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The effect of terrorist events on media portrayals of Islam and Muslims: evidence from *New York Times* headlines, 1985–2013

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ABSTRACT

This article examines whether media portrayals of Islam and Muslims are overwhelmingly negative, whether they have evolved over time, and what factors most consistently affect their tone. We analyse every fourth *New York Times* headline about Islam or Muslims between 1985 and 2013. We find that headlines have not been predominantly negative. In addition, *New York Times* headlines about Islam and Muslims have become more positive over the long term, even after the 9/11 attacks. Most counter-intuitively, we find that terrorist attacks have had a systematic positive effect on headline tone. During the first four weeks after each Islamist terrorist attack on an American target, the tone of *New York Times* headlines became significantly more positive compared to the four weeks prior to the attack. However, over the subsequent few months, coverage reverted back toward the tone that prevailed during the weeks before the event.

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There has been intense scrutiny of Islam and Muslims in Western media over the past two decades. Given the media's prominence in reflecting and reinforcing social perceptions and as a source of public information about social groups (Gilens 1999; Bennett and Entman 2001; Koopmans and Statham 2010; Bleich, Bloemraad, and Graauw 2015a), it is not surprising that scholars have turned their attention to how the media portrays Islam and Muslims, particularly in the post-9/11 era. Yet, there is a notable divergence in research findings regarding the character of media representations. For some scholars, the media has consistently depicted Islam as threatening the West to a degree that is not justified by contemporary events (Poole 2002; Abrahamian 2003; Powell 2011; Bail 2012). For others, terrorist acts have had a more nuanced or even somewhat positive effect on media portrayals of Muslims (Nacos and Torres-Reyna 2007; Trevino, Kanso, and Nelson 2010; Smith 2013).

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In this article, we contribute to this debate by examining *New York Times* headlines about Islam and Muslims from 1985 to 2013. We sample headlines that contain the root word Islam or Muslim and code them for their tone. A headline's tone may be negative (headlines about terrorism, violence, cultural incompatibility, etc.), positive (headlines that elicit sympathy for Muslims, or portray them as beneficial to society, etc.), or neither (headlines that are ambiguous or contain no clear valence). By coding every fourth headline over a twenty-nine-year period, we generate a measure of media tone that allows the continuous and comparable tracking of the portrayal of Islam and Muslims across nearly three decades.

Our approach enables us to compare the effect of a variety of factors on headline tone. We examine the impact of gendered coverage, of longer-term shifts in political culture, of short-term variations in public opinion toward Muslims, and of major terrorist attacks on American targets. Based on our data and on a qualitative analysis of the headlines, we find that terrorist attacks have the most systematic effect on headline tone. During the first four weeks after each Islamist terrorist attack on an American target between 1985 and 2013, the net tone of *New York Times* headlines became significantly more positive compared to the four weeks prior to the attack. However, over the subsequent few months, coverage reverted back toward the net tone level that prevailed in the weeks before the event. On average, headline tone has become more positive over the long term, even after the 9/11 attacks on the United States.

Our project casts light on the portrayals of Islam and Muslims in *New York Times* headlines. It complements existing scholarship that focuses on the full text articles that are consumed by far fewer people. Our findings suggest that readers are not exposed to as many negative headlines as some veins of current research might suggest. Our results thus nuance prevailing understandings of media portrayals about Islam and Muslims, and suggest avenues for further research into how the media depict marginalized groups in times of high tension.

Existing literature and research gaps

An extensive body of research suggests that media coverage of Islam and Muslims is predominantly negative. Edward Said was an early critic of media portrayals of Islam in his 1981 book, *Covering Islam: How the Media and the Experts Determine How We See the Rest of the World*. Writing over two decades later, Abrahamian (2003), Karim (2006), Powell (2011), Morey and Yaqin (2011) and others have strongly criticized the mainstream American press for their coverage of Islam and Muslims, especially in the wake of the events of 9/11. Abrahamian argued that media frames of the 2001 crisis focused almost exclusively on a Huntingtonian clash of civilizations

interpretation of tensions between the West and Islam in order to elide discussions about the role of American foreign policy, especially in Israel/Palestine. Karim (2006, 117) notes that media discourses about terrorism 'overwhelmingly present most followers of Islam as a threat'. Powell provides a severe evaluation of media framing of terrorism cases from 9/11 through the end of 2009, suggesting that coverage of terrorism 'feeds Orientalism and a culture of fear of Islam' (2011, 105). For Morey and Yaqin, headlines do as much work as other media portrayals to paint Muslims as 'unenlightened outsiders', and as 'a homogeneous, zombie-like body ... liable to be whipped into a frenzy at the least disturbance to their unchanging backward worldview' (Morey and Yaqin 2011, 1).

Naturally, there are nuances in this scholarship, with some authors identifying exceptions to the rule, and many observing that Muslims were often also portrayed in a negative light prior to 9/11. In addition, there is a meaningful difference between scholars who highlight the media's tendency to foreground stories about terrorism and cultural differences versus those who argue that the media is unrelentingly Islamophobic. Yet these studies converge around the assumption that coverage of Islam and Muslims has been consistently negative, that this negative coverage has persisted over time, and that, if anything, coverage has become more negative in the wake of the events of 9/11. If the media data presented here reveal frequent negative descriptors associated with Islam and Muslims and an acceleration of that trend post 9/11, then that will provide evidence consistent with this body of research.

In contrast to this perspective, an alternative set of scholarship argues that coverage of vulnerable groups does not necessarily become more negative in the wake of dramatic events such as 9/11. Through an analysis of a small number of editorials in the *New York Times*, the *Los Angeles Times*, and the *Washington Post*, for example, Trevino, Kanso and Nelson (2010) noted statistically significant differences between editorials written in the year prior to versus the year following 9/11. They found that although the majority of references about Islam and Muslims in each editorial remained negative, the percentage of negative content decreased from 72% to 62.6% overall.

Working with a larger amount of data, Nacos and Torres-Reyna (2007) coded the depiction of American Muslims and Arabs before and after 9/11 in four daily newspapers (the *New York Times*, the *New York Daily News*, the *New York Post*, and *USA Today*). In their words, 'surprisingly, the textual depiction of American Muslims and Arabs in the news was more positive and less negative' after 9/11, with an increase in positive stories from 25% to 42% of the total, and a decrease in negative stories from 31% to 22% of the total (2007, 14–15). They also noted that there was a shift from 'limited and stereotypical coverage' pre-9/11 to more 'comprehensive, inclusive, and less stereotypical' presentation afterwards (2007, 17). These findings of decreasingly

negative coverage are echoed in Alsultany's (2012) work on popular media depictions of Arabs and Muslims over a longer time frame. She finds that prior to 9/11 most characters represented on television were one-dimensional stock villains, whereas starting in the 1990s and accelerating after 9/11, these characters were humanized, or at least balanced with positive depictions to counteract the force of negative ones. For Alsultany, the evolving coverage following 9/11 thus extends an earlier trend towards portraying minorities such as Muslims and Arabs in a more nuanced light. According to this vein of scholarship, coverage is not uniformly negative. Moreover, it is – perhaps counter-intuitively – possible that 9/11 and other dramatic events have decreased negative portrayals and increased positive ones.

It is important to note, however, that several of these studies reveal multiple types of outcomes. For example, Trevino, Kanso, and Nelson's (2010, 9) research shows a decline not only in negative associations, but also a modest decline in positive associations in favour of an increase in neutral terms. Nacos and Torres-Reyna (2007, 26–28) note that by the one-year anniversary of 9/11, coverage had become more critical and negative than it had been in the immediate aftermath of 9/11. In their 2009 sample of stories from eighteen US newspapers, Bowe, Fahmy, and Matthes (2015) demonstrate that the majority of stories about Islam and Muslims have neutral frames, but also that the remaining coverage of Islam was still far more negative than positive. According to this scholarship, therefore, media depictions of Muslims and Islam are not wholly negative, but they are not uniformly positive either.

While no single study can resolve the uncertainty inherent in the existing literature, our goal is to provide a new set of information that sheds light on one important media site. By examining *New York Times* headlines that reach millions of readers daily, we contribute to ongoing debates about the extent to which media tone about Islam and Muslims has been predominantly and consistently negative, whether it has shifted significantly over time in a pattern that correlates with terrorist events. We are also able to examine headline tone in the short, medium, and long term, to assess not only whether portrayals of Islam and Muslims evolve in the immediate aftermath of terrorist events, but also whether those effects are enduring. Finally, we compare the influence of terrorist events on media portrayals to the impact of factors such as gender coverage, changing public values of tolerance, and fluctuations in attitudes toward Muslims reflected in survey data.

Data & methodology

Our main unit of analysis is the article headline rather than the full text of the article. Existing research shows that newspaper headlines serve as cognitive shortcuts and signal the content of the article to the reader, that the tone of headlines may differ from that of the full text article, and that the effect

of headlines on a reader's characterization of events is significantly independent from the full text of the article (Althaus, Edy, and Phalen 2001; Dor 2003; Andrew 2007; Leckner 2012; Ecker et al. 2014). While studies of full text articles are vital, focusing on headlines is also critical because different types of readers consume headlines alone, compared to those who read both the headlines and the full text article. 'Engaged' readers – individuals who are knowledgeable about the topic at hand – are more likely to read both the headline and the text of the article, but, due to confirmation bias, are less likely to be influenced by the tone of either. On the other hand, 'non-engaged' readers – individuals who do not have pre-conceived notions about certain issues – are more likely to read only the headline and are more open to being swayed by the headline's tone. Therefore, whether they are accurate or inaccurate, faithfully reflect the tone of the article or deliberately seek to obscure or mislead, headlines convey information to a specific set of media consumers who are most likely to be influenced by what they are reading.

We analyse headlines from the *New York Times* for several key reasons. As one of the three largest print newspapers in the United States as of 2014,¹ it has a national audience and a significant impact on the opinion of policymakers. The *New York Times* is also influential for other newspapers. *New York Times* stories are the best single indicator of media attention and saliency at the national level; they impact the agenda of other major networks and newspapers; and they are disseminated throughout the world (Chermak and Gruenewald 2006, 437, 41). In addition, *New York Times* headlines have an echo across the web in the contemporary era, as they are tweeted to more than nine million followers and then are commented on and re-tweeted many times over.² The *New York Times* has distinctive features and our results cannot be directly extrapolated to represent all media sources,³ but we believe that *New York Times* headlines are worthy of close attention given their impact on news consumers both within and beyond the United States.

We used Lexis-Nexis to extract headlines from 1 January 1985 through 31 December 2013 that contained the roots words: 'Islam', 'Muslim', and 'Moslem', removing duplicates and off-topic headlines (such as those about Islamabad). By tracking headlines about both Islam and Muslims, we follow scholars of Islamophobia who view these terms as deeply interrelated, such that positive or negative portrayals of one category also affect views of the other (Runnymede Trust 1997; Lee et al. 2009; Helbling 2012). We elected not to include words such as 'burka', 'mosque', 'Koran', and 'Arab', because they do not always and unambiguously represent Islam or Muslims as a whole, and thus determining which to include and exclude would be arbitrary. For example, we recognize that Arab and Muslim identities are often conflated, and that some scholars have examined media coverage of both

groups in the pre- and post-9/11 era (Nacos and Torres-Reyna 2007). While this is a valid research strategy, the effect of framing a group in ethnic versus religious terms (as well as any shift in the media's propensity to privilege one or the other lens) is a topic that is worthy of a stand-alone study. It cannot be thoroughly investigated with the data we use here, which, however, offer the advantage of focusing specifically and unmistakably on media portrayals of Islam and Muslims.

We coded two samples from our final dataset of 3,765 headlines. For the first, we employed a systematic sampling technique, coding every fourth headline chronologically over the entire time period, to ensure that our headlines accurately reflected the overall distribution across time. This sample contained a total of 942 headlines. For the second sample, we coded every headline that appeared during the four weeks before and the four weeks after each terrorist event affecting American targets between 1985 and 2013. This sample contained a total of 231 headlines.

Headlines are frequently short and telegraphic. In some cases, the tone of the headline is ambiguous, leading different coders to interpret the same headline somewhat differently. In order to address this issue, each headline in both samples was coded by at least two coders. The entire research team then met to verify all codes and to resolve any conflicts. If the research team could not rapidly reach a consensus on the tone of any particular headline, the frame for the headline was deemed too ambiguous to code. Although this method resulted in a lower number of headlines coded with a tone than otherwise might have been the case, it increased the reliability of headlines coded as positive or negative.

Using a coding scheme adapted from Benson (2013) and applied in Bleich et al. (2015b), each headline in both sample datasets was coded according to one of the following *frames*: victim; beneficial; problem; other; and ambiguous. Headlines coded as containing a victim frame portrayed Muslims as victims of events or decisions by others. If a headline depicted Muslims as contributing to society or social harmony, the frame was coded beneficial. Headlines coded with a problem frame characterized Islam or Muslims as dangerous or divisive forces. These three types of headlines also contain what we call a *tone*. Victim and beneficial frames convey a positive tone and are likely to generate sympathy or approval from the average reader.⁴ Headlines with a problem frame, in contrast, portrayed Islam or Muslims in a negative light and were likely to evoke antipathy or disapproval.⁵ Examples of toned headlines include:

- Victim
 - Muslim Grief in a Swedish Town
 - World Briefing Asia: India: Muslim Reports Threats
 - Bias Incidents Against Muslims Are Soaring, Islamic Council Says

- Beneficial
 - Muslim Schools in U.S. a Voice for Identity
 - Where Islam And Public Debate Have Often Bonded
 - Muslim Woman Bridges Faiths to Advance Progressive Goals
- Problem
 - Hamas Seeks Muslim Support for Suicide Raids
 - Suit Accuses Islamic Charities Of Fund-Raising for Terrorism
 - Muslims' U.S. Hostage Is Killed In Gun Battle in the Philippines

There are also two frame categories that do not convey a tone. The 'other' category encapsulated headlines that, for example, portrayed Muslims as a distinctive group in the headline without having an attributed valence ('Turkey's Islamic Government'). The ambiguous category captured headlines that could be read either in a positive and negative light ('U.S. Judge Blocks a Ban on Islamic Law') or were too unclear to code ('On Islam and a "Reformation"').

Our main dependent variable for this study is the net tone of the headlines over a given time period. To calculate the net tone, we tabulate positive headlines divided by the total number of all coded headlines for the time period and subtract negative headlines divided by all coded headlines for the same time period, as represented by the following equation:

Net tone (t) =

$$\frac{\text{Headlines with positive tone (t)}}{\text{Number of coded headlines (t)}} - \frac{\text{Headlines with negative tone (t)}}{\text{Number of coded headlines (t)}}$$

For example, in the year 2001, we coded 59 total headlines containing the root words Islam or Muslim, of which 21 headlines (35.6%) had a positive tone and 15 headlines (25.4%) had a negative tone. This yields a net tone of .356 - .254, or +.10. The net tone value can range from -1 (if 100% of toned headlines in a year are negative) to +1 (if 100% are positive), with 0 being effectively a neutral net tone.

In order to assess patterns in our dataset across varying time frames, we analyse the net tone over four-week, six-month, and year or longer time periods. We compare fluctuations to shifts in the coverage of gender issues, to survey data that reflects long-term cultural shifts as well as shorter-term variations in public attitudes toward Muslims, and to the proximity to the seven terrorist attacks carried out against United States targets by perpetrators claiming an Islamic or Muslim identity. We outline the measures of our independent variables in the discussion below. Finally, we also examine the texts of sub-sets of headlines to complement the quantitative analysis with a qualitative approach that allows a richer understanding of the factors influencing the tone of headline coverage.

Results & discussion

Before turning to the detailed analysis, it is helpful to present the predominant tone of *New York Times* headline coverage of Islam and Muslims during the entire time period between 1985 and 2013. A total of 267 of the 942 sampled headlines contained either a victim frame (145) or a beneficial frame (122) and thus a positive tone, while 280 contained a problem frame and thus a negative tone. In all, 28.3% of headlines had a positive tone, 29.7% of headlines had a negative tone, and 41.9% had no tone. The net tone for the dataset taken as a whole is thus $267/942 - 280/942$, or $-.01$. From a substantive standpoint, this means that *New York Times* headlines have been essentially neutral on average with respect to the framing of Islam and Muslims over the twenty-nine-year period of our study.

These data do not support the perspective that coverage has been overwhelmingly Islamophobic. However, aggregated in this way, they also do not reveal patterns over time. To see whether there are any longer-term trends toward more positive or negative coverage, we measured net tone on an annual basis.⁶ As Figure 1 shows, net tone ranges from a low of $-.38$ in 1991 to a high of $+.22$ in 2009. Between 1992 and 1997 net tone varied minimally (between 0 and $-.06$), but in most other time periods there was substantial variation between years. This pattern suggests that headline tone has tended to fluctuate significantly year-by-year.

Superimposing a linear trend line on a plot of annual net tone shows that there has been a tendency toward more positive coverage of Islam and Muslims in *New York Times* headlines over time (Figure 2). This finding is not consistent with the view that coverage has become uniformly more negative in the aftermath of 9/11. However, the decline in 2002 and the substantial variability between years suggest that specific events may have an important effect on the net tone in any given year.

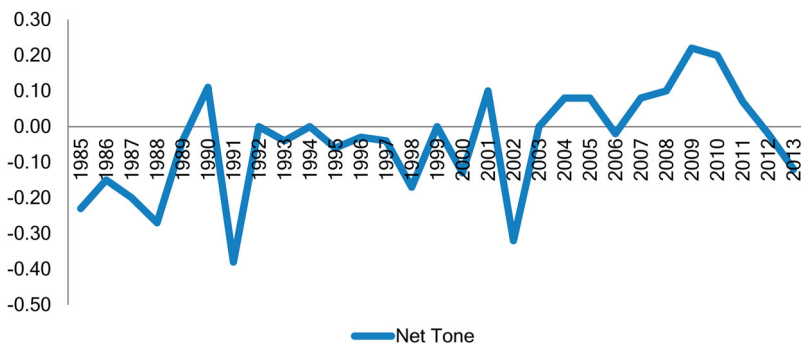


Figure 1. Net tone of *New York Times* headlines, 1985–2013. $n = 942$.

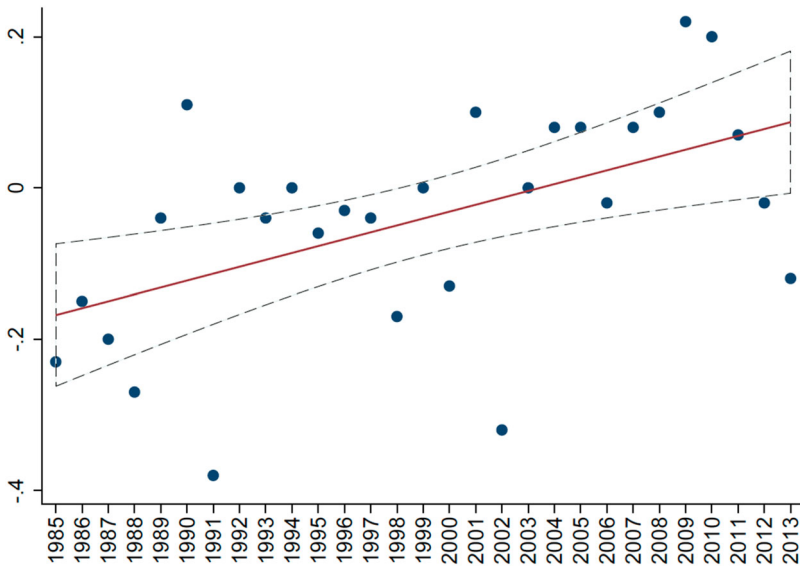


Figure 2. Linear trend line of annual *New York Times* headline net tone, 1985–2013, with 95% confidence interval. $n = 942$.

Explaining net tone: gender, value shift, and public opinion

What factors may account for changes in net tone? We hypothesized that increased attention to gender issues such as facial coverings, female genital cutting, ‘honor killing’, and divergent attitudes toward gender equality may have driven coverage of Islam and Muslims in a negative direction in particular years (Inglehart and Norris 2003; Korteweg and Yurdakul 2009). However, only thirty-four of the 942 headlines contained an overt reference to a gender-related issue. Of these, seven had a negative tone, such as ‘Citing Islamic Law, Taliban Shut Bakeries that Aided Widows’. In contrast, twelve headlines had a positive tone, including a number coded with a victim frame, such as ‘Swiss Bar Head Scarf Worn by Muslim Woman’. Therefore, not only were there too few gender-related articles to impact net tone over time, but these articles also contained a more positive net tone than the overall average.

We then examined Alsultany’s suggestion that ‘the multicultural movement of the 1990s’ may account for positive trends in media representation of Muslims and Islam in the 2000s (Alsultany 2012, 9–13). We drew on data for the United States available in World Values Surveys undertaken between the early 1980s and the 2010s to explore whether an increase in tolerance might account for long-term changes in headline tone. When respondents were presented with a list of ‘important child qualities’, they had the option

of selecting 'tolerance and respect for other people'. In the 1981 survey, 55% of respondents identified this quality as important. In the 1995, 1999, 2006, and 2011 versions of the survey, 75%, 79%, 78%, and 72% of respondents, respectively, listed this quality as important. Tolerance thus appears to have become a stronger value between the early 1980s and the mid-1990s as suggested by Alsultany. However, mentions of tolerance have declined modestly since the end of the 1990s, which is neither in keeping with arguments about upward trends in multicultural values nor with increasingly positive patterns in headline tone.⁷

Finally, to see if more specific public attitudes toward Islam and Muslims affected headline tone, we investigated available survey data on the topic. Some attitudinal data correlate with headline tone to a degree. For example, three rounds of Pew Research Polls conducted in August/September 2000, November 2001, and February/March 2002 show that the ratio of favourable to unfavourable attitudes about Muslim Americans evolved from 50:21 to 59:17 to 54:22 (Smith 2013, 4). The more positive attitudes in 2001 compared to 2000 and 2002 parallel patterns in the headline tone data. However, headline net tone was negative in both 2000 and 2002, and was far more negative in 2002 than in 2000, neither of which is reflected in the polls' favourability ratings. From 2003 to 2005, Pew surveys indicate an increasingly positive view of Muslims by 4% and a decrease in the percentage of people who think that Islam encourages violence by 8%; this pattern is similar to a positive shift in net tone in the headline data over those same years. On the other hand, comparing survey data from 2002 and 2013, there was a 17% increase in people who believe that Islam is more likely to encourage violence than other religions. This does not mirror the generally more positive net headline tone over those years. Thus, while long-term changes in embracing tolerance and short-term shifts in attitudes toward Muslims may play some role in understanding fluctuations in net tone, they are not consistent or reliable explanations of the patterns over time.

Explaining net tone: terrorist events

Given the nature of media coverage, it is plausible that headline tone responds to real-world events, and that dramatic terrorist attacks on domestic targets affect headline tone. Because of the inconsistent scholarly findings about the direction of the effect, however, it is not immediately clear whether tone will become more negative or more positive following such attacks. In addition, it is unclear whether such terrorist events have consistent short-term, medium-term, or long-term effects (or some of each). To address these issues, we first examine aggregate patterns in the quantitative data, and then explore the specific headlines in more depth. We focus on the seven successful terrorist attacks against American targets carried out by actors

identified with an Islamic or Muslim identity: the 1993 World Trade Center bombing; the 1998 Embassy bombings in Kenya and Tanzania; the 2000 bombing of the USS Cole; the 9/11/2001 attacks; the 2009 killings at the Fort Hood army base; the 2012 attack on the Benghazi embassy; and the 2013 Boston Marathon bombing.⁸

The data show a strong short-term effect of terrorist events on headline tone. [Figure 3](#) illustrates the net tone of all headlines from four weeks prior to each of the seven terrorist attacks on American targets compared to those from four weeks after each attack. In every case, headline net tone became more positive. In six of the seven cases, the net tone transitioned from neutral/negative to positive. In aggregate, the net tone across all seven cases was -0.14 in the four weeks preceding the events and was $+0.16$ in the four weeks after the events, for an overall difference of $+0.30$. This is a substantial shift, exceeded only four times in the year-on-year net tone changes between 1985 and 2013, and is statistically significant at the $p < .05$ level.⁹

The medium-term data show, however, that the initial trend toward a more positive net tone does not last. [Figure 4](#) supplements the data from [Figure 3](#) with data on the tone from every fourth headline from four weeks to six months after the attacks. In every case but one, headline net tone became more negative over the medium term compared to the short term, although in the 9/11 case, the negative shift was minimal. In aggregate, the headline tone moved from $+0.16$ in the four weeks following attacks to -0.09 in months two through six, for a shift of -0.25 , a difference that is statistically significant at the $p < .05$ level.¹⁰ The final average of -0.09 is marginally higher than the

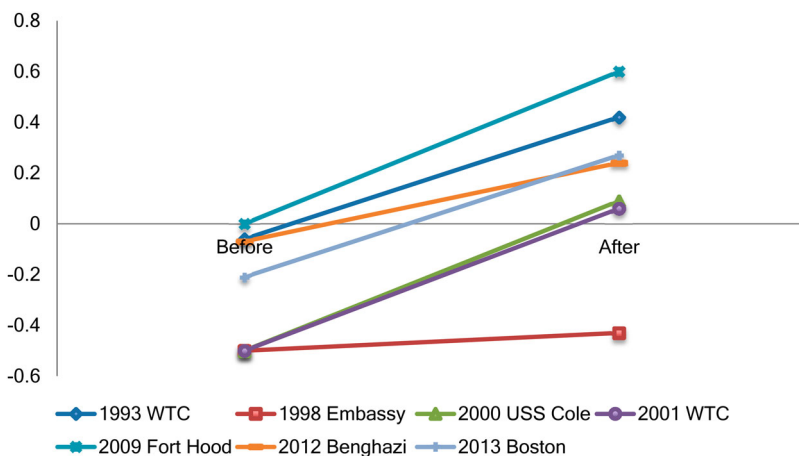


Figure 3. *New York Times* headline net tone four weeks before and four weeks after terrorist attacks on US targets. $n = 231$; $n(\text{before}) = 64$; $n(\text{after}) = 167$.

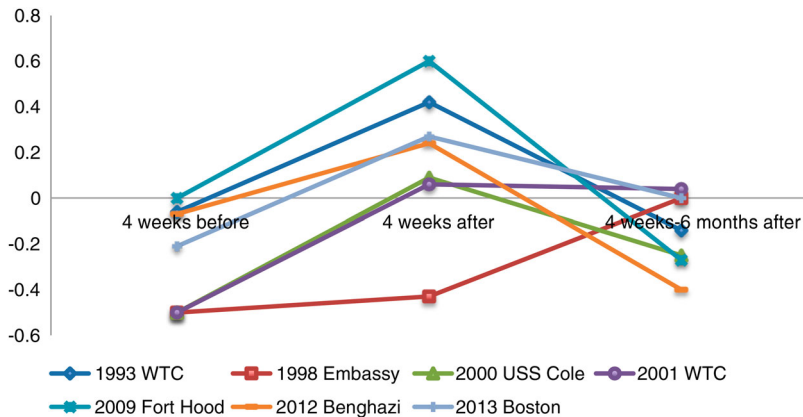


Figure 4. *New York Times* headline net tone four weeks before, four weeks after, and four weeks to six months after terrorist attacks on US targets. $n = 356$; $n(4 \text{ weeks before}) = 64$; $n(4 \text{ weeks after}) = 167$; $n(4 \text{ weeks-6 months after}) = 125$.

-.14 net tone of aggregate headlines from four weeks before the attacks, but it is substantively similar and the difference is not statistically significant.¹¹

Over the long-term, we investigated whether the most dramatic attack – 9/11/2001 – had lasting implications for headline tone, given the debate about whether it reinforced and aggravated negative coverage or whether it softened negative coverage and encouraged more positive coverage. The evidence is mixed. Table 1 shows the distribution of headlines with positive, negative, and no tone prior to and following 9/11/2001. Before 9/11, 28% of headlines in our sample were coded with a positive tone compared to 29% afterwards, a shift that was not statistically significant (chi-square test $p = .78$). The percentage of headlines coded with a negative tone dropped from 35% to 26%, a change that was significant at the $p < .01$ level (chi-square test $p = .006$). Net tone was thus more positive in the years after 9/11 compared to the years prior to 9/11, even given the substantial year-to-year variability in both time periods. But the data cannot illuminate whether that was

Table 1. Headline count and percentage by tone, before and after 9/11/2001.

	Before 9/11 (%)	After 9/11 (%)
Positive Tone	105 (28)	162 (29)
Negative Tone	131 (35)	149 (26)
No Tone	141 (37)	254 (45)
Total	377	565

Note: $n = 942$.

the result of a 9/11 effect, or whether that trend was poised to emerge regardless of the impact of 9/11.

The data presented thus far provide strong support for the short-term positive effect of terrorist events on the net tone of *New York Times* headline coverage of Islam and Muslims. It is not clear, however, whether this short-term effect is due primarily to an increase in the percentage of positive headlines, to a decrease in the percentage of negative ones, or to both working in tandem. In fact, both elements were present, although the increased percentage of positive stories had a larger impact (see [Table 2](#)). Over all seven cases combined, there were 2.6 times as many headlines in the four weeks after the events compared to the four weeks before. Across these same time periods, there were 4.6 times as many positive headlines and 1.7 times as many negative headlines.¹² The pattern of an increased percentage of positive stories held in all seven cases, while the percentage of negative headlines decreased in six of the seven cases and remained the same in the seventh case. If an increased number of negative stories seems logical in the wake of a terrorist attack, a spike in positive stories is not as intuitive. What explains the more than four-fold increase in positive headlines in the weeks following the terrorist events?

The idiosyncratic timing of international developments offers one possible explanation. For example, following the 26 February 1993 attack on the Twin Towers in Manhattan, the vast majority of positive headlines during the subsequent weeks were about Bosnian Muslim victims. There was a spike in tensions in the region in March 1993, which may account for over a dozen headlines such as ‘Serbs Overrun Muslim Enclave In Bosnia’s East’. In the weeks following other attacks, headlines including the words Islam and Muslims referred to stories set in Israel, India, Afghanistan, Egypt, Myanmar, Pakistan, Iran, and China. Although it is conceivable that editors sought out positive stories of Muslims elsewhere in the world in these sensitive moments, these headlines most likely have little or nothing to do with terrorist attacks on American targets.

Yet, coverage of specific international events does not account for the increase in positive headlines. If we remove the thirty-six positive headlines reflecting stories set in countries named in the preceding paragraph, there remain forty-eight positive headlines about Islam and Muslims in the United

Table 2. Aggregate headline count by tone and factor of increase, four weeks before and after terrorist events.

	Before	After	Increase Factor
Positive Tone	15	69	4.6
Negative Tone	24	41	1.7
No Tone	25	57	2.3
Total	64	167	2.6

Note: $n = 231$.

Table 3. Non-foreign event related headlines with positive tone, four weeks before and after terrorist events.

	Before	After
1993 World Trade Center bombing	Islam Doesn't Sanction Female Circumcision	Islamic Art Collection Suffers Unfair Attack Burglars Take Islamic Art From a Manhattan Gallery The Twin Towers: Backlash; Muslims in the United States Fear an Upsurge in Hostility Islam Doesn't Sanction Rushdie Decree Essay; Islam Under Siege
1998 Embassy bombings	None	AFTER THE ATTACKS: THE MUSLIMS; Islam Is Not the Enemy, U.S. Declares
2000 USS Cole	None	Offending Muslim Voters
2001 World Trade Center	None	Dispatches From a Day of Terror and Shock; U.S. Muslims' Pain AFTER THE ATTACKS: RELATIONS; Arabs and Muslims Steer Through an Unsettling Scrutiny AFTER THE ATTACKS: IN MONTREAL; A Sense of Foreboding in Canada's Diverse Muslim Haven AFTER THE ATTACKS: THE WEB SITES; Internet Access Providers Curb Both Terrorist Postings and an Anti-Islamic Backlash Support for Arabs and Muslims in U.S. Uneasy Times for Muslims on Island Metro Briefing Connecticut: Hartford: Ministers Plan Muslim Safe House National Briefing West: Alaska: Damage At Muslim's Shop A NATION CHALLENGED: THE ROLE OF RELIGION; Scholars Call Attacks A Distortion of Islam Islam and the Opposition to Terrorism Theater; An Islamic Culture In All Its Beauty Muslims Face Anxiety A NATION CHALLENGED: ARAB-AMERICANS; Muslim Leader Presses Agenda of Understanding A NATION CHALLENGED: AFRICAN-AMERICAN MUSLIMS; Sadness and Fear as a Group Feels Doubly at Risk A NATION CHALLENGED: MUSLIMS AND THE MILITARY; Ties Between a Mosque and Fort Bragg Stay Strong and Neighborly A NATION CHALLENGED: MUSLIMS; Among New York Muslims, Support for U.S. Strikes PUBLIC LIVES; American Imam Refutes Attacks and Defends Islam
2009 Fort Hood	Italy Convicts 23 Americans, Most Working for C.I.A., of Abducting Muslim Cleric	Army Chief Concerned for Muslim Troops Complications Grow for Muslims Serving Nation The Art of Beer Sales in a Muslim Society

(Continued)

Table 3. Continued.

	Before	After
2012 Benghazi	Bacon Scattered Before Muslim Celebration May Be Bias Crime Anti-Islam Ads Remixed in San Francisco and New York More Muslims From Abroad Are Thriving in Catholic Colleges Islamic Poultry for Latino Tables (Yes, They Have Chilies, Too)	The Breakfast Meeting: Anti-Muslim Trailer's Murky Past, and Casting Nina Simone American Muslim Leaders Condemn Attacks The Breakfast Meeting: USA Tomorrow? And an Anti-Muslim Video Vexes YouTube Updates on Protests Over Anti-Islam Film Google Won't Rethink Anti-Muslim Video Status Protests Over Anti-Islam Film Taper Off, but Effects Linger Judge Rejects Request by Actress That YouTube Remove Anti-Muslim Video Louvre's New Islamic Galleries Illuminate Centuries' Treasures Blurring of Cultures at Louvre's Islamic Art Wing Man Tied to Anti-Islam Video Held on Probation Charge Man Thought to Be Behind Anti-Muslim Film Is Arrested At the Louvre, Islamic Art Evokes Food and Wine
2013 Boston Marathon Bombing	A Muslim College Mixes Subjects To Achieve an American Feel	No Comment Necessary: Spying on Muslims Iowa Town Named for Muslim Hero Extols Tolerance
Total	7	41

States or in other liberal democracies, or about Islam or Muslims in general. Table 3 shows that of these forty-eight, there were seven positive headlines prior to the events and forty-one afterwards. The number of positive stories thus increased by a factor of 5.8, which is greater than the increase among all positive headlines (although it is not equal across all seven events). These types of stories are thus more responsible for the growth in positive headlines than those covering idiosyncratic world events.¹³

The nature of the headlines is even more important for understanding the effect of terrorist attacks. A few post-attack headlines have little plausible relationship to the terrorist acts, such as 'Burglars Take Islamic Art From a Manhattan Gallery'; 'Theater; An Islamic Culture In All Its Beauty'; or 'The Art of Beer Sales in a Muslim Society'. However, a much greater number involve headlines about Islam and Muslims as victims or as vulnerable to misperceptions. Examples include 'Essay; Islam Under Siege'; 'AFTER THE ATTACKS: THE MUSLIMS; Islam Is Not the Enemy, U.S. Declares'; 'Muslims Face Anxiety'; and 'Army Chief Concerned for Muslim Troops'. There are also headlines about Muslims' and Islam's contributions to society or shared mainstream values, such as 'Islam Doesn't Sanction Rushdie Decree'; 'Islam and the Opposition to Terrorism'; and 'American Muslim Leaders Condemn Attacks'. In sum, the short-term increase in positive headlines and in net tone is directly linked to the terrorist events themselves.

Conclusions

Muslims are without a doubt in a vulnerable position within American society. Surveys show that they are often mistrusted, and that Islam is seen by substantial numbers of respondents to encourage violence. Existing studies of the American media – especially following 9/11 – demonstrate that Islam and Muslims have at times been severely stigmatized. Yet, data presented here show that between 1985 and 2013, the net tone of *New York Times* headlines about Islam and Muslims has become more positive on average. In addition, and perhaps surprisingly, terrorist events systematically drove net tone in a positive direction during the four weeks following an attack – a critical time period during which public attention is likely to be especially focused on Islam and Muslims. Given that a plurality of Americans report that the media is the greatest influence on their opinions about Muslims (Smith 2013, 6) and that more people read headlines than full articles, this finding is striking. Net tone decreases in the ensuing few months, but neither the series of terrorist attacks on American targets by declared Islamists nor the catastrophic events of 9/11 have a long-term negative effect on the net tone of *New York Times* headlines.

Our results contribute new insights to contemporary debates about media coverage of Islam and Muslims, but we recognize that they provide one part of a much bigger picture. We focus on *New York Times* headlines because of their impact on national and international readership. However, *New York Times* headlines are neither representative of all newspaper headlines, nor of the full-text articles of newspaper stories, nor of coverage found in non-newspaper media outlets, especially those with a right-of-centre leaning. *New York Times* headline data are thus highly valuable for understanding the evolution of media tone, but they are not sufficient.

It is nevertheless noteworthy that *New York Times* editors, reporters, and headline writers appear to have made a concerted effort to cover Muslims in their diversity, and to focus more attention on the plight and beneficial characteristics of Muslims than on the dangers sometimes associated with Islam. This is especially true when covering domestic Muslims, or Islam in general, although the *New York Times* also devoted substantial space to covering Muslims as victims and as beneficial to societies outside of the United States. These observations raise several additional questions that may be worth pursuing in future research. Is positive coverage concentrated among left-leaning papers? Among American newspapers? Among the prestige press as opposed to tabloids? What motivates journalists to solicit and to write different types of stories about Islam and Muslims?

Finally, our methodology may be useful as a template for investigations into whether net tone has become more positive or negative over time for other status minorities, such as Jews, Catholics, Roma, Iranians, gays, disabled

people, or any particular group. Aggregating data on a variety of groups in different countries across media outlets will eventually allow more systematic analyses of the associations between media portrayals and variables such as public attitudes, statements by political leaders, and public policies. Our research provides specific information about portrayals of Islam and Muslims, but it also seeks to contribute to scholarship on the complex relationship between the media and minorities more broadly.

Notes

1. See <http://www.usatoday.com/story/money/business/2014/10/28/aam-circulation-data-september/18057983/>, accessed 11 March 2015.
2. See <http://www.jsonline.com/news/opinion/newspapers-more-relevant-than-ever-before-b99112179z1-226211941.html>, accessed 11 March 2015.
3. It is regarded as a left-centre newspaper and has a higher proportion of international stories than most newspapers. Moreover, studies of media coverage of Muslims and minorities in multiple US newspapers have demonstrated distinctions across outlets (Nacos and Torres-Reyna 2007; Trevino, Kanso, and Nelson 2010).
4. Some researchers view victim frames as ambiguous or even negative, but we follow Benson (2013, 7), who convincingly argues that victim frames convey a positive valence because they are likely to generate sympathy.
5. Psychological research on media effects shows that multiple variables influence individuals' reactions to media (Valkenburg and Peter 2013). Our study is based on the premise that headlines with a tone that is identifiable by multiple researchers are likely to evoke a similar reaction in the majority of readers.
6. The number of headlines in our annual samples containing either a positive or negative tone ranges between ten in 1988 and sixty-one in 2006, with most years (1992–1997; 2001–2013) containing more than twenty-five toned headlines.
7. Two other indirect measures of tolerance of difference confirm that the patterns are more complex than linear. Openness to immigration increased between 1995 and 1999, but then decreased in 2006. Being 'very proud' of American nationality has decreased since the mid-1990s, but was similarly strong in the 1981 and 1995 surveys.
8. This strategy focuses on the events likely to have had the clearest media effect, setting aside failed terrorist attempts and terrorist plots.
9. $p=.028$ in chi-square tests of positive, negative, and no toned headlines comparing the two time periods.
10. $p=.025$ in chi-square tests of positive, negative, and no toned headlines comparing the two time periods.
11. $p=.85$ in chi-square tests of positive, negative, and no toned headlines comparing the two time periods, which is not statistically significant at any level.
12. Among headlines with a positive tone, those with a victim frame increased by a factor of 5.4 while those with a beneficial frame went up 3.3 times. Chi-square tests show that the change in positive headlines is statistically significant at the $p<.05$ level ($p=.011$) while the change in negative headlines approaches but does not obtain statistical significance at the $p<.05$ level ($p=.0501$).
13. This overarching finding is consistent with Ibrahim's (2010) observation that American network news contained more positive coverage of American Muslims than foreign Muslims in the weeks following the 9/11 attacks.

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