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Hate Begets Warmth? The Impact of an Anti-Muslim Terrorist Attack on Public Attitudes toward Muslims

Running Head: Hate Begets Warmth

Abstract

This article examines the impact of the 15th March 2019 far-right terrorist attack against Muslims in Christchurch, New Zealand on public opinion toward Muslims. It also examines whether the impact of the attack varies for individuals across the political spectrum. We make use of data from the 2019 New Zealand Attitudes and Values Study ($N = 47,951$) to compare the attitudes of New Zealanders before and after the attack. Using a range of statistical techniques, including regression discontinuity analysis, we find robust evidence that the attack led to an immediate increase in warmth toward Muslims. We also show that this increase was driven by both left-wing/liberal and right-wing/conservative individuals in the immediate days after the attack. Soon after the attack, however, attitudes toward Muslims among the politically conservative population tended to revert to pre-attack levels. By contrast political liberals maintained their heightened level of positive attitudes for a longer period. We discuss the possible theoretical reasons for these findings.

Key words: far-right, terrorism, Muslims, public attitude, regression discontinuity

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The effect of terrorist attacks on public attitudes has been the focus of many recent studies. Scholars have investigated a range of outcomes from attitudes toward ethnic and religious minorities,¹ shifts in political orientation,² liberty-security tradeoffs,³ institutional and interpersonal trust,⁴ electoral and political participation,⁵ and support for incumbent governments.⁶ However, most of these studies are based on attacks committed by Islamist terrorists.⁷ Such attacks often increase perceptions of threat, authoritarianism, and ethnocentrism, and negative perception of ethnic and religious minorities, immigrants, refugees,⁸ and especially Muslim minorities.⁹ However, an important question is how do people respond to a minority group being targeted by a majority group terrorist?

To address this question, we investigate attitude change after the 15th March 2019 Christchurch mosque attacks, in which a far-right terrorist murdered 51 and injured 49 Muslims at the Al Noor Mosque and the Linwood Islamic Centre in Christchurch, New Zealand. Only a handful of studies have examined the effect of attacks committed by far-right extremists on public perceptions and attitudes. For example, research has shown no increase in the perception of personal threat,¹⁰ more favorable attitudes toward immigrants,¹¹ and increased out-group trust.¹² These findings suggest that the ideology of the attacker, the target of the attack, and the social context critically determine whether and how certain public attitudes change in the aftermath of a terrorist attack. However, none of these studies have examined how terrorist attacks directly against a minority group impact attitudes toward the same group targeted.

In this article, we focus primarily on attitude change toward Muslims following the Christchurch terrorist attack. To put any potential attitude changes in perspective, we also provide additional analysis focusing on other social groups in New Zealand. We use data from the 10th wave

of the New Zealand Attitudes and Values Study (NZAVS) to compare the attitudes of New Zealand citizens and residents who completed the questionnaire before the attack, as well as those who completed the questionnaire in the weeks and months following the attack. These continuous time series data from a diverse national sample enables magnitude robust investigation of change on anti-Muslim prejudice after the attacks. Previous studies suggest a potential moderating role of political ideology.¹³ Here, we investigate whether the magnitude and duration of effect of the attack on warmth toward Muslims differed among people who differ in political ideology.

Effect of Terrorist Attacks on Public Attitudes toward Ethnic and Religious Minority Groups

Most quantitative research on the effect of terrorist attacks on public attitudes toward ethnic and religious minority groups has appeared in the last two decades. Almost all of this work focuses on Islamist terrorism and the results tend to be intuitive. The Islamist terrorist attacks of 9/11, Bali 2002, Madrid 2004, London 2005, Paris 2015, and Berlin 2016 all worsened public attitudes toward the minority groups viewed as being most immediately associated with these attacks (i.e., Muslims and Arabs).¹⁴ Negative attitudes even extended to those linked to the attackers only superficially or in imagined ways, for example, immigrants or refugees in general,¹⁵ or by a comparable “otherness”, such as Jews in the case of the Madrid attack.¹⁶ The negative effect was also found in countries beyond where the attack was committed.¹⁷ For example, attitudes toward immigrants significantly worsened in Poland, Finland, and Portugal after the Bali 2002 attack.¹⁸

However, some studies fail to detect an effect of an Islamist terrorist attack in the West on national public attitudes toward immigrants and Muslims. For example, Boydston, Feezell and

Glazier investigated the effects of the November 2015 attack at the Bataclan in Paris and the ensuing December 2015 attack in San Bernardino and found the attacks had no effect on Americans' attitudes toward Muslims.¹⁹ These null effects might be (partially) due to the fact that the first attack occurred abroad, whereas the second attack resulted in relatively few casualties. Similarly, Castanho Silva examined the effects of the Charlie Hebdo (2015) and November 2015 attacks in Paris.²⁰ Both attacks failed to change attitudes toward Muslim and general immigration among the French respondents, respectively. In the latter case, the non-significant findings could be partially due to insufficient disaggregation of the dependent variable (i.e., attitudes toward immigrants and refugees) to specific groups (i.e., Muslims), since grouping immigrants and/or ethnic/religious minorities might hide changes in attitudes with respect to only some specific groups.²¹ In the former case, the specific context of the Charlie Hebdo attack could have influenced the results. Castanho Silva explained the lack of effect of the attack on attitudes toward Muslim immigration by suggesting that the clear motivation of the attackers with respect to their target (i.e., the redaction of the satirical magazine Charlie Hebdo, which is known for sparking controversies by disparaging religions, including Islam) did not increase feelings of threat in society as a whole.²²

To our knowledge, the 2011 attack in Norway is the only terrorist attack by a far-right extremist to receive empirical attention with respect to its effect on public attitudes toward ethnic or religious minority groups. Using a Norwegian public opinion survey in a quasi-experimental design, Jakobsson and Blom found that attitudes toward immigrants became more positive after the attack.²³ Wollebæk et al. and Solheim corroborated the positive change of attitudes toward immigrants in Norway, at least with respect to outgroup trust, which increased significantly after the attack.²⁴ Given that the Christchurch attack was not committed by an Islamist terrorist, but by an ethnically white far-right terrorist who targeted Muslims, we expect that the effect of the attack

would resemble the effects found in Norway. However, unlike the Norway terrorist attack that was against political opponents, the attack in Christchurch specifically targeted a Muslim minority population in their place of worship. In many western nations, Muslims face prejudice and hostility from the majority group and there is a perceived clash of civilization between western and Muslim values.²⁵ In fact, Muslims experience among the highest levels of prejudice in New Zealand.²⁶ This leads to the following prediction:

Hypothesis 1: *The 2019 terrorist attack in Christchurch improved public opinion toward Muslims.*

The Role of Political Ideology

Although many studies find that Islamist terrorist attacks worsen attitudes toward ethnic and religious minority groups,²⁷ it is not clear whether and how individuals' political ideology moderate this effect. Studies that tested the moderating role of political ideology point to differing conclusions. On the one hand, Echebarria-Echabe and Fernández-Guede found that both conservative and liberal respondents in Spain became less positive toward Muslims following the Madrid 2004 attack.²⁸ On the other hand, conservatives, but not liberals, became more xenophobic, anti-refugee, and anti-immigrant immediately following the Charlie Hebdo attack in 2015,²⁹ the Berlin Christmas Market attack in 2016,³⁰ and the November 2015 attack in Paris.³¹ Finally, Ferrín et al. and Van de Vyver et al. showed that liberal, but not conservative, Europeans and Britons viewed immigrants and Muslims more negatively following the November 2015 attack in Paris and the July 2005 attack in London, respectively.³²

Although these studies are informative, terrorist attacks by an ethnic majority member against ethnic and/or religious minorities differ in important ways. Perhaps most notably, the increase in the perception of threat among ethnic majority members, which accompanies Islamist terrorist attacks in the West, is likely low or completely absent in such cases. In the aftermath of the Oklahoma Bombing of 1995 by a white American terrorist, Americans did not report an increase in their feeling of personal risk and vulnerability.³³ A clear demarcation of the target – a government building – could have prevented ordinary citizens from feeling personally threatened, in contrast to random attacks. Similarly, attacks on (clearly demarcated) minorities probably do not elicit feeling of personal threat by majority members and do not set in motion the same intergroup psychological processes triggered by an attack of a minority member against the majority.

As noted earlier, the aftermath of the 2011 attack in Norway *improved* attitudes toward immigrants and outgroup trust. Jakobsson and Blom suggested that, given the identity of the attacker (a white Norwegian), these effects may be due to the *black sheep effect*—a phenomenon where a deviant ingroup member is judged more harshly than outgroup members.³⁴ Jakobsson and Blom thus concluded that politically right leaning Norwegians became especially hostile to the attacker (an ideological ingroup member) as his violent extremism threatened the image and identity of the entire group.³⁵ The shift to more positive attitudes toward immigrants was interpreted as an attempt to dissociate from the perpetrator and his ideology.

However, Solheim,³⁶ using panel data, provided strong evidence against the black sheep effect. Panel respondents who were already positive toward immigrants before the attack (as well as supporters of parties other than an anti-immigration right-wing party) drove the effect by increasing their outgroup trust, whereas those with prior negative attitudes and/or supporters of

the anti-immigration party only minimally increased their outgroup trust after the attack. Solheim attributed these findings to *public backlash*.³⁷ Specifically, the particular political and social reaction to the attack by the social democratic government, left-leaning media and the majority of the liberally-oriented society emphasized tolerance, openness, and solidarity. In turn, this strengthened the attitudes of the already liberally-minded individuals and made the more conservative and right-wing segments of society feel censored.

Although Solheim does not explicitly use the term,³⁸ his argument reflects a process of group polarization (possibly driven by the intergroup-categorization process) whereby the repeated emphasis on certain norms and values increases the salience of the left/liberal group membership and attitude polarization.³⁹ In this case, those who are left-leaning would have their previously-held beliefs about the dangers of far-right ideologies confirmed and express their rejection of it by increasing their support for minority groups. Conversely, right-leaning Norwegians might have felt little disconfirmation of their own stereotypes about outgroups. The fact that the attacker was not an outgroup member should not change their perceived threat or anxiety stemming from minority outgroups. Indeed, the perceived threat to the homogeneity of Norwegian society caused by “alien” outgroups may even be used to excuse the violent extremism of some less mentally stable individuals. Hence, there was little reason for the right-leaning respondents in Solheim’s study to reassess their trust of outgroups.⁴⁰

Although we expect a general improvement in attitudes toward Muslims following the Christchurch attack (Hypothesis 1), we can formulate additional expectations regarding the political segments of New Zealand most likely to drive this expected change. The following three competing predictions seem plausible:

Hypothesis 2a: Building on the black sheep effect, right-wing individuals could feel the need to disassociate themselves from the ideology of the terrorist. Accordingly, *the hypothesized increase in positive attitudes toward Muslims should be primarily driven by right-wing and conservative individuals.*

Hypothesis 2b: The public backlash thesis would predict the opposite effect. Namely, *the hypothesized increase in positive attitudes toward Muslims should be primarily driven by left-wing and liberal individuals.*

Hypothesis 2c: Finally, the hypothesized increase in positive attitudes towards Muslims could take place across all individuals, irrespective of political ideology. Accordingly, *the increase in positive attitudes toward Muslims should occur for both liberals (left-wing) and conservatives (right-wing).*

Method

Participants

These analyses are based on data collected by the NZAVS. The NZAVS is an ongoing 20-year national longitudinal panel study that began in 2009. In this article, we use data from its 10th wave, which were collected between January 2018 and November 2019 and, as such, include the timeframe surrounding the terrorist attack in Christchurch. The total sample size of the 10th wave was 47,951 individuals, 38% of whom participated in one or more previous waves. Participants were randomly selected from the New Zealand Electoral Roll which contains details of all registered New Zealand voters. For more details on the sampling procedure, see the publicly accessible technical

document of the study.⁴¹ The New Zealand Attitudes and Values Study was approved by The University of Auckland Human Participants Ethics Committee (reference number: 014889).

Data collection for the 10th wave took place both before and after the terrorist attack which took place on 15 March 2019. Accordingly, we were in the unique position of being able implement a naturalistic test on the impact of the attack on attitudes toward Muslims. Similar studies use a window ranging from a few days to a few months before and after the attack.⁴² We examine the effect of the attack using three windows: 7 ($N = 461$), 30 ($N = 1,594$), and 90 ($N = 8,180$) days before and after the attack. The respondents of smaller windows are included in the larger windows (see Appendix 1 for a graphical representation of the numbers of respondents per day). Because we are unable to identify the time at which respondents completed the survey on the day of the attack, we have excluded all observations from 15 March ($N = 27$). The entire sample of the 10th wave of NZAVS was used in the regression discontinuity calculations that were used as an additional statistical technique for investigating the main effect of the attack.

We checked for the possibility that respondents before and after the attack, in the three abovementioned windows, systematically differed in key socio-demographic and political characteristics. This is important because, unlike standard experiments, random assignment is not possible in a naturalistic setting. Therefore, we conducted an imbalance analysis in the form of a multiple logistic regression,⁴³ where a binary outcome variable reflecting survey completion before vs. after the attack was regressed onto the focal socio-demographic and political variables. The analysis showed that respondents before and after the attack did not systematically differ on age, gender, household income, ethnicity (European vs non-European), and residence (urban vs. rural), as well as left-right and liberal-conservative political self-classification. The only statistically significant difference between groups was noted with respect to education, where respondents who

completed the survey 30 and 90 days after the attack were slightly more educated on average than those who answered the survey 30 and 90 days before the attack (see Appendix 2).

Measures

Warmth toward Muslims. The main outcome variable was measured by a feeling thermometer in which respondents rated their feelings of warmth toward Muslims on a scale from 1 (least warm) to 7 (most warm). The mean and standard deviations for this and all other variables are described for the 7, 30, and 90 days windows in Appendix 3. We also included data on warmth toward other social groups to provide additional context. These groups were: refugees, immigrants, Asians, Chinese, Indians, Pacific Islanders, Māori, and New Zealand Europeans (see Appendix 4 for descriptive statistics and mean difference tests).

Left-Right Self-Classification. This variable was measured by a single question, “Please rate how politically left-wing versus right-wing you see yourself as being”, on a scale from 1 (extremely left-wing) to 7 (extremely right-wing).

Liberal-Conservative Self-Classification. This variable was measured by a single question, “Please rate how politically liberal versus conservative you see yourself as being”, on a scale from 1 (extremely liberal) to 7 (extremely conservative).

Finally, although the imbalance analysis showed that education was the only variable that systematically varied between respondents who completed the survey before and after the attack, we controlled for education, age, gender, household income, ethnicity (European vs. non-European), residency (urban vs. rural), and left-right and liberal-conservative self-classification.

Results

The Effect of the Attack on Warmth toward Muslims

A simple t-test analysis showed that the mean warmth toward Muslims in all three time windows after the attack was significantly higher than in the corresponding pre-attack periods (see Appendix 3). We conducted a multiple regression for each time window to see whether responding after the attack predicts higher levels of warmth toward Muslims when controlling for the main socio-demographic and ideological variables. As displayed in Table 1, responding to the survey after the attack (as opposed to before the attack) correlates significantly with higher warmth toward Muslims across all time windows after adjusting for our covariates. As for the effects of our covariates, men expressed colder feelings towards Muslims than did women across all time windows. Conversely, more educated, left-wing and liberal respondents were reliably more positive toward Muslims in the 30- and 90-day windows after the attack.

Table 1. Multiple OLS Regression of Warmth toward Muslims on Belonging to the Post-Attack Group of Respondents, Controlling for Demographics and Political Ideology.

| | 7 Days | 30 Days | 90 Days |
|-------------------|------------------|------------------|------------------|
| Post-Attack Group | .46** (.15) | .46*** (.09) | .28*** (.04) |
| Age | -.00 (.01) | -.00 (.00) | -.00 (.00) |
| Male | -.62*** (.16) | -.31*** (.08) | -.27*** (.04) |
| Education | .01 (.05) | .07** (.03) | .08*** (.01) |
| Household Income | .00 (.00) | .00 (.00) | .00* (.00) |

| | | | |
|----------------------|------------------|------------------|------------------|
| European Ethnicity | -.33 (.19) | .08 (.11) | -.00 (.04) |
| Urban | .33 (.19) | .20 (.10) | 0.07 (.04) |
| Left-Right | -.14 (.07) | -.12** (.04) | -.13*** (.02) |
| Liberal-Conservative | -.13 (.07) | -.12** (.04) | -.13*** (.02) |
| Constant | 5.22*** (.48) | 4.80*** (.26) | 4.94*** (.11) |
| Obs. | 362 | 1313 | 6940 |
| R-squared | .14 | .10 | .09 |

Coefficients reported as regression coefficients. Standard errors are in parenthesis.

* $p < .05$, ** $p < .01$, *** $p < .001$

Although we controlled for the main socio-demographic and ideological variables in the analysis displayed in Table 1, unobserved variables not captured by the imbalance analysis may nevertheless contribute to systematic differences between respondents before and after the attack. Because these unobserved variables (e.g., a simple trend in time) could account for the increase in warmth toward Muslims, we turn to a Regression Discontinuity Design (RDD), which is “one of the most credible non-experimental strategies for the analysis of causal effects.”⁴⁴ We use a *local randomization framework*,⁴⁵ which is based on the assumption that there is a cut-off point (e.g., the day of the attack) which abruptly divides the score (e.g., days) of particular units (e.g., respondents) to control and treatment groups. If the units are unable to perfectly influence whether participants receive the treatment or not, then a causal effect can be estimated by comparing the units just below and above the cut-off point (since the treatment is assumed to be randomly assigned).

The first important step in the local randomization RDD design was to determine the region around the cut-off where the local randomization point is assumed to take place. We used a special function (`rdwinselect`) in the STATA package called `rdrandinf` (Randomization Inference for RD Designs under Local Randomization) developed by Cattaneo, Titiunik, and Vazquez-Bare and included the main socio-demographic and ideological variables as covariates, thus determining that the most suitable window for the local randomized analysis is 2 days.⁴⁶ We proceeded with the analysis for this particular window (the calculation uses the entire sample of the 10th wave of NZAVS) and observed a statistically significant increase in warmth toward Muslims following the attack (mean difference = .735) using both Fisherian and Neymanian approaches ($ps < .01$).

As an additional robustness check, we applied the *continuous approach* to RDD, which assumes a continuous and univariate “running” variable (i.e., days, in our case). Although this variable is discrete in our case, we can still use an analysis based on the continuous approach because of a high number of “mass points” (values shared by many observations). This analysis uses the local polynomial regression method and, as in the case of the local randomization approach, the calculation is based on the data from the entire sample of the 10th wave of the NZAVS (minus observations from the day of the attack). We used a special STATA package called `rdrobust` (Local Polynomial Regression Discontinuity Estimation with Robust Bias-Corrected Confidence Intervals and Inference Procedures) developed by Calonico, Cattaneo, Farrell and Titiunik.⁴⁷ The analysis included our main socio-demographic and ideological controls and yielded the same result with respect to statistical significance (i.e., $p = .001$ for conventional and $p = .003$ for robust bias-corrected interval levels). The coefficient or point estimate at the cut-off (in the model excluding covariates) was .42 ($SD = .13$), which means that the effect of the attack increased warmth toward Muslims by around 8% for the respondents just after the attack (intercept = 4.48) relative to

respondents who completed the survey just before the attack (intercept = 4.06). The effect is visualized in Figure 1. For comparison, Figure 2 visualizes the effect of the attack on other social groups. Although there is a visible post-attack increase in warmth with respect to nearly all of these groups, none of it reach statistical significance. The large variation in the sample averages at both ends of the x-axis of the figures is caused by too few observations (respondents) at the beginning and the end of the data collection period. Hence, we did not fit the regression line for these data to avoid misunderstanding by a non-specialist reader.

Figure 1. Regression Discontinuity Plot of the Effect of the Attack on Warmth toward Muslims. The value 0 on the x-axis signifies the day of the attack.

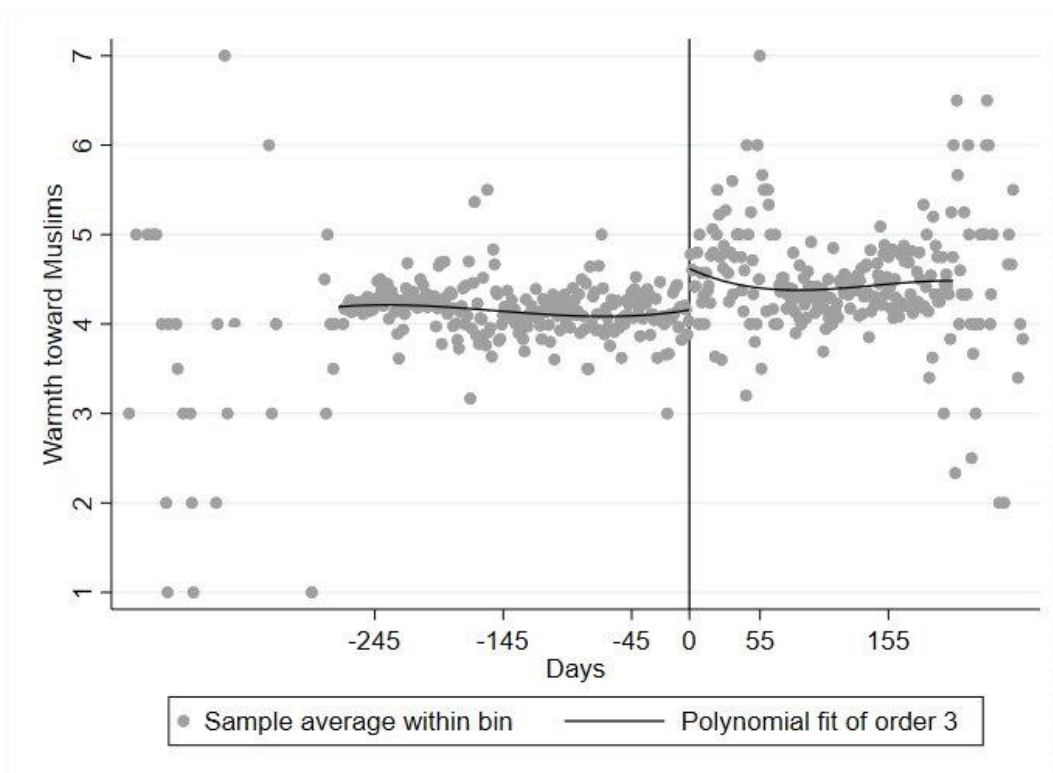
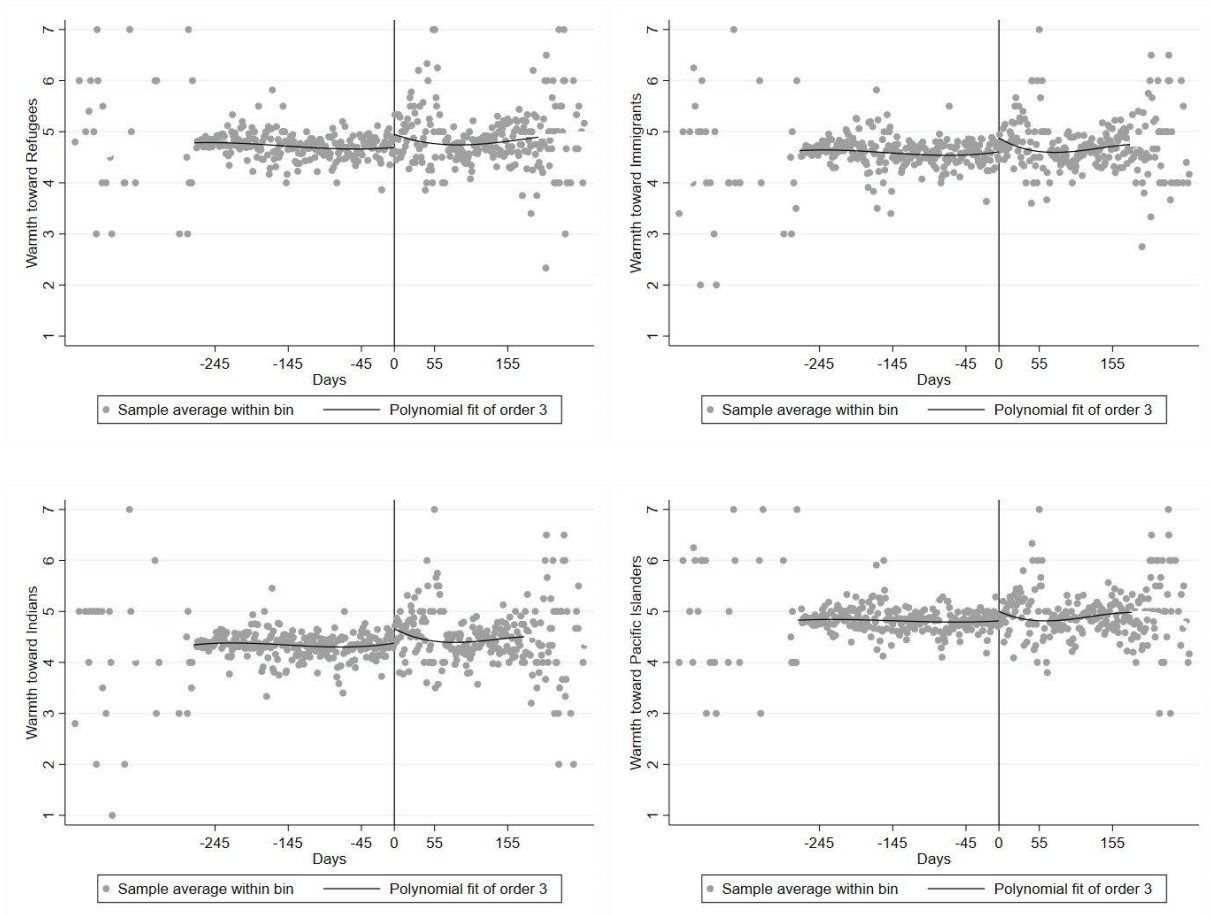
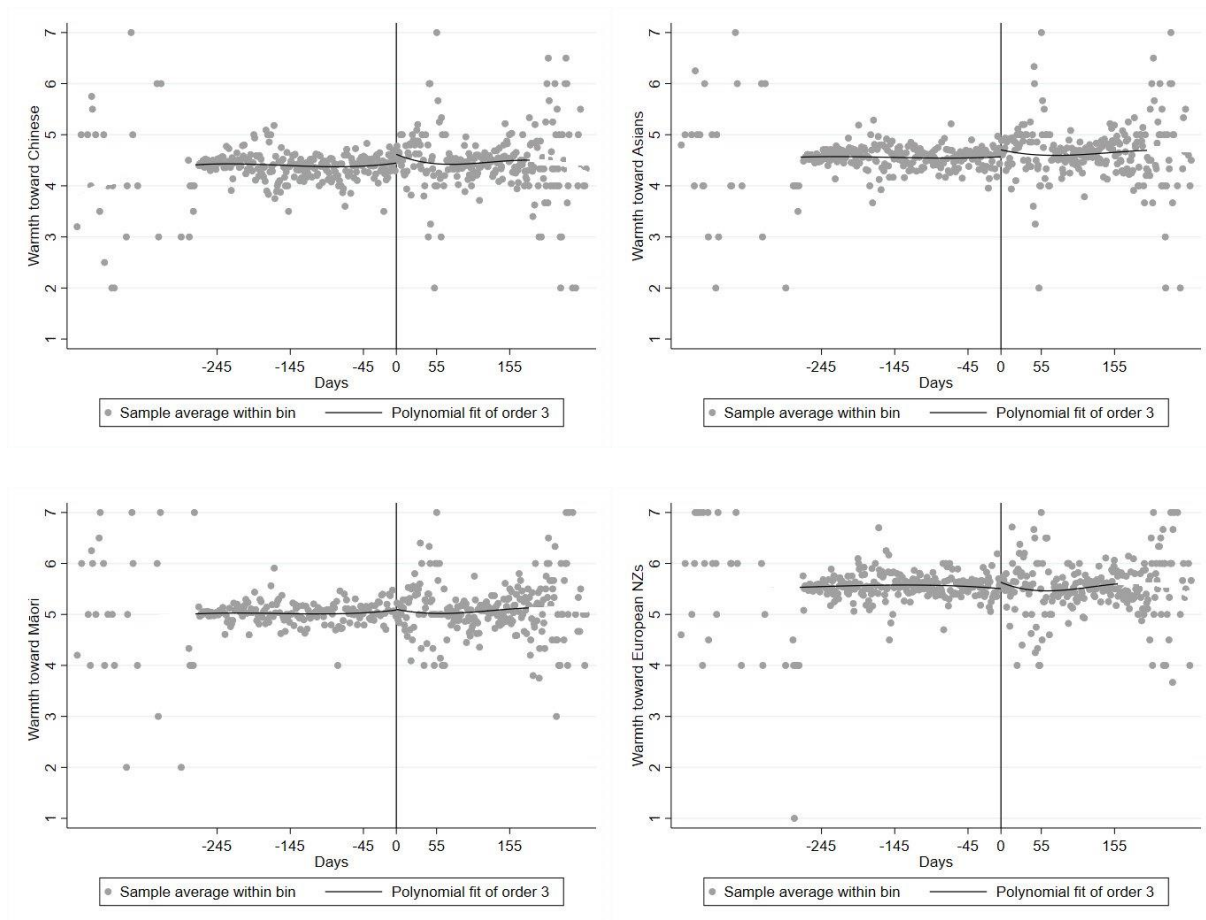


Figure 2. Regression Discontinuity Plot of the Effect of the Attack on Warmth toward Refugees, Immigrants, Asians, Chinese, Indians, Pacific Islanders, Maoris and NZ Europeans. The value 0 on the x-axis signifies the day of the attack.



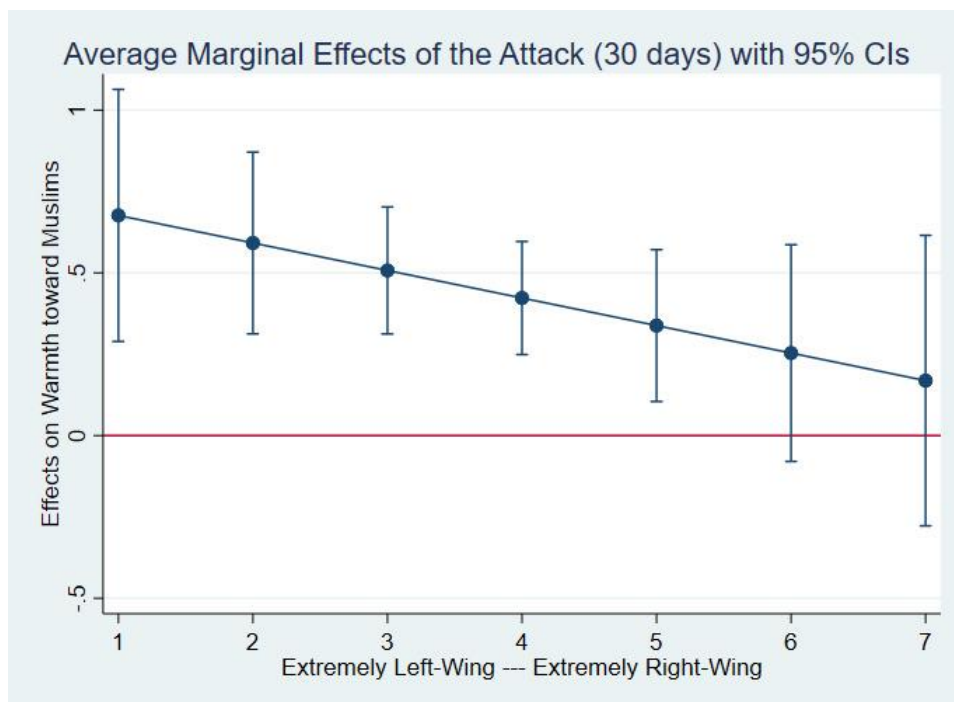
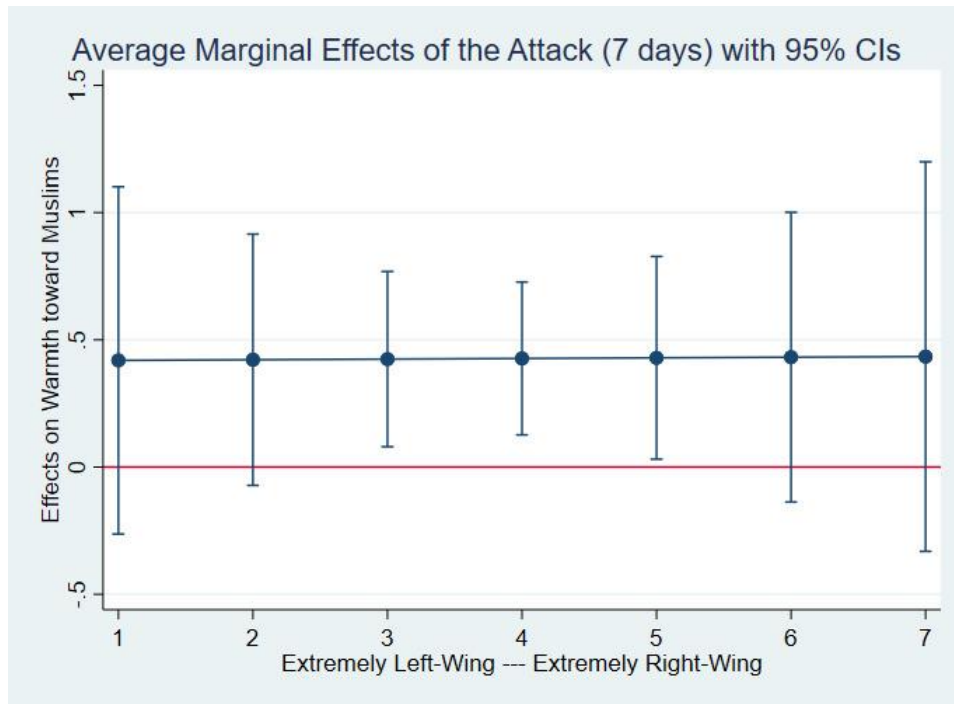


Finally, we conducted a placebo analysis by replicating our analytic approach exactly one year before the actual attack and using data from the previous wave of the NZAVS. We also “moved” the attack two months back and forth from its actual date as a further robustness check. In each scenario, we used 7- and 30-day windows. Critically, warmth toward Muslims did not systematically vary across any of the alternative placebo cut-points. Together, these analyses help to demonstrate that the attack itself, rather than arbitrary dates, increased participants’ warmth towards Muslims.

The Role of Political Ideology

Table 1 indicates that conservatism (on both left vs. right self-placement and liberal vs. conservative identification) correlated negatively with warmth toward Muslims in both the 30- and 90-day windows. These results do not, however, tell us whether and how the conservative and liberal populations *changed* their attitudes to Muslims in the wake of the attack. To explore this question, we calculated the average marginal effect of the attack on respondents' warmth toward Muslims (scale range 1-7) at different levels of conservatism. These marginal effect analyses were derived from the interaction terms between the binary before-after attack group variable and the (a) left-right and (b) liberal-conservative self-placement measures, nested in a multiple regression predicting warmth toward Muslims from the main socio-demographic controls. The results for the marginal effect of the attack on the left-right self-classification (scale range 1-7) are displayed in Figure 3. Figure 4 displays the results for the liberal-conservative self-classification (scale range 1-7).

Figure 3. Average Marginal Effects of the Attack on Warmth toward Muslims for Different Levels of Left-Right Self-Classification in 7, 30, and 90 Day Time Windows (Values for Respondents before the Attack are Held Constant).



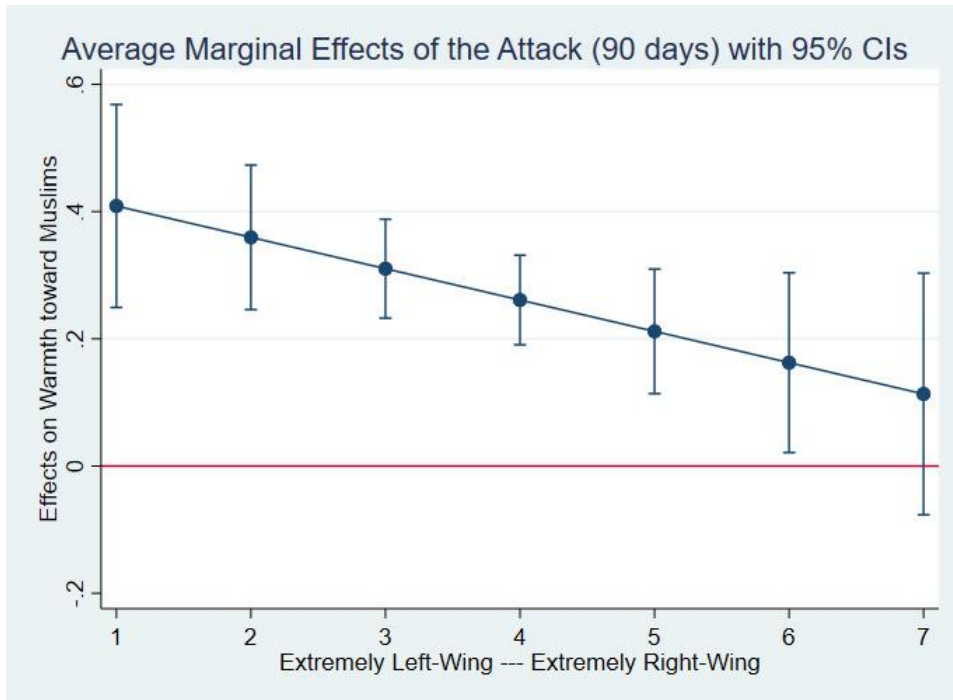
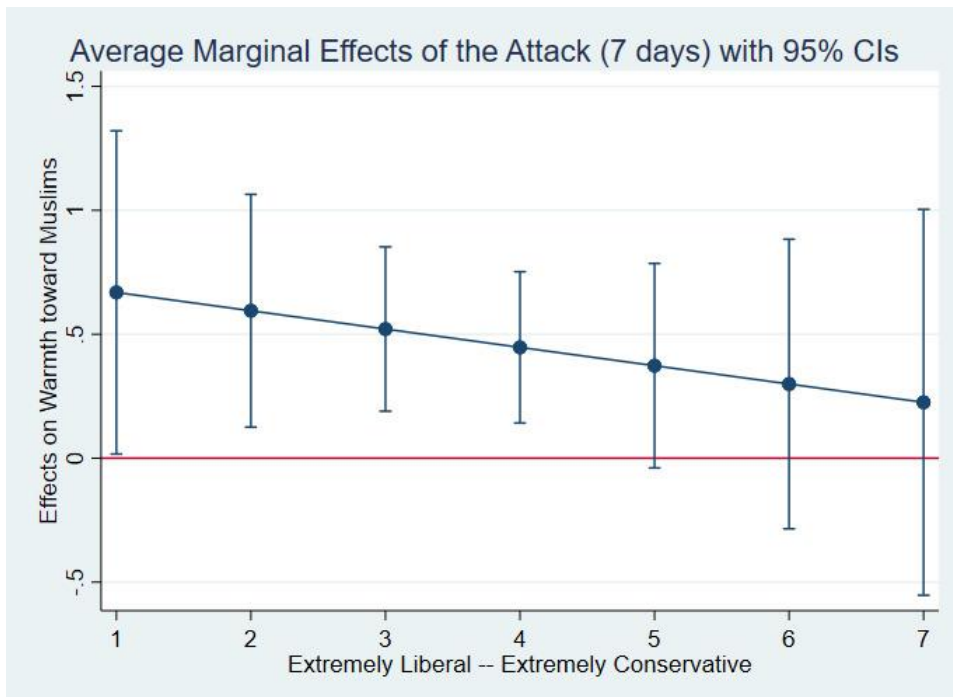
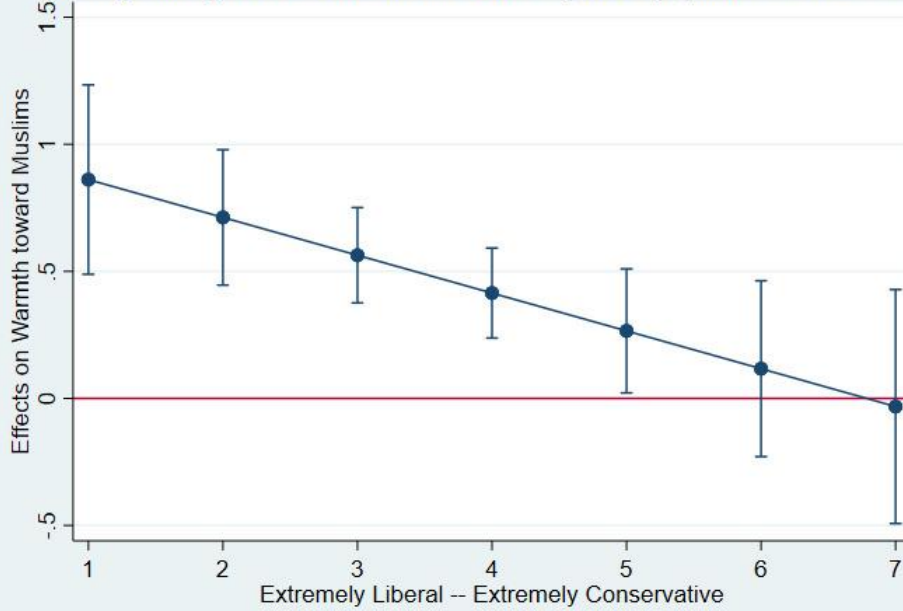


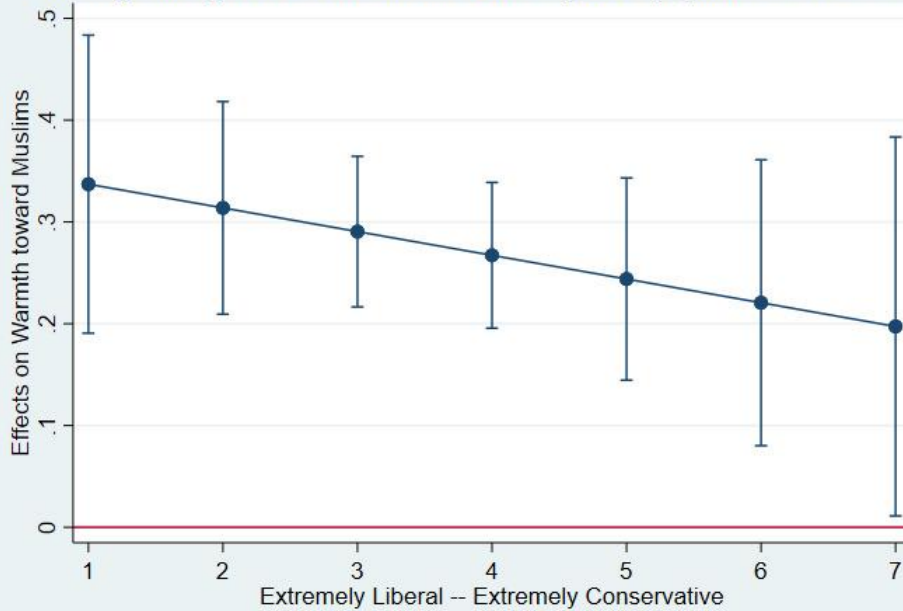
Figure 4. Average Marginal Effects of the Attack on Warmth toward Muslims for Different Levels of Liberal-Conservative Self-Classification in 7, 30, and 90 Day Time Windows (Values for Respondents before the Attack are Held Constant).



Average Marginal Effects of the Attack (30 days) with 95% CIs



Average Marginal Effects of the Attack (90 days) with 95% CIs



Both figures show that, in the first 7 days following the attack, respondents across the political spectrum reported higher warmth toward Muslims by similar margins in comparison to the same ideologically oriented groups before the attack. Although the confidence intervals overlap with 0 at the tails of the ideological distributions, this is due to the low number of observations over this short timeframe. Table 2 provides further details by dividing the respondents into left-wing/liberal (scores of 3 and below on the self-classification scale) and right-wing/conservative (scores 5 and above on the self-classification scale). The table shows that, in the 7-day window, the mean difference in warmth toward Muslims before and after the attack was .54 for left-wing respondents and 0.36 for right-wing respondents. The difference for liberals was .70 and for conservatives .61 over the same time frame.

Table 2. Means of Warmth toward Muslims Before and After the Attack for Left-Wing/Right-Wing and Liberal/Conservative Respondents.

Means of Warmth toward Muslims, 7-day window

| | Mean | Std.Err. | N |
|--------------------------|------|----------|----|
| Left Wing before attack | 4.51 | .14 | 96 |
| Left Wing after attack | 5.05 | .17 | 57 |
| Right Wing before attack | 3.78 | .19 | 67 |
| Right Wing after attack | 4.14 | .21 | 43 |

Means of Warmth toward Muslims, 30-day window

| | Mean | Std.Err. | N |
|--------------------------|------|----------|-----|
| Left Wing before attack | 4.43 | .07 | 359 |
| Left Wing after attack | 5.01 | .11 | 155 |
| Right Wing before attack | 3.78 | .10 | 274 |
| Right Wing after attack | 3.97 | .15 | 99 |

Means of Warmth toward Muslims, 30-day window

| | Mean | Std.Err. | N |
|--------------------------|------|----------|------|
| Left Wing before attack | 4.47 | .03 | 1922 |
| Left Wing after attack | 4.82 | .04 | 1003 |
| Right Wing before attack | 3.72 | .05 | 1243 |
| Right Wing after attack | 3.91 | .07 | 561 |

Means of Warmth toward Muslims, 7-day window

| | Mean | Std.Err. | N |
|------------------------|------|----------|-----|
| Liberals before attack | 4.32 | .14 | 105 |

| | | | |
|-----------------------------|------|-----|----|
| Liberals after attack | 5.02 | .16 | 59 |
| Conservatives before attack | 3.70 | .24 | 56 |
| Conservatives after attack | 4.31 | .25 | 39 |

Means of Warmth toward Muslims, 30-day window

| | Mean | Std.Err. | N |
|-----------------------------|------|----------|-----|
| Liberals before attack | 4.35 | .07 | 432 |
| Liberals after attack | 4.93 | .11 | 165 |
| Conservatives before attack | 3.80 | .11 | 235 |
| Conservatives after attack | 3.93 | .16 | 98 |

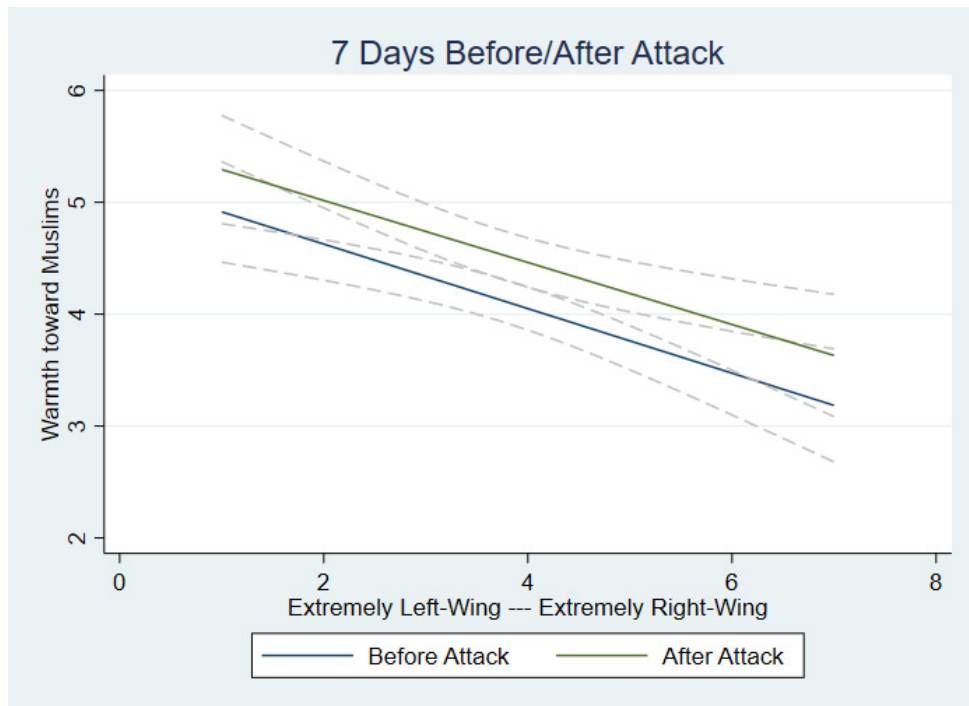
Means of Warmth toward Muslims, 30-day window

| | Mean | Std.Err. | N |
|-----------------------------|------|----------|------|
| Liberals before attack | 4.43 | .03 | 2206 |
| Liberals after attack | 4.75 | .04 | 1155 |
| Conservatives before attack | 3.75 | .05 | 1217 |
| Conservatives after attack | 3.95 | .06 | 564 |

However, in the 30- and 90-day windows, left-wing and liberal respondents increased their warmth toward Muslims relative to similarly-oriented respondents before the attack (because the effect on the control group is held constant, the Figures display a flat line). Conversely, right-wing and conservative respondents experienced little-to-know change in their warmth toward Muslims relative to similarly-oriented respondents before the attack.

Another way to check these results and graphically represent the diverging effects of the attack on warmth toward Muslims across ideology is to simply plot the predictive lines of political ideology on warmth toward Muslims for corresponding time windows before and after the attack. These are presented in Figure 5 and Figure 6 for the left-right and liberal-conservative self-placements, respectively. Notably, these results replicate the average marginal effects analyses displayed in Figures 3 and 4.

Figure 5. Simple Regression Lines of Warmth toward Muslims for Different Levels of Left-Right Self-Classification in 7, 30, and 90 Day Time Windows.



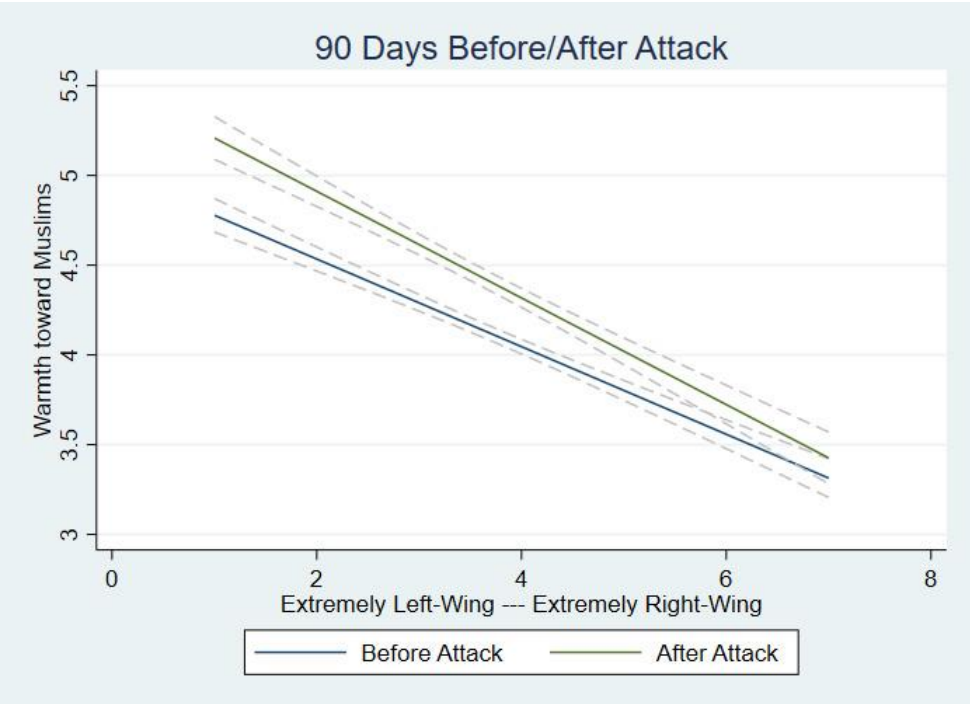
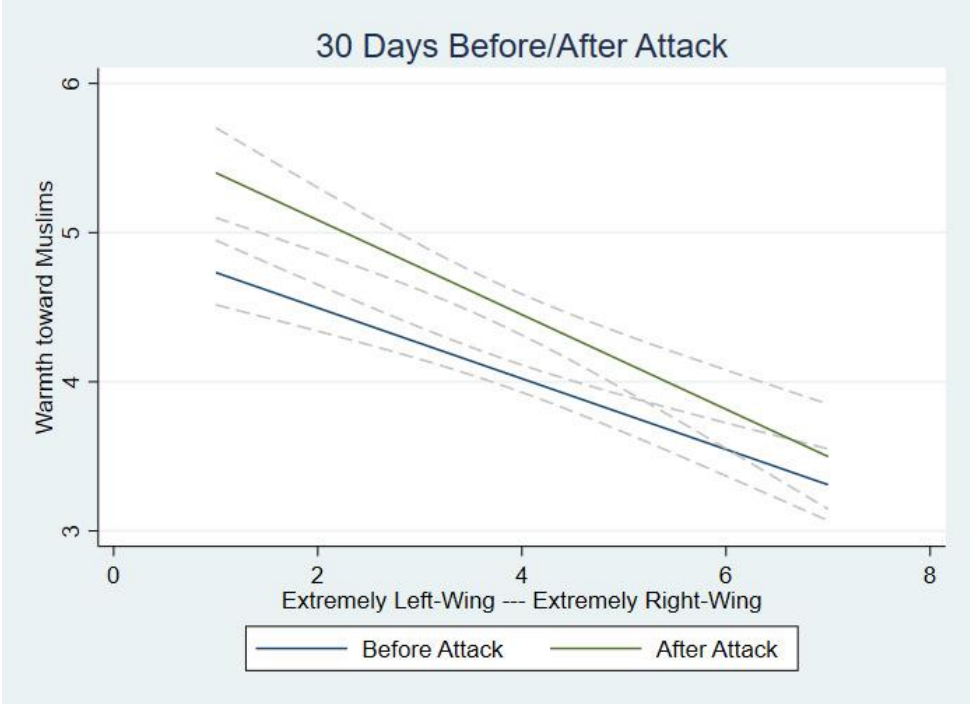
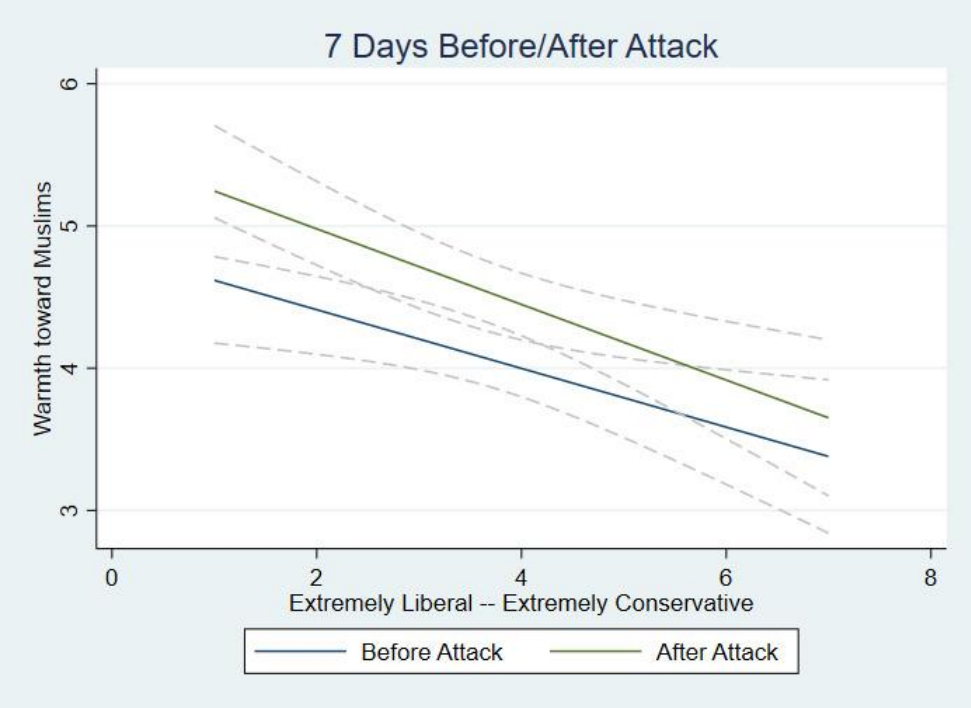
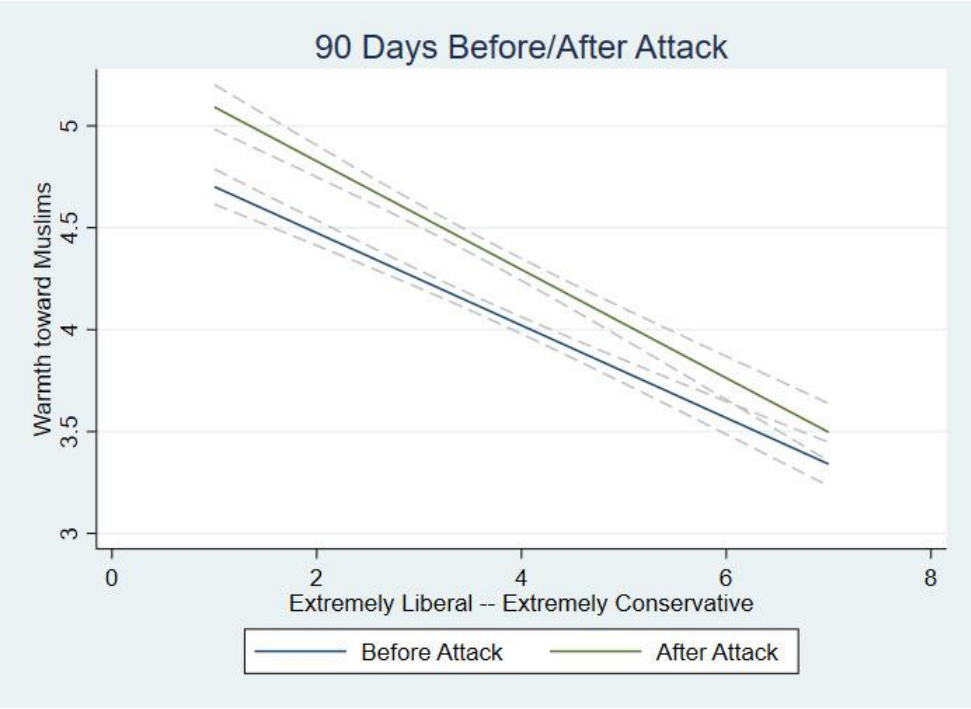
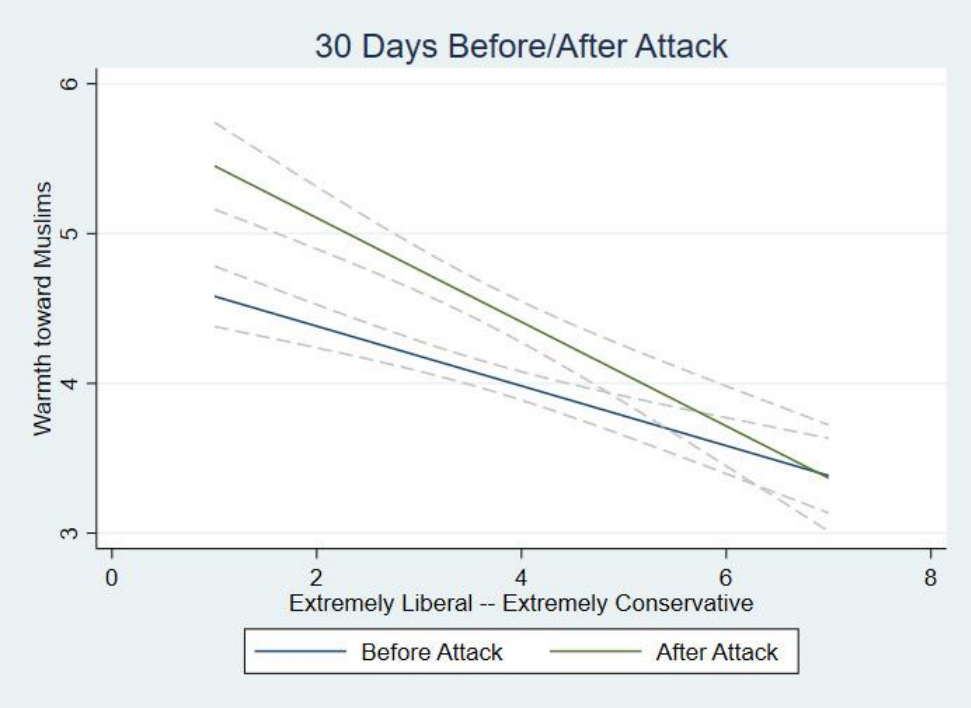


Figure 6. Simple Regression Lines of Warmth toward Muslims for Different Levels of Liberal-Conservative Self-Classification in 7, 30, and 90 Day Time Windows.





Discussion

The current study investigated the effects of a far-right terrorist attack against a Muslim minority group on public attitude toward Muslims. We predicted that such an attack would result in an increase in positive attitudes toward Muslims (Hypothesis 1), based on studies that found an increase in positive attitudes toward immigrants and outgroup trust following the far-right attack in Norway in 2011.⁴⁸ We also formulated three competing hypotheses as to whether the expected change in attitudes toward Muslims was driven by right-wing/conservative individuals (Hypothesis 2a), left-wing/liberal individuals (Hypothesis 2b), or by both groups (Hypothesis 2c).

Our results provide strong support for Hypothesis 1. Various statistical models all showed an increase in warmth toward Muslims following the Christchurch terrorist attack against Muslims. Notably, the effect of the terrorist attack was immediate and lasted for at least 90 days. Regression discontinuity analysis also showed that effect of the attack was specific to Muslims, as warmth toward other social groups (e.g., immigrants, refugees, ethnic minorities, etc.) did not change as a result of the terrorist attack.

In regard to questions of ideological asymmetries in response to the attack, results revealed that immediately after the attack (i.e., in the 7-day window period), both left-wing/liberal and right-wing/conservative individuals expressed increased warmth toward Muslims. However, with time, our preliminary findings indicate that the conservative/right-wing population returned to their baseline feelings toward Muslims, whereas the liberal/left-wing population showed sustained levels of elevated warmth toward Muslims for a longer period. These results lend some preliminary support to both Hypothesis 2b and 2c, which suggests that rather than competitive, these hypotheses are supported for different periods after the attack.

These initial population-level comparisons suggest that the ideology of the attacker (and the identity of the attacked) may play an important role in the impact of the attack on public attitudes toward particular outgroups. This seems intuitive, but so far has received limited empirical attention given the overwhelming focus of existing studies on Islamist terrorist attacks. The reason why public attitudes toward Muslims (and outgroups linked with them) worsen after Islamist terrorist attacks and improve after far-right attacks (such as the ones in Norway and Christchurch) likely stems from different perceptions of threat among the population. An Islamist terrorist attack in the West is often considered an attack by the outgroup against ingroup members. It elicits heightened feelings of insecurity and threat, as well as negative emotions—even among left-wing and liberal individuals who are otherwise more accepting of diversity. Moreover, liberals may experience stereotype disconfirmation and possible cognitive dissonance following an Islamist terrorist attack.⁴⁹ As a result, left-wing and liberal individuals could become more ethnocentric, authoritarian, and conservative—at least in the short term.⁵⁰

Conversely, in case of an attack by an ethnic or religious ingroup member(s) on ethnic or religious minorities, there is less reason for the majority population to feel personally threatened or insecure and, hence, little reason for a worsening of attitudes toward ethnic or religious minorities. On the contrary, we showed that in the few days after the attack, right-wing and conservative individuals became *more* positive toward Muslims. This increase could have been caused by their conscious effort to disassociate themselves from the attacker as hypothesized by Jakobsson and Blom.⁵¹ Alternatively, these results may simply be due to social desirability concerns.

Notably, we find that, shortly after the attack, the immediate increase in warmth may have subsided. Focusing on the ideological predictors of this observation, we find that at least 7 days after

the attack the right-wing and conservative population reverted back to pre-attack levels of (conservatives') average warmth; by contrast those on the liberal end of the political spectrum remained higher in expected warmth toward Muslims.. This process might be akin to the public backlash described by Solheim.⁵² Alternatively, it might point to longer lasting structural polarization, whereby left-wing and liberal individuals redrew boundaries to include Muslims in their circle of moral concern, seeing them as a minority group in need of protection and re-categorize them into a broader more inclusive common group identity.⁵³ The role of political leadership may also be relevant to the interpretation of our results. In both Norway and New Zealand, the prime ministers at the time were from left-wing parties and both leaders stressed the values of inclusiveness, kindness, openness and tolerance—themes that were largely covered by the media.⁵⁴ In such a climate, left-wing and liberal individuals may have been influenced by in-party political leaders,⁵⁵ while right-wing and conservative individuals may have been less influenced by out-party prime ministers. Additionally, in the case of the Christchurch attack, right-wing and conservative individuals may have easily distanced themselves from the attacker (i.e., an Australian national), despite the fact that he was ethnically part of the ingroup and held (far) right-wing eco-fascist views. The option to disassociate from him on the basis of the different citizenship would come in addition to the possibility of excluding him from the ingroup based simply on his assumed mental illness.

Another alternate interpretation of the current findings is that the differential changes in attitudes towards Muslims 30 and 90 days after the attack are driven by changing social norms about what are acceptable expressions toward Muslims. Previous research demonstrates that liberals express greater levels of internal and external motivation to control prejudice.⁵⁶ Therefore, the terrorist attack may have heightened liberals' social desirability concerns about the normative unacceptability of prejudice towards Muslims, whereas this tendency may have quickly faded

among conservatives who tend to have less internal or external motivations to control prejudice.⁵⁷ Such an interpretation broadly fits with a large body of research suggesting that self-reported attitudes toward social groups are highly prone to social desirability concerns and normative concerns about the acceptability of evaluations toward various groups.⁵⁸

Limitations and future directions

We acknowledge several imitations to our findings. First, our research design is cross-sectional and not based on panel data. Accordingly, we are unable to examine the effect of the attack on the same individuals. This limitation is particularly relevant for the moderating role of political ideology, because the naturalistic nature of our study implies that respondents from after the attack could have changed their political ideology as a result of the attack. However, additional analyses using both the regression discontinuity design and multiple logistic regression (with political ideology as the dependent variable and before-after attack binary as the main independent variable) all showed that left-right and liberal-conservative self-classifications were not affected by the attack.

Second, although our causal claims cannot be as strong as in true experiments, the results of our regression discontinuity analysis, together with our placebo tests, rule out the most viable alternative explanations for the sudden increase in warmth toward Muslims, including a simple trend of improving public attitudes toward Muslims over time, which was indeed reported in New Zealand.⁵⁹

Third, while the present study can estimate the magnitude of change in public attitude toward Muslims as a result of the attack and the generic mechanism of this change, our data do not allow us to identify the features of this mechanism in further detail. In order to disentangle the

immediate effect of the attack from the potential subsequent effects of political leadership, the media, and public debates, we would need more data, including on perceived threat from Muslims. These data could be complemented by in-depth qualitative analyses of political statements, media content and ordinary inhabitants' focus groups in order to provide a comprehensive picture of the Christchurch terror attack. Such analyses would also provide valuable new evidence and details regarding the mechanisms through which a far-right terrorist attack impacts majority public attitudes.

Fourth, our analysis covers responses in the New Zealand population up to 90 days after the attack, which limits our estimates of the durability of the observed increase in warmth toward Muslims. Although the effect was particularly short-lived for conservatives, the increase in warmth toward Muslims may also subside among liberals over time. While some data suggest that the heightened anti-Muslim and anti-immigrant attitudes in the US after 9/11 lasts for years,⁶⁰ the durability of these shifts is likely context-specific (e.g., a continuous feeling of threat due to public rhetoric, further actual or intended attacks and the on-going US military engagements in the Muslim world). Moreover, the public may be more open to explaining away far-right terrorism as a rare event committed by a deranged individual.

Conclusion

This article examined the effect of the Christchurch terrorist attack in New Zealand on public attitudes toward Muslims using a nationally representative sample. We used a range of statistical methods to find robust evidence that the attack by a far-right terrorist against Muslims led to an immediate increase in positive attitudes toward Muslims. We also showed that this increase was

present among both the left-wing/liberal and the right-wing/conservative populations in the immediate days after the attack, but that the conservative population soon after reverted to its baseline average warmth toward Muslims. In contrast, the increase in warmth toward Muslims observed among the liberal population endured for (at least) 90 days after the attack. Explaining the immediate post-attack rise in positive attitudes toward Muslims among the right-wing/conservative population and exploring the subsequent socio-political processes that can lead to attitude polarization is a promising direction for further research.

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