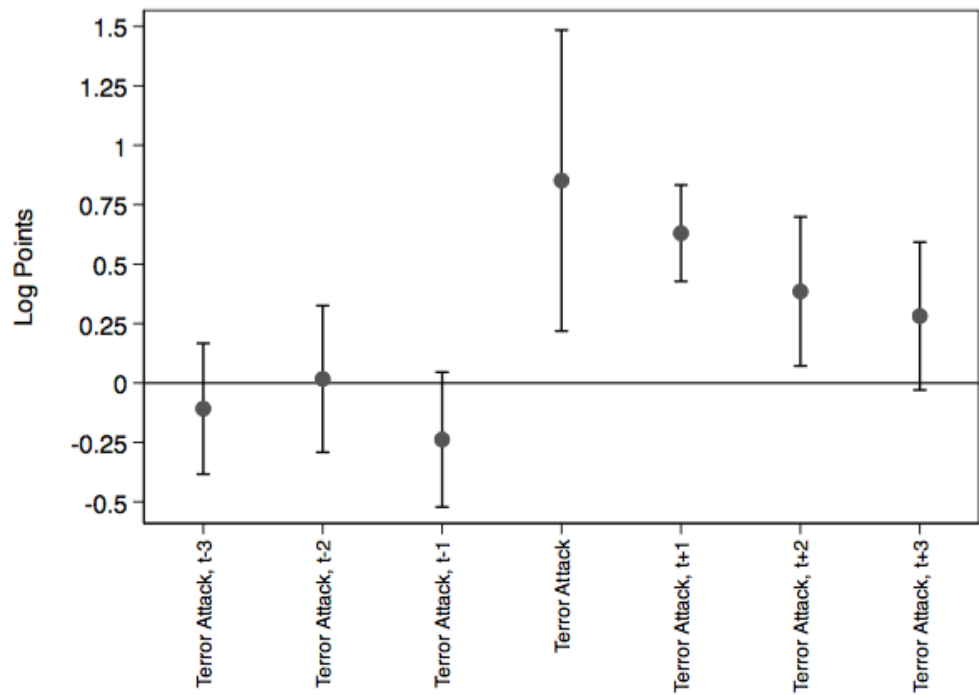
Coefficients and their 95% confidence intervals from the column (5) specification of Table 2 are portrayed visually in Figure 1, very clearly showing there to be no evidence of

⁹ Estimates were also produced using count data levels and using the inverse hyperbolic sine transformation of hate crimes (available on request). The levels results show the same patterns as when log-operationalised – jihadi terror attacks lead to a large and significant increase in Islamophobic hate crime for three weeks following the attack. In comparison to the log-operationalised model, the economic size of the estimates is slightly larger as the larger absolute effects of the recent terror attacks are given a larger weight as compared to the log-operationalised model. Using the inverse hyperbolic sine transformation, estimates are in the same range of the log-operationalised ones. Consequently, our preferred specification remains the log-operationalised model. If anything, this offers an underestimate of the average estimated effects, which allows for an easier interpretation and demonstrates that the size of our estimates of terror attacks on hate crime are large.

¹⁰ In addition, effects of each of the ten terrorist attacks were estimated separately. For the specification in column (2) in Table 2, the average of individual attacks produced an impact of 0.827 log points as compared to the 0.836 log points reported in the Table.

differential pre-trends in the three weeks before the attack, a very sizable jump up in the week of the attack itself, followed by higher levels post-attack for three weeks, with a decaying of the impact as one moves further in time away from the attack week. Considering that the estimates show the average across the ten attacks that occurred and the series of terrorist attacks that occurred during the period from 2014-2018, this shows how levels of Islamophobic hate crime have possibly resulted in a permanently higher levels in 2018 when the sample studied here ends than they were prior to the ten attacks taking place.

Figure 1: Event Study Estimates, 3 Week Leads and Lags



Hate Crime Recording

One pertinent question with the results shown so far concerns police methods of recording hate crimes, in particular whether there may have been potential changes in recording hate crime incidents and crimes in the aftermath of a terrorist attack. It is possible

to set up a range of empirical tests to study this, upon which we now report: i) Online Appendix Table OA1 shows estimates analogous to some of the results already considered that should not be sensitive to changes in patrolling or recording on the behalf of the police by narrowing down the hate crime measures to those that were only incidents and crimes self-reported by the victim, and to 999 calls made to the police. The first two columns of the Table reproduce the columns (2) and (5) specifications from Table 2 (i.e. those additionally include hate crime group by year fixed effects to the baseline model), whilst columns (3) and (4) show analogous estimates for self-reported hate crimes and (5) and (6) do the same for 999 calls made to the police. In broad terms comparing across the relevant specifications in the Table OA1, the results are highly similar, still showing a spike up in the attack week, and persistence for up to three weeks later.¹¹

ii) Individual level victim data for all hate crimes over the full sample period can also be used to investigate whether the Greater Manchester Police becomes more likely to classify hate crimes against any Muslim as Islamophobic hate crimes after terror attacks. Figure 2 charts the number of hate incidents and crimes committed against Muslim individuals since 2014 splitting them across Islamophobic ones (the dark grey) and the Race Based ones (they medium grey), while Figure OA3 in the Online Appendix plots it for the whole time period. If victims became more ‘sensitive’ to the Islamophobic nature of attacks and the nature of reporting changes after terrorist attacks, one would expect that the total number of hate crimes against Muslims to remain constant, with a substitution between Islamophobic and other types of hate crime. The Figures clearly show this not to be the case – the number of hate

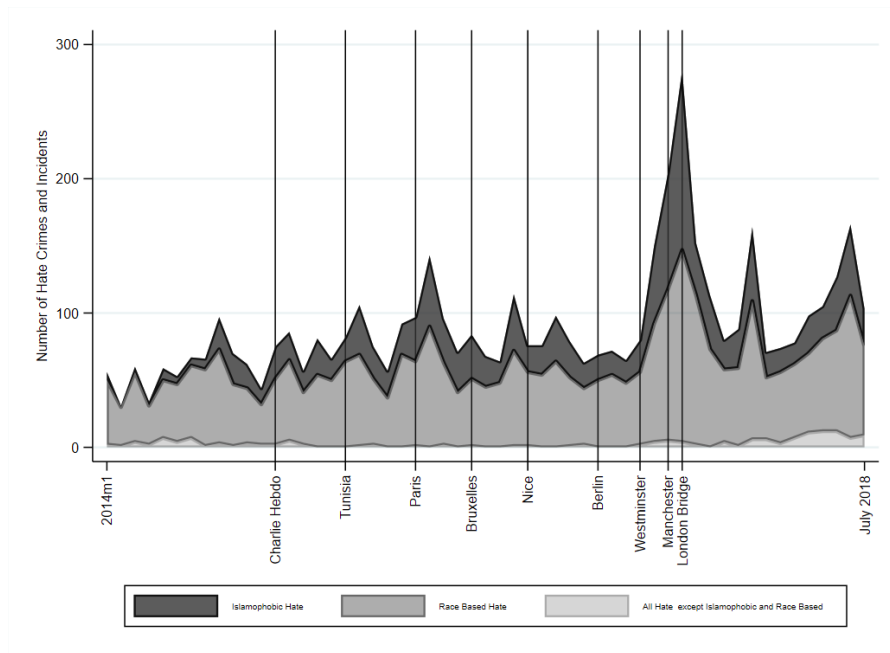
¹¹ Moreover, after extensive conversations with the Greater Manchester Police staff we can be certain that there were no organizational changes in recording hate crime in our sample period. Neither was there an increased sensitivity about potential Islamophobia in the aftermath of the terrorist attacks about recording (or more detailed inquiry about the nature of offences) nor increased patrolling. As nine out of the ten terrorist attacks occurred outside of Greater Manchester (and six were outside of the United Kingdom) we find this credible.

incidents and crimes involving Muslims regardless of the nature of the attack visibly peaks in the aftermath of terrorist attacks. In fact, while the substitution effect would imply other types of hate decrease, such as racially driven hate, the opposite is observed.

iii) A more formal test is shown in Table OA3, which reports estimates of equation (2) by alternating the main explanatory variables between the following: Islamophobic hate against Muslims, Racial hate against Muslims, Islamophobic hate against non-Muslims, Racial hate against non-Muslims. These results confirm that differential reporting by victims does not explain the findings. The estimates are not significant, and more importantly not negative, when estimating effects of terrorist attacks on racial hate involving Muslims.¹² We also believe that the test on the outcome of Racial hate crimes against non-Muslims can be interpreted as a placebo analysis. In column 4 of Table A.3., we show that there is no statistically significant effect of Jihadi terror attacks on Racial hate crime against non-Muslims. These results confirm the plausibility of our identification assumption. In column 3 of Table A.3., we report the test on the outcome of Islamophobic hate crime against non-Muslims. We interpret these estimates as spillovers of hate committed by offenders who are misclassifying individuals based on their appearance (e.g. the Sikh minority) believing they share the religion of the perpetrator of the terror attack. We find that non-Muslims whose appearance might associate them with Islam, also experience ‘Islamophobic induced’ hate in the first week of the attack.

Figure 2. Hate incidents and crimes involving Muslims (after 2014)

¹² Note that the confidence intervals of all of our estimates becomes wider due to the fact of smaller sample sizes of the subgroups and missing values in the religion variable of victims.



iv) We also investigate whether the terrorist attacks increased Islamophobic violence relative to violence of the three control hate groups (Antisemitic, Disability and Sexual Orientation). For this test, we only include violent crimes, which include violence with and without injury. We report the results in Table OA2. While the size of the increases is smaller in magnitude than in Table 2 (for example 0.52 log points in column 2 of Table OA2 as compared to 0.836 in column 2 of Table 2), the conclusion of the results does not change. We find that jihadi terror attacks lead to a sizeable increase in Islamophobic hate crime that on average lasts for three weeks after the attack.

Importance of UK Attacks and Heterogeneity

Using variation in the timing of international jihadi terror attacks to consider variations in hate crime incidence in Manchester relies on the notion that the timing of the attacks is orthogonal to policing in Greater Manchester. Whilst this seems eminently reasonable for attacks taking place in other countries, one might question the credibility of the assumption for the attacks in the sample that took place in the UK, and especially the one attack in Manchester itself. Thus, it could be the case that the London Westminster attack in

March 2017, the Manchester 22nd May 2017 attack, and the London Bridge attack on 3rd June 2017 could have affected local policing in Manchester in the weeks following these attacks.

This is studied in two ways in results shown in Online Appendix Table OA4. First, as shown in columns (1) and (2), the main specifications were run only on data covering weeks up to the end of 2016, therefore excluding the last three attacks. This way it is possible to avoid the results being driven solely by the ‘local’ attacks. Second, as shown in columns (3) and (4), the full sample was used, but specifications allowed there to be a separate effect for the three post-2016 attacks. For the estimates ending in 2016, there is again evidence of a positive and significant spike up for the week of the attack (see column (1)). However, closer exploration does reveal that the magnitude is a little smaller than for the full sample (at 0.69 log points compared to the earlier estimate of 0.84 log points). Moreover, as the column (2) specification shows, there is still persistence in the estimated impacts, but it does not last quite as long.

For the estimates that allow for heterogeneity by groups of attacks, there is indeed evidence of a bigger spike up in the attack week for the recent attacks. As column (3) shows, the jump is 0.62 log points for the earlier attacks and a far higher 1.72 log points for the more recent attacks. Column (4) also shows that the persistently higher levels of Islamophobic hate crime after the event is a stronger feature of the more recent attacks.¹³ Hence, the more recent attacks were connected to bigger and more persistent hate crime increases. This in itself is an important insight, with the worsening of hate crime and incident victimization of the Muslim population as a reaction to the recent jihadi terror attacks. It is also important for the

¹³ Note also that, in the column (4) specification, for the recent attacks there are strongly significant pre-trend coefficients, being positive and significant at t-1 and t-3 and negative and significant at t-2. This is because of the closeness of the final two attacks in Manchester (22nd May 2017) and London Bridge (3rd June 2017).

discussion of possible characteristics that describe the terror attacks that leads to the largest change in hate crime that is considered in detail in section 4 of the paper.

4. Which Terrorist Attacks Lead to an Increase in Hate Crime?

In the aftermath of terrorist attacks, there has been discussion that sensationalist media articles can show a misinforming and inaccurate portrayal of Muslims. In the UK context, a detailed study of print and broadcast reports by the Centre for Media Monitoring (Hanif, 2019) reveals a serious problem in the way that media reports about Islam and Muslims. Examination of over 10,000 articles and clips referring to Muslims and Islam in the last quarter of 2018 reveals that 59% of all articles associated Muslims with negative behaviour, over a third of all articles misrepresented or generalised facts about Muslims, and terrorism was the most common theme. There are many examples of front pages and articles in UK newspapers where British Muslims have been falsely associated with sympathising jihadism (e.g. the Sun front page in November 2015).¹⁴ The way in which the media report on terrorism, and whether that affects individual behaviour, is both highly sensitive and controversial. Research by Kearns, Betus and Lemieux (2019) found that terrorist attacks by a Muslim perpetrator attract on average about 4.5 times more media coverage, controlling for a number of characteristics. They find that U.S. media outlets disproportionately emphasise the smaller number of terrorist attacks by Muslims - leading them to argue that has led Americans to have an exaggerated sense of jihadi terrorism threat. Lajevardi (2021) finds that negative news portrayals of Muslims and Muslim Americans increase hostility toward Muslim Americans and increase support for stringent policies targeting them.

¹⁴ A review can be found in Sian et al (2012). Hanif (2019) studies media's portrayal of Muslims. Some examples of headlines there were later on retracted include the wrong portrayal of a Muslim man as a tube bomber or the wrong generalization that a fifth of British Muslims sympathize with jihadism (Rawlison, 2016).

Extending these lines of argument to the study context of this paper, media could play a role in sustaining or amplifying the post-terror attack jumps in local hate crime that the results of the previous section of the paper showed. When trying to look at mechanisms that drive these results, it is of considerable interest to disentangle a possible role of media reporting on jihadi terrorism inducing attitudinal change in perceptions of Muslims in society that could result in more anti-Muslim hate crime. The ten terror attacks studied in this paper received significant newspaper coverage. This is strongly confirmed by assembling data on the number of articles in the UK media that report on terrorist attacks committed by Islamist or jihadi groups. Figure OA4 very much confirms that in weeks where the terror attacks occurred, the newspaper coverage was higher, and that the peaks in articles about jihadi terrorism correspond to the jihadi terror attacks which either occurred in Western Europe or whose victims were British citizens.

To empirically explore this hypothesis, in this section we present additional analyses. First, we replicate our difference-in-differences research design by changing the independent variable to a measure of newspaper reporting and by estimating it on a daily panel of hate incidence to closer delve into the time dynamics. Next, we broaden our definition of the terrorist attacks considered in our analysis to further consider how terrorist attack characteristics and their newspaper coverage interact with hate crime occurrence.

Including Media in the D-i-D Analysis

Inclusion of weekly media coverage measures in the D-i-D specifications of the previous section of the paper also shows a significant covariation between Islamophobic hate crime and media. Table 3 reports D-i-D estimates looking at media measures: the weekly number of articles on jihadi terrorist attacks, and the number of peak articles defined via a dummy variable set equal to one when the number of daily articles published falls within the top 5% of the distribution. As the results in the Table show, there is a positive and statistically

significant association between the media measures and the number of Islamophobic hate crimes and incidents. More media coverage is connected to a higher rate of Islamophobic hate crime. In the week of the peak in newspaper articles, there is a sizable percent increase of Islamophobic hate crimes and this persists in the following two weeks, decreasing in size.¹⁵ In the two weeks after a peak in newspaper articles, on average, there was an additional 7.3 Islamophobic hate crimes and incidents, leading to a total of around 95 in our sample period. As during the peaks of reporting on terrorist attacks, there is on average 1300 articles published in a week, this results in an average increase of 6 hate crimes per 1000 articles. There are no significant effects in the weeks preceding it.

Table 3: Hate Crimes and Newspaper Articles on Jihadi Terror Attacks

Log (Hate Crimes)				
	(Media measure): Log(Number of articles)		(Media Measure): Peak articles, 95 th percentile	
	(1)	(2)	(3)	(4)
[Islamophobic x (Media measure)], t+3		-0.008		0.124
		(0.062)		(0.163)
[Islamophobic x (Media measure)], t+2		0.092		0.163

¹⁵ The point estimates in the following weeks prove to be somewhat less stable. This likely occurs as headline news in UK newspapers is often followed by the same topic being frequently reported on in the following week too (so one might observe successive Peak Articles).

		(0.077)		(0.117)
[Islamophobic x (Media measure)], t+1		0.131 (0.061)		0.352 (0.195)
[Islamophobic x (Media measure)]	0.243 (0.069)	0.246 (0.059)	0.755 (0.179)	0.760 (0.185)
[Islamophobic x (Media measure)], t-1		-0.184 (0.061)		-0.255 (0.122)
[Islamophobic x (Media measure)], t-2		-0.009 (0.047)		-0.051 (0.100)
[Islamophobic x (Media measure)], t-3		0.008 (0.067)		-0.151 (0.071)
Sample size	2152	2128	2152	2128
Crime group fixed effects	Yes	Yes	Yes	Yes
Week fixed effects	Yes	Yes	Yes	Yes
Crime group x Year fixed effects	Yes	Yes	Yes	Yes

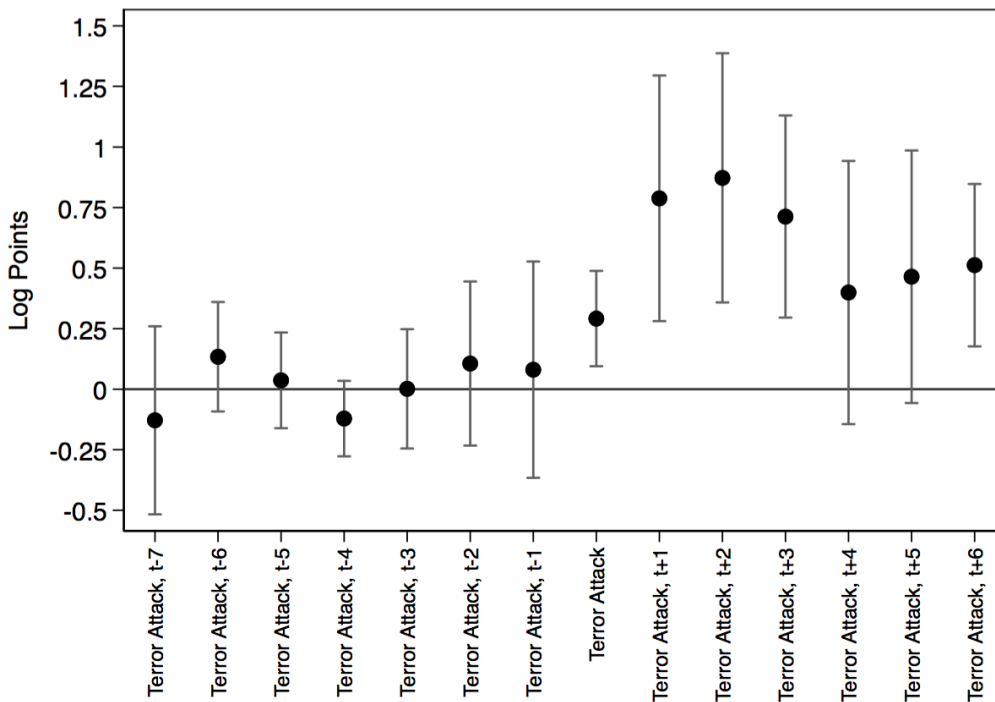
Notes: The sample covers 538 weeks between April 2008 and August 2018 and is pooled across the four crime types (Islamophobic, Disabled, Antisemitic, Sexual Orientation). The coefficients reported are for the interaction of the Media Measure variable and the Islamophobic identifier (the difference-in-differences estimator). Peak Articles is a dummy equal to one when the number of articles is in the top 5 percent of the distribution. Standard errors are clustered at the crime type-year level.

Media Magnification

To hone in with more detail, one can move to look at daily patterns in the number of hate crimes and incidents reported to GMP and number of newspaper articles reported in UK

national newspapers. We study the dynamics of both these time series, to better understand the granular detail of the timing of their co-movements through data visualisation and to test the explanation of media magnification as one of the possible mechanisms behind our findings.

Figure 3: Daily Islamophobic Hate Crime and Terror Attacks, Seven Days Leads and Lags, in Logs



To begin this more detailed data visualisation process, Figure 3 reproduces the coefficients and their 95% confidence intervals from the earlier D-i-D analysis on daily data. In a specification comparable to the event study of column (5) of Table 2, but with estimates reported for the 7 days before and after the attack, an interesting pattern emerges. The pre-attack coefficients are all insignificant, showing no violation of the parallel trends assumption underlying the D-i-D estimator. The post-attack coefficients show a pattern of heterogeneity that speaks strongly to the media magnification idea. All are positive and significant, but the initial sizable spike up on the day of the terror attack is followed by even higher Islamophobic

hate crime in the next few days, after which the estimates decay a little. In the following week they return to the (higher than pre-attack) level seen on the day of the attacks. These patterns are in line with a possible narrative that some of the Islamophobic hate crime activity may not be an immediate response, but rather is stimulated by information on perpetrators and victims highlighted in media activities in days following attacks. This also suggests that it is not just the information on the occurrence of attacks that incites a violence against the Muslim minority, as we would expect a more immediate change on the day of the terror attack, but the media sensationalism that also ensues.

To see this pattern even more clearly and to look at the media variable at the same time, Figure OA5 plots the daily time series of the number of Islamophobic hate crimes in Manchester (the dotted line with scale shown on the right y axis) and the number of newspaper articles (the solid line with scale shown on the left axis) for the Lee Rigby, Charlie Hebdo, Paris (November 2015) and Brussels (March 2016) attacks in a time window two weeks before and after attacks. The charts make it quite clear that peaks in Islamophobic hate crimes and incidents occurred after the peak of media coverage in the first few days following the terror attacks. The temporal patterns of change therefore show that Islamophobic hate crimes spike up straight away, but following a lag, increase even higher. The media measures also occur with a lag, typically appearing in the newspapers late on the day and more visibly to the general public the day after.

Until now, the analysis focused on the effects of ten most salient jihadi international terrorist attacks on the out-group hate in Greater Manchester. A question arises as to what characterises these terrorist attack that led to anti-minority sentiment far away from the location of the attacks. To understand this, we conduct a comprehensive analysis using information on all terrorist attacks recorded in the Global Terrorism Database over an eleven-year period. Due to the high frequency of terrorist attacks during this period, we aggregate

the data at the weekly level. We consider the main explanatory variables as the weekly level counts of the number of jihadi terror attacks, the number killed and wounded in attacks, the number of UK or West European victims, and the length of the attack. As the outcome, we consider what terrorist attack characteristics determine their coverage in UK national newspapers, and in turn, what terrorist attack characteristics result in changes in Islamophobic hate activities. The results of this analysis are reported in Table 4.

Column (1) shows results looking at the log-transformed weekly total number of Islamophobic hate crimes and incidents, column (2) considers the log-transformed weekly total number of newspaper articles on terrorism. The results quite clearly show that the presence and number of UK victims in terrorist attacks is a crucial determinant that both shapes the size of newspaper coverage and the subsequent rise in Islamophobic hate. We next turn to understanding the role of newspaper coverage as a mechanism that explains the contagion effects of these international events.

Table 4: Terror Attack Characteristics, Islamophobic Hate Crimes and Newspaper Coverage

	Log (Islamophobic Hate Crimes)	Log (Number of articles)
	(1)	(2)
Killed and wounded	-0.000 (0.000)	0.000 (0.000)
Jihadi attacks	0.004 (0.002)	0.002 (0.001)
UK Victims	0.011 (0.004)	0.010 (0.002)
West European Victims	0.000 (0.000)	0.002 (0.002)
Extended attack	-0.006 (0.005)	-0.007 (0.004)
Sample size	538	538
Year fixed effects	Yes	Yes

Notes: The sample covers 538 weeks between April 2008 and August 2018. The outcome variables are the weekly total number of Islamophobic hate crimes and incidents (in columns 1 and 2), while in columns 3 and 4 the outcome variable is the weekly total number of newspaper articles on terrorism. The explanatory variables are weekly level counts of the number of jihadi terror attacks, the number killed and wounded in attacks, the number of UK or West European victims, and the length of the attack, based on data from the Global Terrorism Database. Robust standard errors in parentheses.

Terror Attacks With Less or no Media Coverage

One important further observation of interest is that some terrorist attacks receive less media attention. This mostly arises either as attacks occur in a different setting or as British

citizens identify and empathize less with victims of these attacks. Take, as a specific example, the case of three significant terror attacks that did not meet the criteria for inclusion in our sample. They took place further away from the UK (i.e. not in Western Europe) in 2016 and 2017: the 01 January 2017 attack in Istanbul that resulted in 39 deaths (and 70 injuries); the 28 June 2016 attack in Istanbul Ataturk Airport (45 deaths, 230 injuries); and the 03 April 2017 St. Petersburg attack (15 deaths, 87 injured). None of the total of 99 deaths were from Western Europe. In these three incidents, the victims were predominantly Russian or Turkish nationals.¹⁶ The perpetrators were jihadis from either Uzbekistan or Kyrgyzstan. Despite featuring many more deaths and injuries than most of the ten attacks considered in the prior analysis, all three of these received fewer substantial media attention in UK newspapers. Figure OA6 shows what happened to Islamophobic hate crime in Manchester, presenting event study D-i-D estimates for these three attacks in an analogous way to the earlier analysis. For these, there is no spike in anti-Muslim hate crime in Manchester - these attacks that were featured less by the media do not seem to generate local hate crime spikes in Manchester.

Beyond these three sizable attacks, we have also undertaken low (or no) media coverage placebos more systematically. It is possible to look at local hate crime and media coverage before and after attacks that occurred in different places around the world. To be more precise, using information from the Global Terrorism Database, we have identified the ten most significant terrorist attacks by the total number of civilians wounded and killed in the attacks in our sample period from 2008 to 2018 in three areas of the world: war torn places, Asia, and Sub-Saharan Africa. In terms of importance of attacks for the criteria we have specified, each is very much dominated by terror activity in particular places, as follows (more precise detail is in Online Appendix Table OA5):

¹⁶ Of the total of 99 deaths, 49 were Turkish or Russian. One person had dual French and Tunisian nationality, and there was one Canadian. The remainder (except for two from Morocco) were all of Asian nationality.

- i) War torn places – conflict in Afghanistan, Iraq and Syria.
- ii) Asia - Pakistan¹⁷
- iii) Sub-Saharan Africa - attacks committed by Boko Haram's terrorist group¹⁸

Many of these thirty attacks featured many more victims and casualties than the ten jihadi attacks that were studied earlier. Yet they received nowhere near as much UK media coverage. This is very clearly shown in the daily time series correlation between the occurrence of the terrorist attacks and daily number of newspaper articles in UK newspapers¹⁹ in an event study setting in estimation in the three panels of Figure OA7. Also using an event study D-i-D estimation for these attacks in an analogous way to the earlier analysis, the daily variation in Islamophobic hate crime before and after these attacks is shown in Figure 4. Tests of joint significance of leads and lags do not reject the null hypothesis of no discernible patterns, showing that none of these attacks led to a change in Islamophobic hate crime in Manchester.

These terror attacks can be thought of as offering placebo-based evidence that, when attacks are less likely to resonate empathetically with UK citizens who may be on the margins of hate crime and when they have no media coverage, there is no impact on local hate crime. That no hate crime surge against Muslims and no media response occurs, provides confirmatory evidence that our main analysis is picking up both a hate crime surge against Muslims following jihadi attacks and that this is amplified further by media coverage.

¹⁷ Using the Global Terrorism Database, attacks in Pakistan represent the majority of the most lethal, especially jihadi attacks, over our sample period in Asia once attacks in war torn countries have been excluded. In our case, if we define the most significant attacks by not narrowing down the geography to Pakistan alone but to the whole of Asia, the results remain very much the same. Detailed results can be provided upon request.

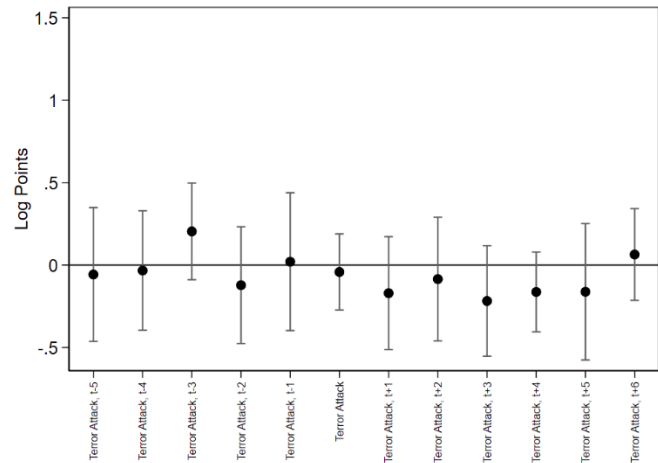
¹⁸ Attacks committed by the jihadi Boko Haram terrorist group represent the majority of the most lethal terrorist attacks in Africa in the sample period. Again if we define the most significant attacks by not narrowing down to specifically Boko Haram attacks, the results do not differ neither in the magnitude nor statistical significance. Detailed results can be provided upon request.

¹⁹ The entire population of articles published online or in print in UK national newspapers from April 2008 to August 2018 with a keyword search was run on LexisNexis using the following algorithm: "(terror or terrorist or terrorism) AND (attack or bomb or bombing or incident) AND (muslim or islam or islamist or jihadi or isil or al-qaeda or isis or islamic state)".

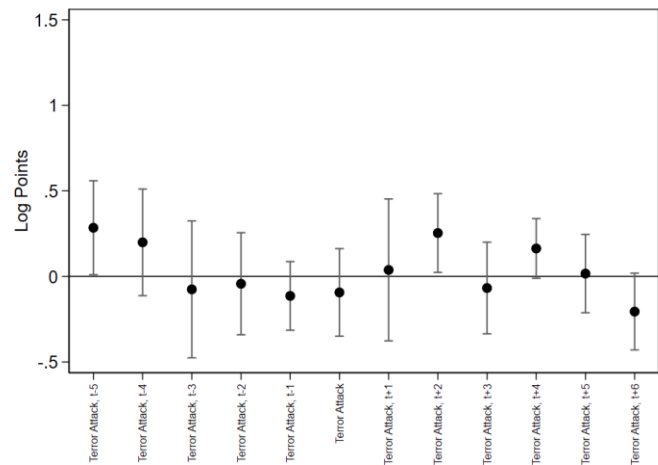
Finally, detailed and confidential individual level data on identified perpetrators of hate crime are used to provide further corroboratory evidence on the role of media. While this is descriptive in nature, it is highly suggestive that an important mechanism in inciting Islamophobic hate in these at-margin perpetrators is their media consumption patterns. To do so, we use geographic variation in newspaper readership from the National Readership Survey (NRS) and residency postcodes of perpetrators.

Figure 4. Attacks in Asia, Africa and War Torn Areas, Local Hate Crime

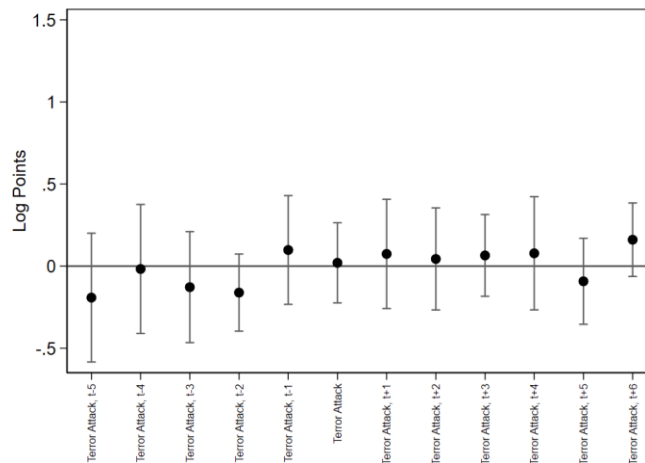
a) War Torn Areas (Ten Attacks in Afghanistan, Iraq and Syria)



b) Asia (Ten Attacks in Pakistan)



c) Africa (Ten Boko Haram Attacks)



Areas where offenders of Islamophobic hate crime live have twenty percent more residents that belong to the C2DE social grade.²⁰ The National Readership Survey in the UK in recent years shows that C2DE social grades are about three times as likely to read the Sun, and twice as likely to read tabloids such as the Daily Mirror and the Daily Star than ABC1 social grades. The Sun and these tabloids have twice as much reporting on jihadi terrorism than for example newspapers such as the Guardian and the Telegraph. Moreover, the peaks around terrorist attacks were most pronounced. Finally, these publications subsequently turn out to have the highest proportions of “Misleading” and “Irrelevant” headlines on Muslims published (Hanif, 2019).

5. Conclusions

This paper reports empirical findings connecting the occurrence of international jihadi terror attacks to out-group hate crimes committed against Muslims in a local setting, the city of Manchester in Northern England. Event study analysis of the impact of ten attacks on local hate crime in Manchester reveals an immediate big spike up in Islamophobic hate

²⁰ The ABC1 and C2DE social grades were originally developed by the National Readership Survey (NRS) to classify readers, where the C2DE social grade mainly reflect the working class and non-working population.

crimes and incidents following the attacks. The hate crime spikes were subsequently magnified by media coverage in national newspapers. The mechanism underpinning this is that potential perpetrators are induced into committing hate crimes by the media coverage. The media induced magnification subsequently attenuates, but hate crime incidence cumulates to higher levels than prior to the series of ten attacks.

Even when they reside in places away from where jihadi terror attacks take place, local Muslim populations face a media magnified likelihood of hate crime victimization that occurs following international terror attacks. It is important, however, that such effects only seem to occur for attacks that are more salient, either because of their nature and location or because of the way the media covers them, to the resident population. These attacks create an attitudinal shock in resident populations leading them to perceive minority groups that share the religion of the attack's perpetrators as an out-group threat. These findings are likely to have had important effects on community cohesion in Greater Manchester, and hold ramifications for the future. Furthermore, the nature of the media magnification means the results are of wider significance for other localities with ethnic and religious groups who are potential victims of Islamophobic hate crime.

That hate crime is exacerbated by media coverage poses important questions about handling and consequences of politically sensitive events. First, it is clear that these crimes impose significant economic and social costs when they occur both on individual victims and on their communities. Second, with hate crime levels and the threat of victimization being higher, these costs are likely to increase, and to further fragment and alienate minority communities in the medium to longer term if the responses to withdraw back into communities seen elsewhere also happen (as documented for US states in Gould and Klor, 2016). Third, and to conclude, there are issues for wider society about how the media go about their business of reporting on terror attacks and whether current practice, especially of

a more sensationalist and antagonistic nature, is indeed appropriate or whether it should be more carefully monitored and better regulated in future. This big challenge applies to both conventional newspapers and more broadly to online coverage by media and other pressure groups, including through the usage of different forms of social media. These cyber dimensions form an important research agenda on hate for the future.

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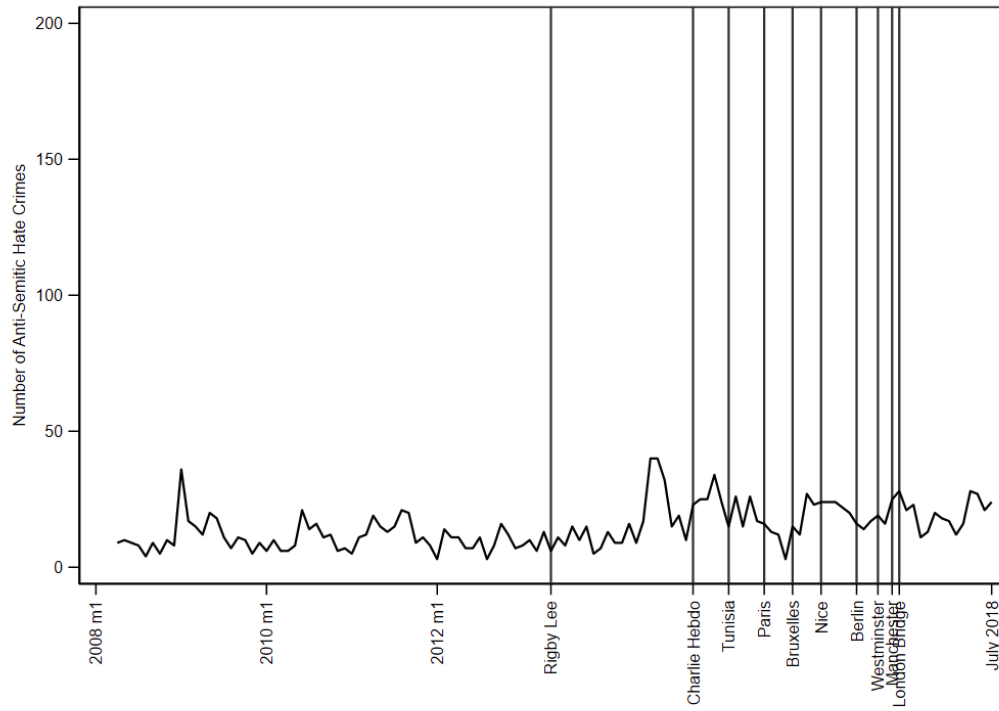
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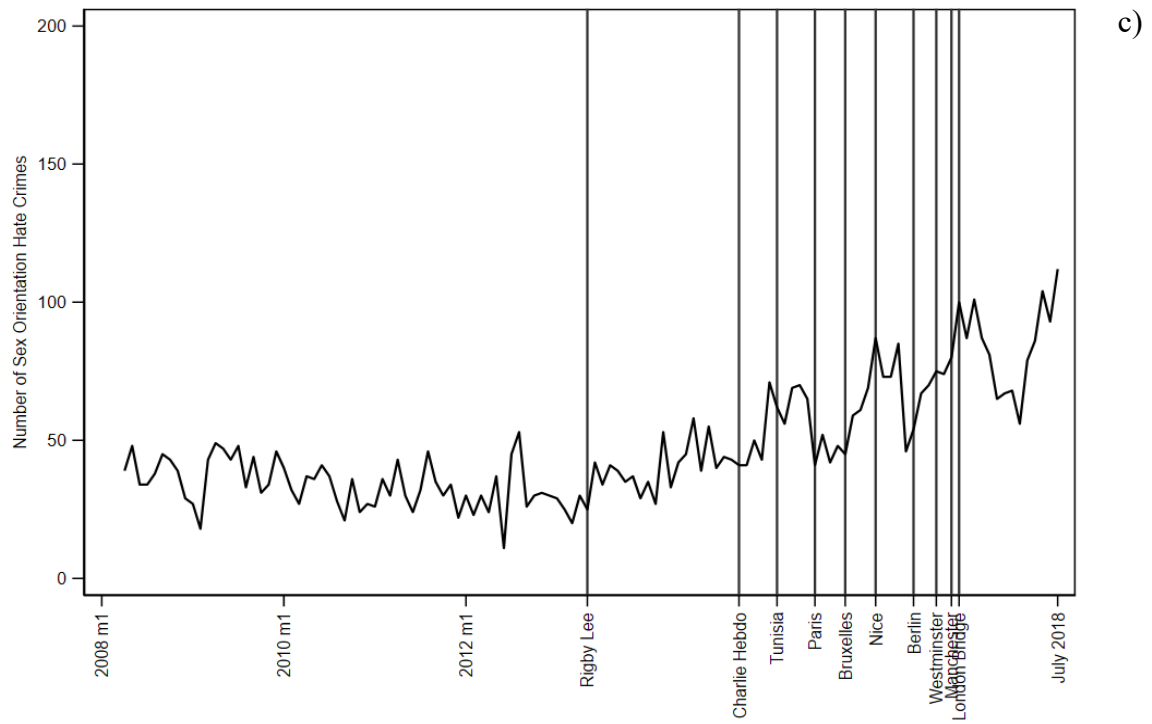
Online Appendix

Figure OA1. Control Group Trends

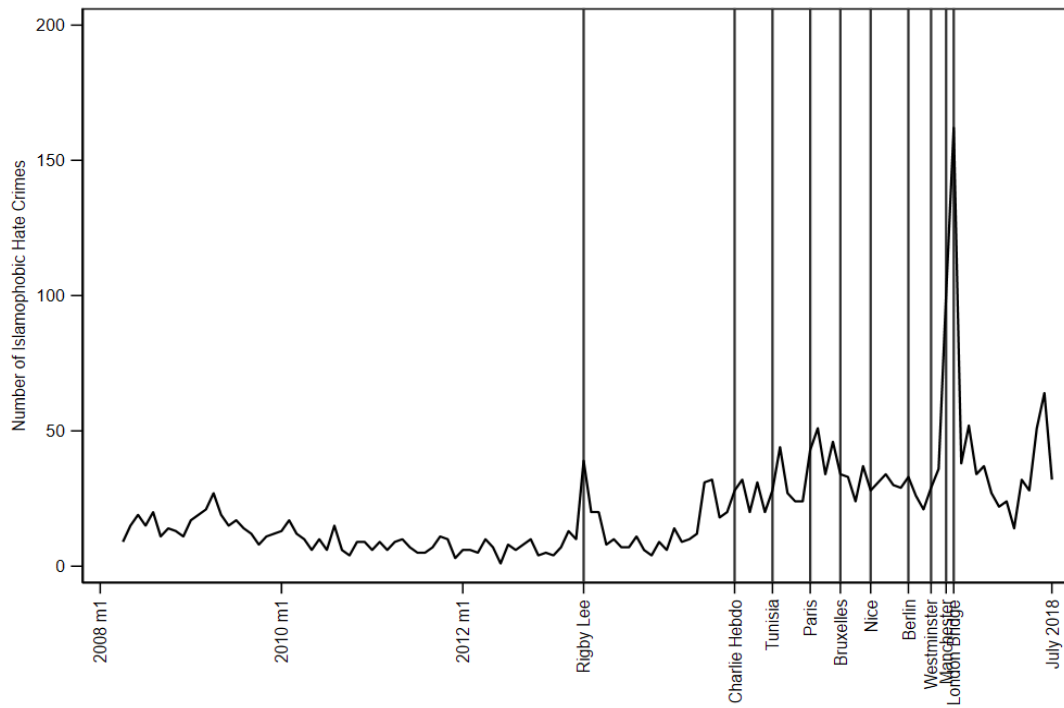
a) Anti-semitic



b) Sexual Orientation



Islamophobic



d) Disability

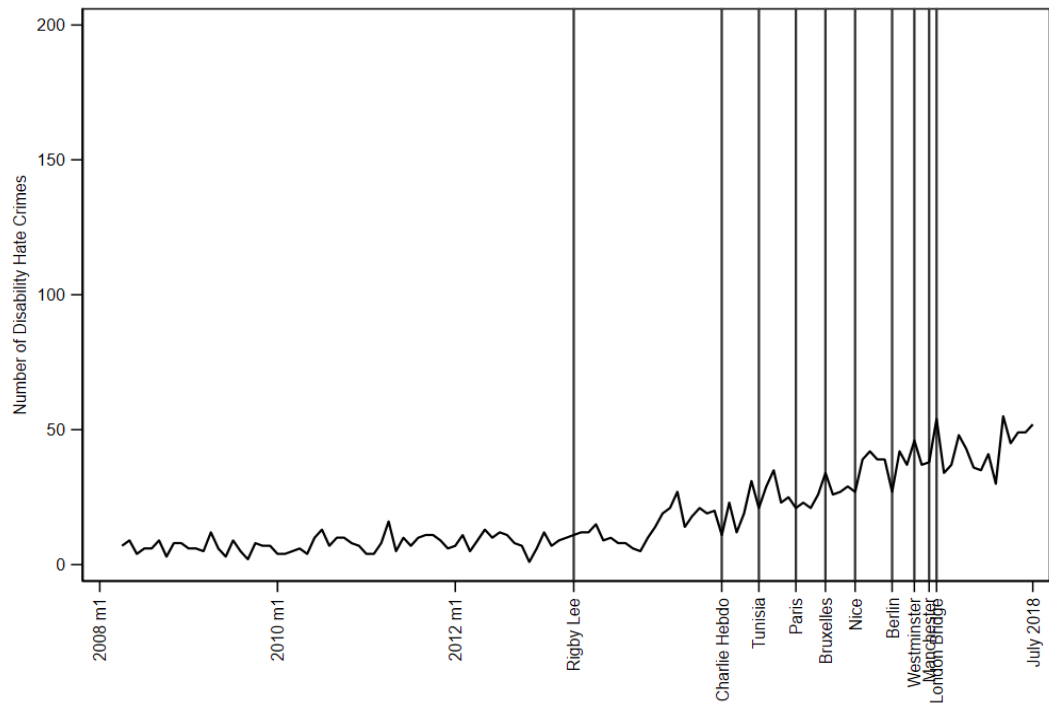
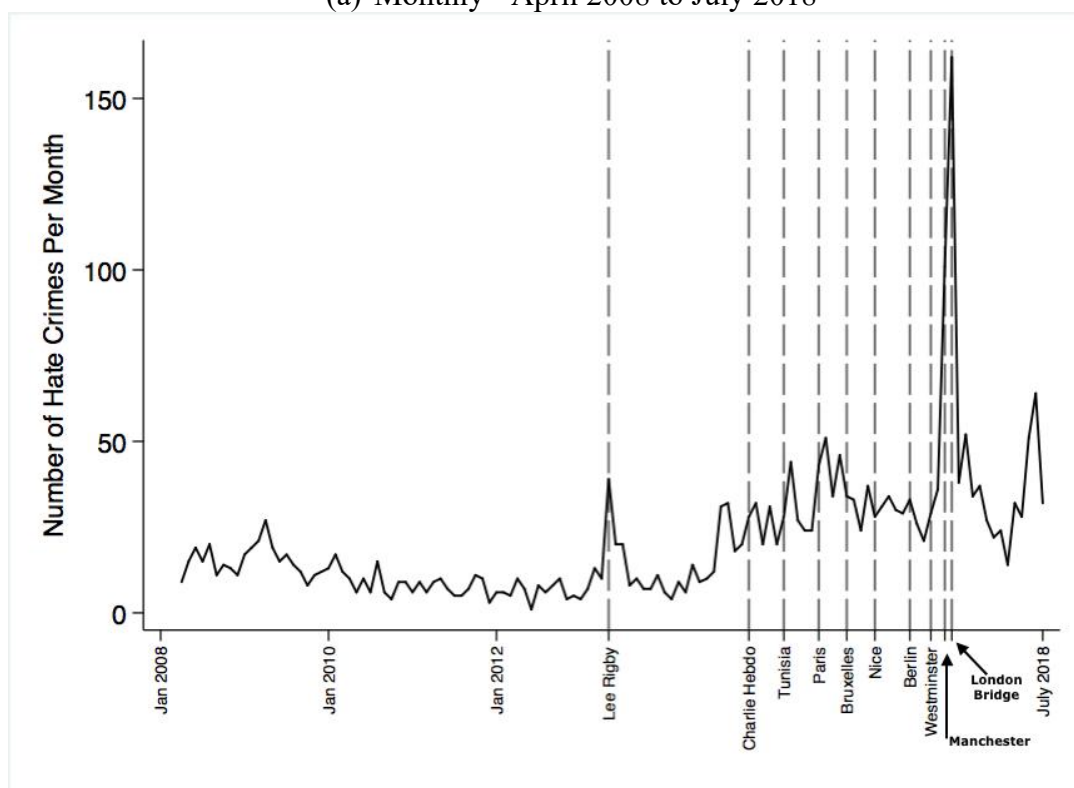


Figure OA2: Islamophobic Hate Crimes in Manchester

(a) Monthly - April 2008 to July 2018



(b) Weekly - 2017

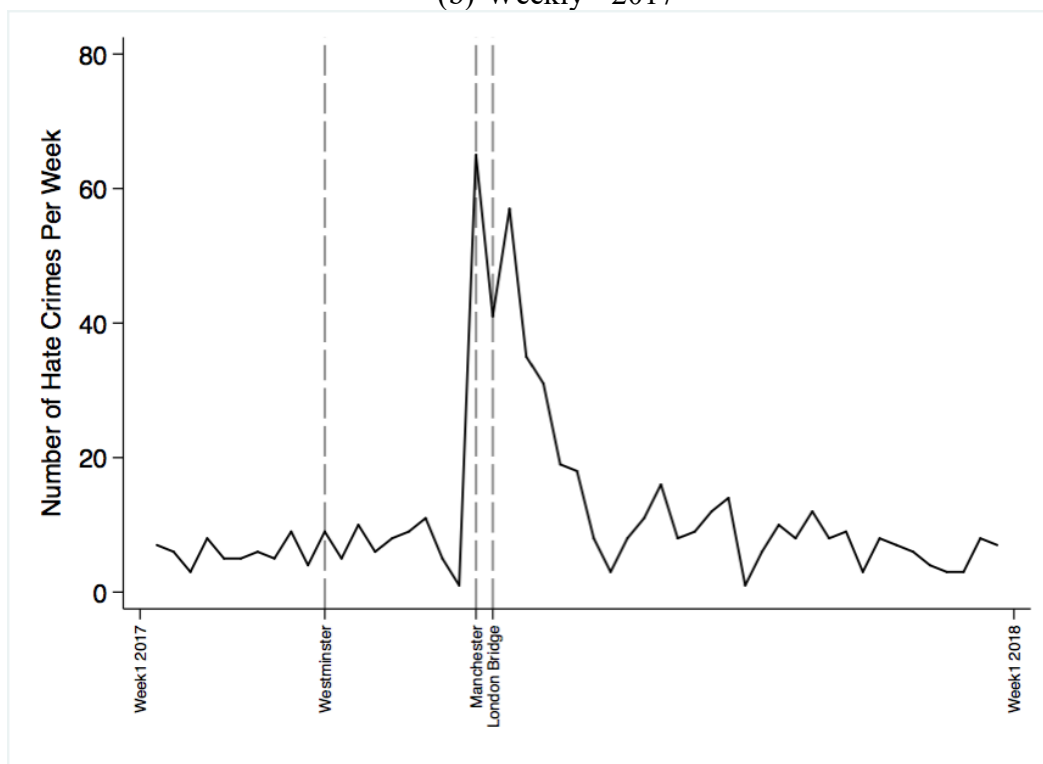


Figure OA3. Hate against Muslims: Recording

a) Full time period

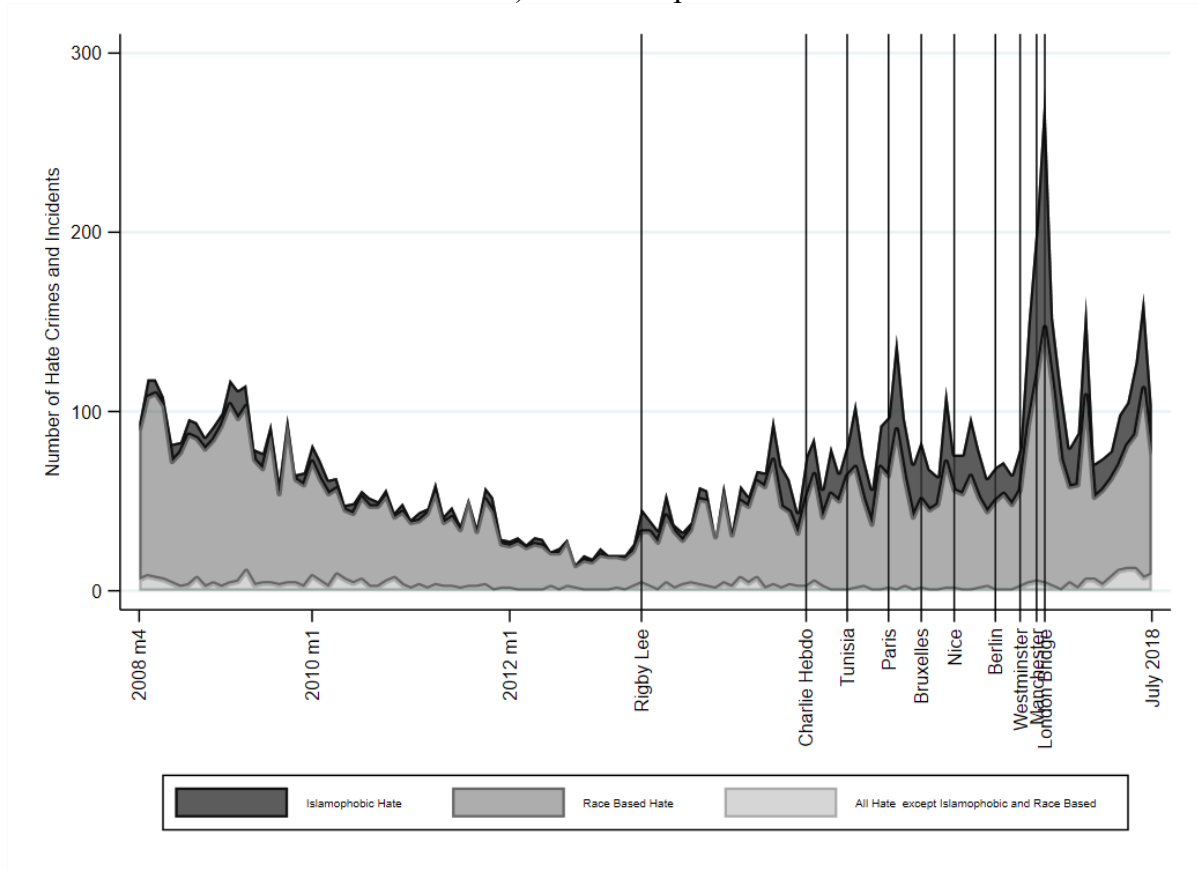
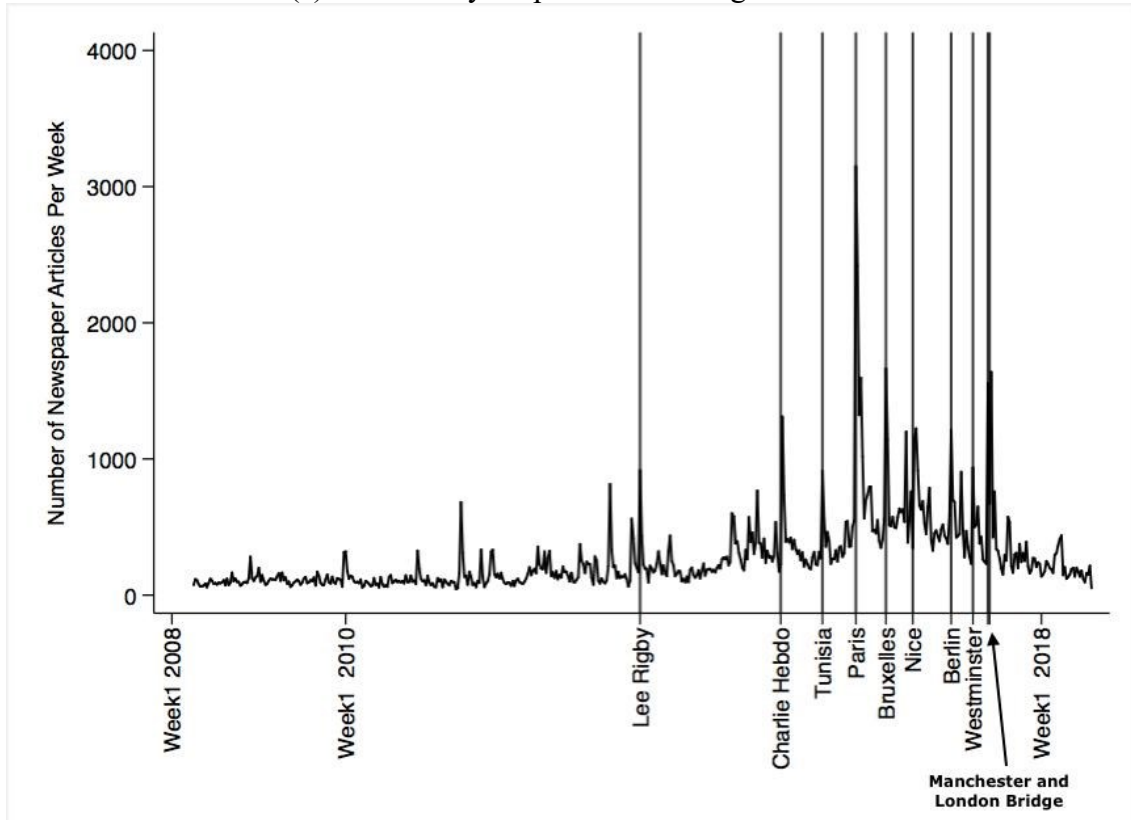


Figure OA4: Weekly Number of Newspaper Articles Published in UK National Newspapers on Jihadi Terror Attacks, 2008 to 2018

(a) Weekly - April 2008 to August 2018



b) Weekly - 2014 to 2018

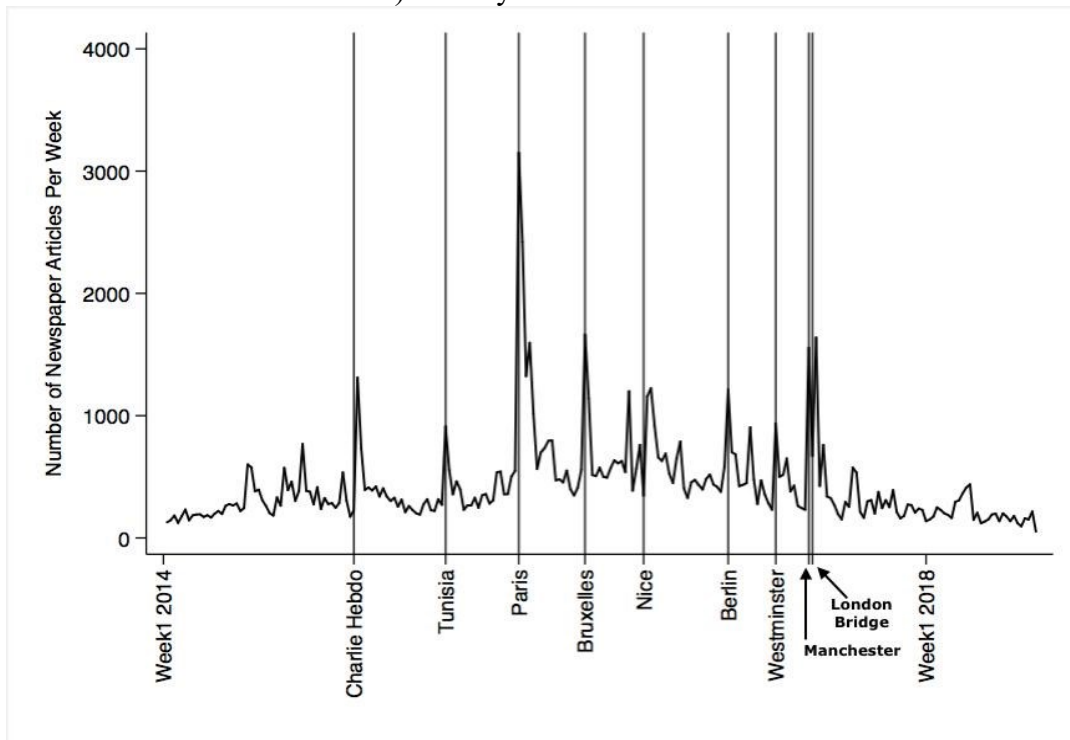
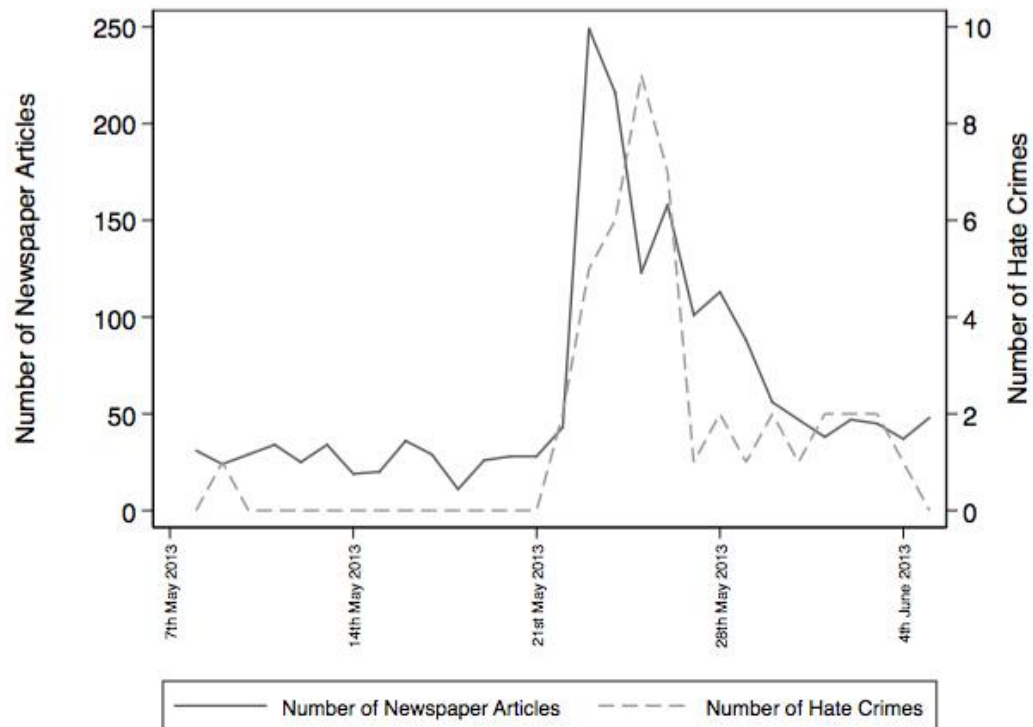
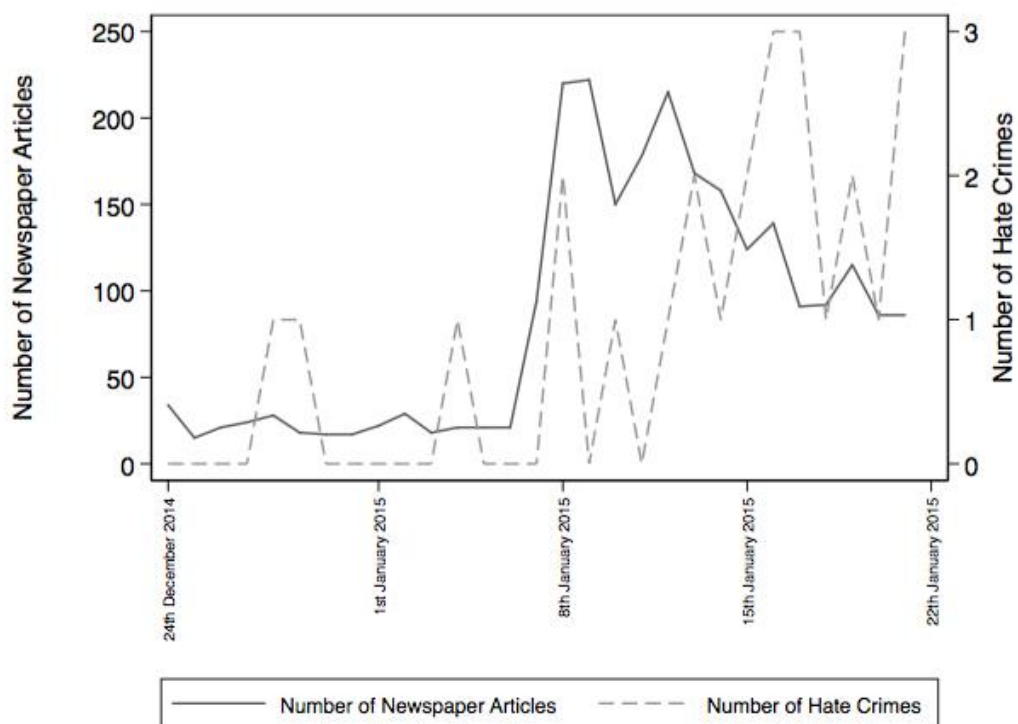


Figure OA5: Daily Numbers of Islamophobic Hate Crimes and Newspaper Articles, Two Weeks Preceding and Following a Jihadi Terror Attack

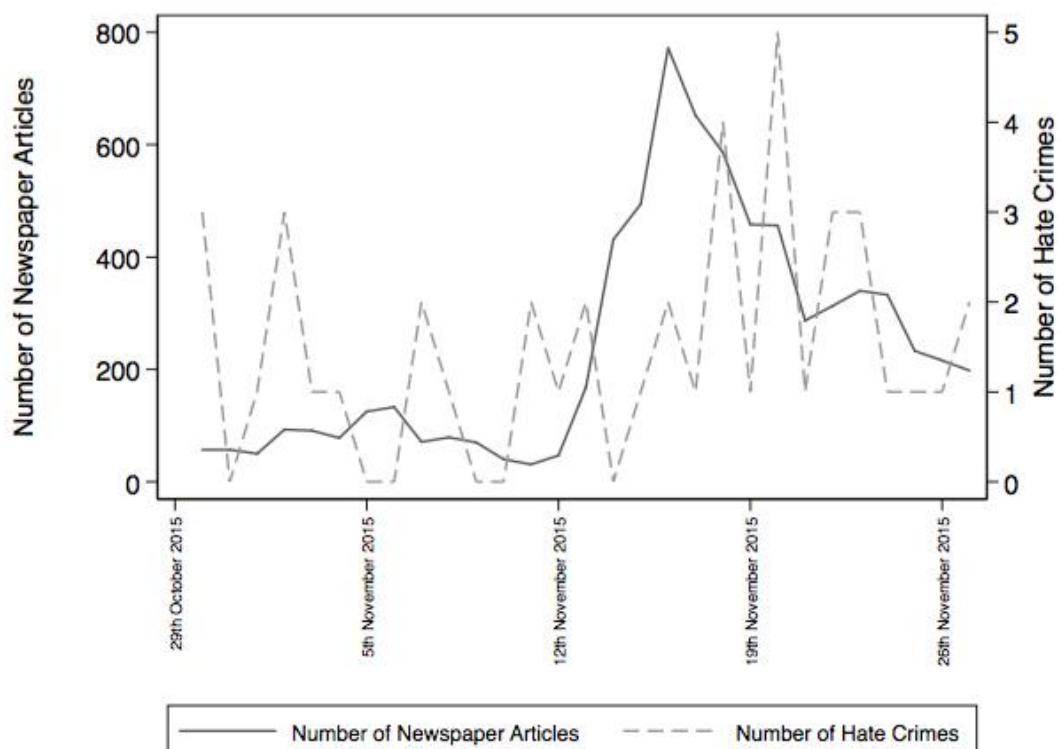
a) Lee Rigby (22nd May 2013)



b) Charlie Hebdo (7th January 2015)



c) Paris (13th November 2015)



d) Brussels (22nd March 2016)

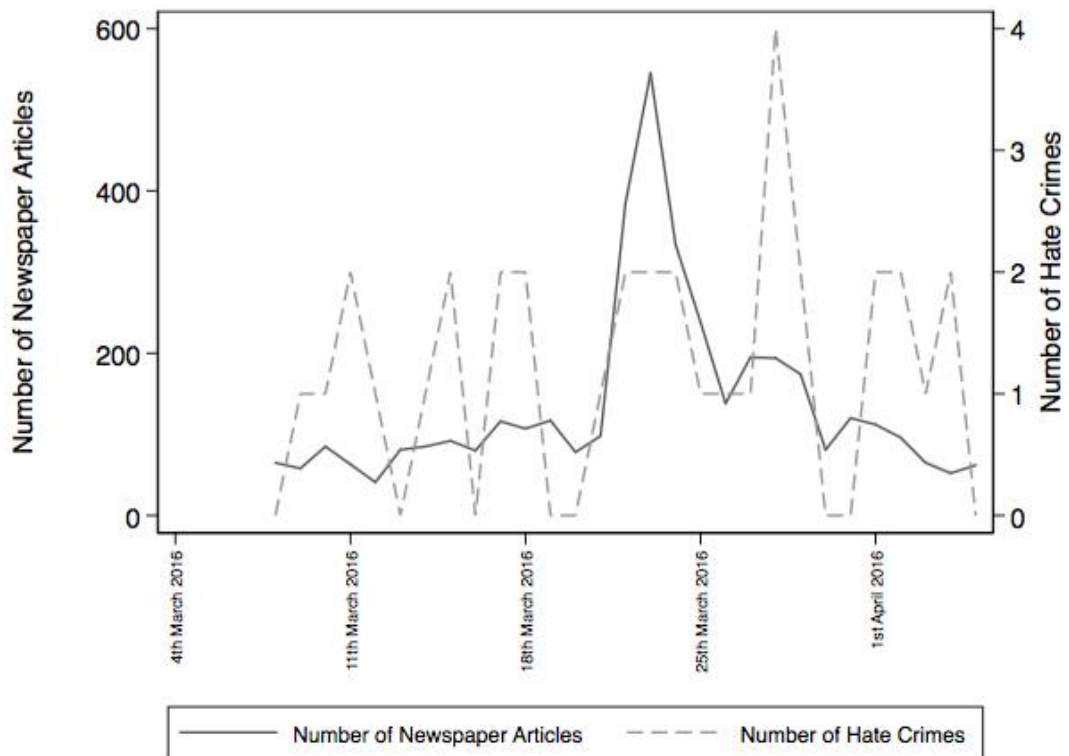
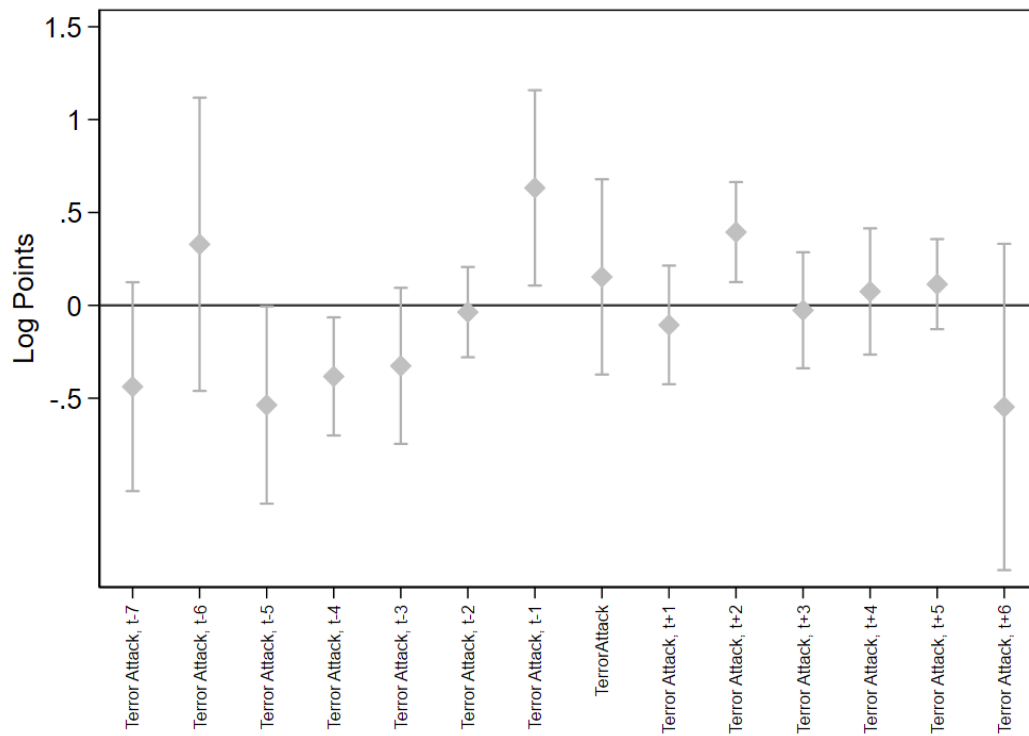


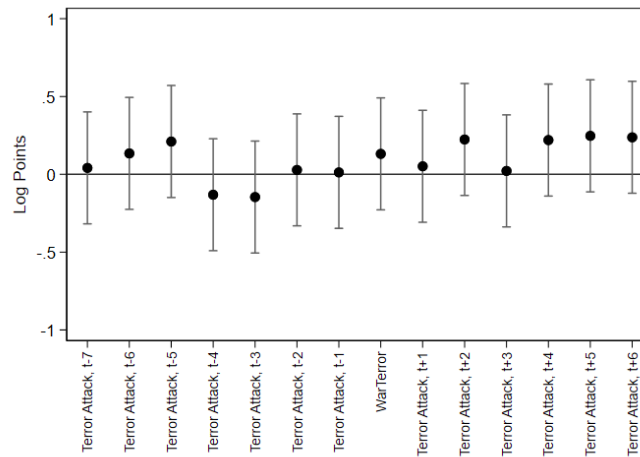
Figure OA6. Three Additional Terror Attacks: Islamophobic hate crime



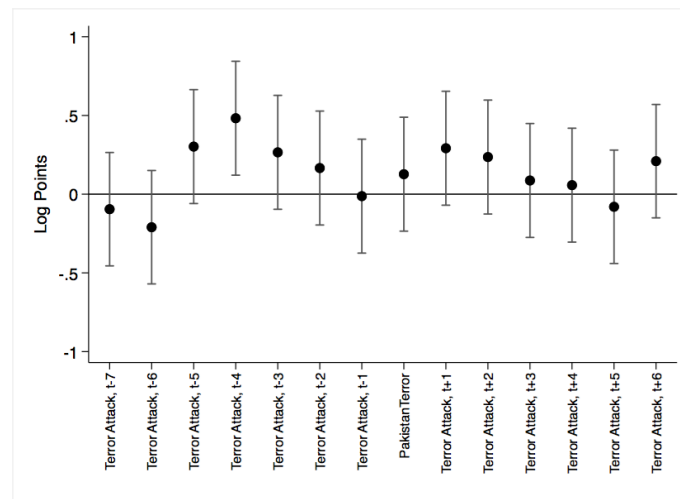
Note: Coefficients and their 95% confidence intervals shown in panel b) are from a specification comparable to column (5) of Table 2 based on daily data, estimating a seven day window around attack days.

Figure OA7. Attacks in Asia, Africa and War Torn Areas, Media Coverage

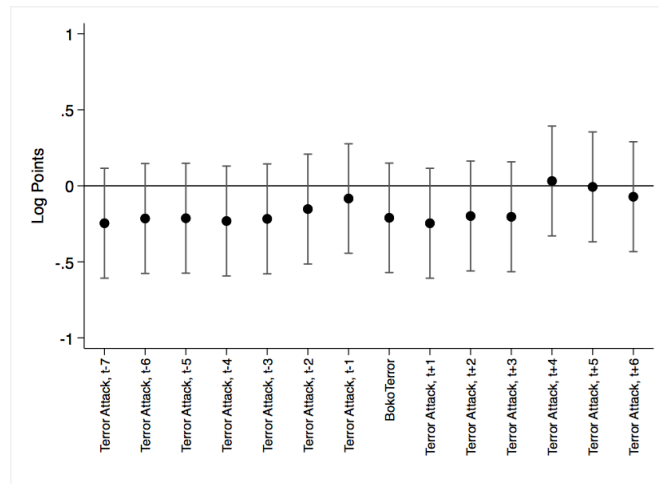
a) War Torn Areas (Ten Attacks in Afghanistan, Iraq and Syria)



b) Asia (Ten Attacks in Pakistan)



c) Africa (Ten Boko Haram Attacks)



Note: The figure shows graphical representations of D-i-D estimates on a daily time series. Tests of joint significance of leads and lags do not reject the null hypothesis of no discernible patterns. Details of the attacks are in Table OA5.

Table OA1: Hate Crimes and Jihadi Terror Attacks, Issues of Recording

Log (Hate Crimes)						
	All		Victim Reported		999 Calls	
	(1)	(2)	(3)	(4)	(5)	(6)
[Islamophobic x (Terror attack)], t+3		0.281 (0.154)		0.233 (0.167)		0.096 (0.186)
[Islamophobic x (Terror attack)], t+2		0.385 (0.155)		0.170 (0.303)		0.451 (0.211)
[Islamophobic x (Terror attack)], t+1		0.630 (0.100)		0.407 (0.141)		0.364 (0.121)
[Islamophobic x (Terror attack)]	0.836 (0.316)	0.851 (0.314)	0.799 (0.297)	0.808 (0.300)	0.638 (0.265)	0.643 (0.259)
[Islamophobic x (Terror attack)], t-1		-0.238 (0.141)		-0.128 (0.148)		0.015 (0.164)
[Islamophobic x (Terror attack)], t-2		0.017 (0.153)		-0.064 (0.146)		-0.150 (0.127)
[Islamophobic x (Terror attack)], t-3		-0.108 (0.136)		0.041 (0.139)		0.017 (0.199)
Sample size	2152	2128	2152	2128	2152	2128

Crime group fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Week fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Crime group x Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The sample covers 538 weeks between April 2008 and August 2018 and is pooled across the four crime types (Islamophobic, Disabled, Antisemitic, Sexual Orientation). The outcome variables vary according to the method of recording (victim reported, 999 reporting, or all calls). The coefficients reported are for the interaction of the terror attack dummy variable and the Islamophobic identifier (the difference-in-differences estimator). Standard errors are clustered at the crime type-year level.

Table OA2 Violent Hate Crimes and Jihadi Terror Attacks

	Log (Violent Hate Crimes)					
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
[Islamophobic X (Terror attack)], t+3				0.216 (0.112)	0.147 (0.102)	-0.056 (0.176)
[Islamophobic X (Terror attack)], t+2				-0.066 (0.131)	-0.127 (0.173)	-0.314 (0.146)
[Islamophobic X (Terror attack)], t+1				0.512 (0.167)	0.449 (0.185)	0.300 (0.188)
[Islamophobic X (Terror attack)]	0.589 (0.191)	0.520 (0.204)	0.412 (0.185)	0.554 (0.169)	0.489 (0.198)	0.314 (0.179)
[Islamophobic X (Terror attack)], t-1				-0.091 (0.100)	-0.144 (0.098)	-0.346 (0.154)
[Islamophobic X (Terror attack)], t-2				-0.091 (0.133)	-0.145 (0.143)	-0.339 (0.156)
[Islamophobic X (Terror attack)], t-3				-0.140 (0.164)	-0.199 (0.191)	-0.416 (0.147)
Observations	2,152	2,152	2,152	2,128	2,128	2,128
R-squared	0.537	0.568	0.595	0.539	0.571	0.601
Crime Group FE	YES	YES	YES	YES	YES	YES
Week FE	YES	YES	YES	YES	YES	YES
Crime Group x Year FE	NO	YES	NO	NO	YES	NO
Crime Group x Quarter FE	NO	NO	YES	NO	NO	YES

Notes: The sample covers 538 weeks between April 2008 and August 2018 and is pooled across the four crime types (Islamophobic, Disabled, Antisemitic, Sexual Orientation). The outcome variables refer to violent hate crime (violence with and without injury) within the Islamophobic, Disabled, Antisemitic, Sexual Orientation hate types. The coefficients reported are for the interaction of the terror attack dummy variable and the Islamophobic identifier (the difference-in-differences estimator). Standard errors are clustered at the crime type-year level

Table OA3: Hate Crimes and Jihadi Terror Attacks, by Religion of Victim

	Log (Hate Crimes)			
	Islamophobic against Muslim	Racial against Muslim	Islamophobic against Non- Muslim	Racial against Non- Muslim
	(1)	(2)	(3)	(4)
[Islamophobic X (Terror attack)], t+3	0.236 (0.111)	0.151 (0.110)	0.016 (0.177)	-0.029 (0.096)
[Islamophobic X (Terror attack)], t+2	0.225 (0.150)	0.069 (0.081)	0.168 (0.144)	-0.039 (0.079)
[Islamophobic X (Terror attack)], t+1	0.294 (0.102)	0.074 (0.120)	0.640 (0.207)	0.119 (0.100)
[Islamophobic X (Terror attack)]	0.463 (0.243)	0.192 (0.137)	0.563 (0.301)	0.239 (0.112)
[Islamophobic X (Terror attack)], t-1	-0.354 (0.135)	0.046 (0.078)	-0.087 (0.151)	-0.014 (0.130)
[Islamophobic X (Terror attack)], t-2	-0.217 (0.214)	-0.104 (0.119)	0.003 (0.252)	0.123 (0.132)
[Islamophobic X (Terror attack)], t-3	-0.120 (0.160)	-0.110 (0.098)	-0.206 (0.227)	0.017 (0.107)
Sample Size	2128	2128	2128	2128

Crime group fixed effects	Yes	Yes	Yes	Yes
Week fixed effects	Yes	Yes	Yes	Yes
Crime group x Year fixed effects	Yes	Yes	Yes	Yes

Notes: The sample covers 538 weeks between April 2008 and August 2018 and is pooled across the four crime types (Islamophobic, Disabled, Antisemitic, Sexual Orientation). The outcome variables are Islamophobic and Racial hate committed against victims identified as Muslim (columns 1 and 2) vs Non-Muslim (columns 3 and 4). The coefficients reported are for the interaction of the terror attack dummy variable and the Islamophobic identifier (the difference-in-differences estimator). Standard errors are clustered at the crime type-year level.

**Table OA4: Robustness - 2008-2016 and Time-Varying Effects of Recent Attacks
(Manchester and London Bridge)**

Log (Hate Crimes)				
	Sample To End 2016		Heterogeneity	
	(1)	(2)	(3)	(4)
[Islamophobic x (Terror attack)], t+3		0.144 (0.212)		0.136 (0.162)
[Islamophobic x (Recent terror attack)], t+3				0.613 (0.167)
[Islamophobic x (Terror attack)], t+2		0.312 (0.272)		0.242 (0.213)
[Islamophobic x (Recent terror attack)], t+2				0.349 (0.217)
[Islamophobic x (Terror attack)], t+1		0.646 (0.174)		0.503 (0.183)
[Islamophobic x (Recent terror attack)], t+1				0.375 (0.223)
[Islamophobic x (Terror attack)]	0.689 (0.393)	0.740 (0.404)	0.617 (0.336)	0.657 (0.346)
[Islamophobic x (Recent terror attack)]			1.100 (0.367)	0.430 (0.364)
[Islamophobic x (Terror attack)], t-1		-0.246 (0.167)		-0.279 (0.152)
[Islamophobic x (Recent terror attack)], t-1				0.803

				(0.364)
[Islamophobic x (Terror attack)], t-2	0.210			0.190
	(0.087)			(0.079)
[Islamophobic x (Recent terror attack)], t-2				-1.645
				(0.202)
[Islamophobic x (Terror attack)], t-3	-0.094			-0.119
	(0.190)			(0.165)
[Islamophobic x (Recent terror attack)], t-3				0.771
				(0.211)
Sample size	1820	1808	2152	2128
Crime group fixed effects	Yes	Yes	Yes	Yes
Week fixed effects	Yes	Yes	Yes	Yes
Crime group x Year fixed effects	Yes	Yes	Yes	Yes

Notes: The sample in columns (1) and (2) covers the 452 weeks between April 2008 and December 2016, while the sample in columns (3) and (4) covers 538 weeks between April 2008 and August 2018 and is pooled across the four crime types (Islamophobic, Disabled, Antisemitic, Sexual Orientation). The coefficients reported are for the interaction of the terror attack dummy variable and the Islamophobic identifier (the difference-in-differences estimator). Standard errors are clustered at the crime type-year level.

Table OA5: Summary Statistics on Terror Attacks Characteristics

	Date	Total Killed and Wounded	Jihadi
A. War Torn Areas			
Taza Khurmatu	09/03/2016	1503	Yes
Saqlawiyah	01/06/2016	649	No
Kabul	31/05/2017	584	Yes
Kunduz	28/09/2015	536	Yes
Sinjar	03/08/2014	500	Yes
Palmyra	10/12/2016	433	Yes
Damascus	10/05/2012	427	Yes
Kabul	19/04/2016	418	Yes
Kabul	07/08/2015	416	Yes
Kabul	23/07/2016	313	No
B. Pakistan			
Lahore	27/03/2016	430	Yes
Peshawar	28/10/2009	320	Yes
Quetta	16/02/2013	260	Yes
Lahore	01/09/2010	240	Yes
Quetta	03/09/2010	216	Yes
Lahore	07/12/2009	201	No
Quetta	08/08/2016	200	Yes
Shah Hassan Khel	01/01/2010	187	Yes
Parachinar	23/06/2017	181	Yes
Jamrud	19/08/2011	180	Yes

C. Boko Haram Attacks

Gamboru Ngala	05/05/2014	315	Yes
Karamga	25/04/2015	239	Yes
Madagali	09/12/2016	236	Yes
Dalori	30/01/2016	224	Yes
Konduga	17/09/2014	201	Yes
Kalabalge	13/05/2014	200	Yes
Kukuwa-Gari	13/08/2015	174	Yes
Maiduguri	25/11/2014	163	Yes
Garawa	13/05/2014	151	Yes
Potiskum	03/11/2014	150	Yes
Kirawa	04/09/2015	149	Yes

Source: Global Terrorism Database (2018 Release) for the period of April 2008 until 31st December 2017. The Africa Boko Haram attacks are almost the same set of attacks when the criteria are the most lethal attacks over the same period in SubSaharan Africa. War Torn countries include Syria, Afghanistan and Iraq. The Kalabalge and Garawa attacks occurred on the same day, so we also include the 11th Kirawa attack.