NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

ASSESSING ANTI-AMERICAN SENTIMENT THROUGH SOCIAL MEDIA ANALYSIS

by

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December 2016

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REPORT DOCUMENTATION PAGE			*Form Approved OMB No. 0704-0188*

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.

1. AGENCY USE ONLY *(Leave blank)*	2. REPORT DATE December 2016	3. REPORT TYPE AND DATES COVERED Master's thesis	
4. TITLE AND SUBTITLE ASSESSING ANTI-AMERICAN SENTIMENT THROUGH SOCIAL MEDIA ANALYSIS			5. FUNDING NUMBERS
6. AUTHOR(S) David J. Morales			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING / MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB number: N/A.

12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release. Distribution is unlimited.	12b. DISTRIBUTION CODE

13. ABSTRACT (maximum 200 words)

This thesis examines the history of anti-Americanism as both a passing sentiment and an enduring ideology and how both can be detrimental to American security and future prosperity. It further explores the analytical methods for studying anti-Americanism, to include classic polling and social media analysis in an attempt to determine the reliability of each. This work attempts to bring to light the underlying motives for anti-American beliefs by examining relationships between explicit American actions in Pakistan and Japan and variations in anti-American sentiment. The results show that drone strikes in Pakistan and large-scale military exercises involving U.S. and Japanese forces both can cause significant fluctuations in the number of positive and negative tweets directed toward America. I argue that the mixed and negative messages represented in Twitter are due in a large part to a lack of U.S. transparency while conducting both drone strikes in Pakistan and military shows of force in and around Japan.

14. SUBJECT TERMS anti-Americanism, Twitter, social media analysis; drone strike; Pakistan, UAV, sentiment analysis, Japan, sentiment dictionary			15. NUMBER OF PAGES 97
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU

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ASSESSING ANTI-AMERICAN SENTIMENT THROUGH SOCIAL MEDIA
ANALYSIS

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Submitted in partial fulfillment of the
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MASTER OF SCIENCE IN DEFENSE ANALYSIS

from the

NAVAL POSTGRADUATE SCHOOL
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ABSTRACT

This thesis examines the history of anti-Americanism as both a passing sentiment and an enduring ideology and how both can be detrimental to American security and future prosperity. It further explores the analytical methods for studying anti-Americanism, to include classic polling and social media analysis in an attempt to determine the reliability of each. This work attempts to bring to light the underlying motives for anti-American beliefs by examining relationships between explicit American actions in Pakistan and Japan and variations in anti-American sentiment. The results show that drone strikes in Pakistan and large-scale military exercises involving U.S. and Japanese forces both can cause significant fluctuations in the number of positive and negative tweets directed toward America. I argue that the mixed and negative messages represented in Twitter are due in a large part to a lack of U.S. transparency while conducting both drone strikes in Pakistan and military shows of force in and around Japan.

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LIST OF ACRONYMS AND ABBREVIATIONS

AIC	Akaike information criterion
API	application program interface
CI	counterinsurgency
CSV	comma separated value
CT	counterterrorism
DOD	Department of Defense
DoS	Department of State
DTG	date-time group
FATA	Federally Administered Tribal Areas
FMF	Foreign Military Financing
JSDF	Japanese Self-Defense Force
LSD	Lexicoder Sentiment Dictionary
MDAO	Mutual Defense Assistance Office
OSF	Open Society Foundations
PACOM	United States Pacific Command
PTA	Pakistan Telecommunication Authority
RIMPAC	Rim of the Pacific
SOFA	Status of Forces Agreement
TTP	Tehrik-e-Taliban Pakistan
UAV	unmanned aerial vehicle
UN	United Nations
USFJ	United States Forces Japan

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EXECUTIVE SUMMARY

A giant hurdle to American ventures and successes in the international arena lies in convincing the world that America's actions and ambitions are well-intentioned and just. According to Tod Lindberg and Suzanne Nossel of the Princeton Project on National Security, the effects of anti-American sentiment are critically important for three reasons:

1. Anti-Americanism can foment terrorism and violence toward the United States.

2. It can harm U.S. commercial interests abroad.

3. It can create difficulties in rallying support for specific U.S. policy objectives.[1]

The United States will find it difficult to counter an anti-American attitude unless it can determine why this attitude exists in the first place and what specific events erode the American reputation.

This study examines the anti-American sentiment that forms following specific events in the countries of Pakistan and Japan, countries with relevant and increasing Twitter use. In doing so, this research seeks to fill the gap in information flow that is inherent to polling procedures, caused by a lag time in the questions posed and the results reported. Social media analysis, specifically Twitter analysis, may be able to tighten this gap and provide near-real-time data for those who can properly analyze the massive amounts of data.

The Pakistan case study examines the relationship between drone strikes and anti-American sentiment. The Japanese case study explores how large bilateral or multilateral military exercises with both U.S. and Japanese participants are perceived by the Japanese populace. In both cases, the approach combines information from secondary sources, traditional polling, and metrics derived through the analysis of Twitter messages.

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[1] Todd Lindberg and Suzanne Nossel, "Report of the Working Group on Anti-Americanism," Princeton Project on National Security, 2007, accessed 19 January, 2016, https://www.princeton.edu/~ppns/conferences/reports/fall/aa_exec.pdf.

Given the importance of the issue, it seeks to answer the following questions:

1.   Is it possible to gauge a near-real-time change in anti-American sentiment through social media analysis?

2.   What U.S. actions or policies result in significant anti-American sentiment?

This thesis hypothesizes that social media analysis, specifically analysis of messages sent through the Twitter network, can be used to gauge the overall sentiment of a group of people or region of the world, and how that sentiment changes in response to American actions. To test this hypothesis, it will examine whether it is possible to observe a relationship between the number of tweets with a positive or negative sentiment in a particular region and the occurrence of an American drone strike or large military exercise. It also hypothesizes that American action or policies, which give rise to Katzenstein and Keohane's subset of "sovereign-nationalist anti-Americanism," will generate the biggest fluctuation in anti-American sentiment.[2] These include events such as military occupations, large movements of American troops to an area, deaths at the hands of the American government or military, and passage of foreign policies that specifically target rights or interests of foreign countries.

The data from the case study on drone strikes in Pakistan suggests that drone strikes result in an increase in the salience of the category "America" in local social media messages. This higher volume of messages referencing "America" continues even one month following a drone strike. Further analysis shows that there is strong correlation between drone strikes in Pakistan and messages that combine the category of "America" with terms indicating negative sentiment, even after controlling for the overall volume of messages referencing "America." This phenomenon occurs immediately following a drone strike and becomes even more pronounced seven days following a drone strike. Anti-American sentiment, as evidenced through the Pakistani Twittersphere, rises with the advent of a drone strike despite the intent of the United States, despite the number of

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[2] Neil Gross, "The Many Stripes of Anti-Americanism: Sociologists Find that Anti-American Sentiment Is More Varied and Less Widespread than You Might Think," *Boston Globe*, January 14, 2007, http://search.proquest.com/docview/405055416?accountid=12702, 2.

terrorists killed, despite the U.S.-Pakistani alliance, and despite the attempts of the Pakistani government to inform the populace of the underlying motives.

The data from the case study on U.S.-Japanese joint exercises reveals that an increased salience of "America" terms appears in the Japanese Twittersphere seven days following an exercise and then drops off after 30 days. Further, there is a strong relationship between the occurrence of an exercise and the number of negative "America" tweets. Moreover, when these joint exercises occur on Japanese soil, the number of "negative America" tweets increases immediately following an exercise and then significantly decreases after a 30-day period. Regardless of where the exercise takes place, results show that Japanese locals increase their "negative America" tweets the longer it has been since the exercise's start. The initial benefit that the community might reap in the beginning of an exercise can soon turn sour as the Japanese dwell on the fact that America still has a heavy hand over them with limitations on their military power.

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I.   INTRODUCTION

The superpower status of the United States has manifested itself in the form of economic growth, technological innovation, intellectual achievements, and military dominance. The military arm of the United States has a presence all over the world, and both open arms and scorn greet this presence. This study examines the anti-American sentiment that forms following specific events in the countries of Pakistan and Japan, countries with relevant and increasing amounts of Twitter use. There is a large variation in the pro-American tendencies of each country, which will add further strength to the presence of certain sentiments in Twitter. In Pakistan, this study examines the association between drone strikes and anti-American sentiment. In Japan, it looks at how the Japanese populace perceives large bilateral or multilateral military exercises with both U.S. and Japanese participants.

The U.S. will find it difficult to counter an anti-American attitude unless it can determine why this attitude exists in the first place and what specific events erode the status of American legitimacy. Anti-Americanism studies of the past have relied on a series of reputable polls and surveys, such as Pew and Gallup, to gather data. Although comprehensive in nature and diligent in methodology, these resources take considerable time to compile. Unfortunately, opinions during the time of compilation can change and cannot be explicitly associated with specific events unless the polls can be arranged in advance. However, the new wave of web analytics gives users near-real-time data that can be directly correlated to events in time and space. Correlating specific events to increases or decreases in American sentiment, as perceived through Twitter messages, may be able to provide near-real time data on America's strengths and vulnerabilities.

A. THE PROBLEM WITH ANTI-AMERICANISM

American psychologist Fathali Moghaddam has argued that there is a "narrowing staircase to terrorism."[1] According to Moghaddam, most individuals with grievances remain on the ground floor, even when they feel their voices fall on deaf ears or there is no outlet for their frustration. Yet others will attach themselves to an ideology or sentiment such as anti-Americanism, change their thought process on the morality of their actions, and ultimately become terrorist recruits climbing up the staircase to conduct terrorist acts.[2] Moghaddam argues that governments worldwide need to stop would-be terrorists on the ground floor, before the desire to climb the staircase is seeded. One solution for solving Moghaddam's problem of ideological terrorism lies in soft power. Joseph Nye first coined the term "soft power," defining it as "when one country gets other countries to want what it wants…in contrast with the hard or command power or ordering others to do what it wants."[3] Anthony Pratkanis, further refines this notion as "seeking to promote the interests of the United States through attraction as opposed to coercion."[4] Pratkanis argues that we can stand behind American attractiveness through popular culture, political ideals, and a positive world policy.[5] Thus, if the U.S. State Department (DoS) and DOD could accurately predict what will appear popular in foreign theaters, it is plausible the U.S. could bolster the projection of U.S. soft power.

According to Tod Lindberg and Suzanne Nossel of the Princeton Project on National Security, the effects of anti-American sentiment are critically important for three reasons:

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[1] Fathali M. Moghaddam, "The Staircase to Terrorism: A Psychological Exploration," *American Psychologist* 60, no. 2 (February–March 2005), 162.

[2] Ibid.

[3] Joseph Nye, Jr., "Soft Power," *Foreign Policy*, no. 80, 20th anniversary (Autumn 1990): 166, http://faculty.maxwell.syr.edu/rdenever/PPA-730-27/Nye%201990.pdf.

[4] Anthony Pratkanis, "Winning Hearts and Minds: A Social Influence Analysis," in *Information Strategy and Warfare*, ed. John Arquilla and Douglas A. Borer (New York: Routledge, 2007), 56.

[5] Ibid.

1. Anti-Americanism can foment terrorism and violence toward the United States.

2. It can harm U.S. commercial interests abroad.

3. It can create difficulties in rallying support for specific U.S. policy objectives.[6]

Reducing anti-American sentiment abroad may not only increase security for soldiers and executives operating around the world, but could greatly affect the efficiency of foreign interactions at the strategic and tactical level. Lindberg and Nossel argue that the U.S. government should create a new office to combat this sentiment. In contrast, I argue that U.S. military forces are already in place to act as stewards to meet this requirement not only during Phase 0 (prepare/prevent) of the military campaign process but in Phase IV (establish security/restore services) and Phase V (transfer to civil authority) as well.[7]

B. RESEARCH QUESTION

Given the importance of the issue, in this thesis I intend to answer the following questions:

1. 1. Is it possible to gauge a near-real-time change in anti-American sentiment through social media analysis?

2. 2. Which forms of U.S. military action result in the largest change in anti-American sentiment?

C. HYPOTHESES

Hypothesis 1: Social media analysis, specifically Twitter analysis, can be used to gauge the overall sentiment of a group of people or region of the world in response to American military actions, as evidenced by increases in relative volumes of messages referencing the category of "America" and "negative America" sentiments.

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[6] Lindberg and Nossel, "Report of the Working Group on Anti-Americanism."

[7] Joint Staff, *Joint Publication 5-0, Joint Operation Planning* (Washington, DC: Defense Technical Information Center, 2011), http://www.dtic.mil/new_pubs/jointpub_operations.htm.

Hypothesis 2: American action or policies that fit into Katzenstein and Keohane's subset of "sovereign-nationalist anti-Americanism" probably generate the widest variation in anti-American sentiment.[8] Events that fall under this subset would include military occupations, large influxes of American troops to an area, death at the hands of the American government or military, and passage of foreign policies that specifically target rights or interests of foreign countries.

D.   RESEARCH OBJECTIVES

In an attempt to understand the basis of anti-American sentiment in the world, this thesis will seek to measure sentiment through opinion polls and a social media analysis of an archival source of Twitter feeds. Through social media analysis or "Twitter scraping," it will search for a relationship between specific actions carried out by the U.S. and subsequent increases or a decreases in anti-American sentiment. The analysis will then explore the attributes of a positive event to determine how to harness these factors to recreate such sentiment. Additionally, it will explore which negative factors could be eradicated in an attempt to decrease negative sentiment.

E.   METHODOLOGY AND SCOPE

Katzenstein and Keohane assert that the degree of anti-Americanism changes with time in the eyes of those who harbor it.[9] Consequently, it is difficult to pinpoint the dynamics of anti-American sentiment using a survey that takes a long time to field and compile. To begin to fill this gap which resides in the need for near-real time data, this thesis will utilize social media outlets to gauge international and political sentiment as a method for acquiring actionable intelligence. By accessing the abundance of big data on social media sites such as Twitter, it may be possible to assess user sentiment to attain near-real-time data on various topics. As this technology progresses, one could imagine an essentially live pulse on what actions or policies create a rise or decline in anti-American sentiment.

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[8] Gross, "The Many Stripes of Anti-Americanism," 2.

[9] Peter J. Katzenstein and Robert O. Keohane, eds., *Anti-Americanisms in World Politics* (Ithaca, NY: Cornell University Press, 2006), 78.

By utilizing sentiment analysis, I seek to associate word usage with specific events involving the United States in order to gauge an increase or decrease in anti-American sentiment. As a primary methodology, I will apply this approach to two case studies — one in the country of Pakistan and one in the country of Japan. In order to narrow the geographic scope of my research, I selected two countries where anti-American sentiment had shown signs of existence in the past, and which continue to see divided opinions to this day. As indicated by the Pew Research Center's Global Attitudes Project, Pakistan had a 59% unfavorable rating of the U.S. in 2014, while Japan had a 66% favorable rating of the U.S. in the same year.[10] Moreover, while Twitter use is clearly quite high in Japan, use of Twitter in Pakistan has also been increasing and it now penetrates over one percent of the Pakistani population at over 200 million users,[11] and contributes one percent of the world Twitter users.[12]

For both case studies, I used an archival database of tweets licensed for use by NPS, recording nearly 12 billion Twitter messages ("tweets") sent through the Twitter network between August 1, 2013, and July 31, 2014.[13] Drawing on a well-tested sentiment dictionary known as the Harvard General Inquirer dictionary, I sorted Tweets into three categories of positive, negative, and hostile. I then drew on multivariate regression analysis in order to examine the fluctuation in the number of tweets associated with negative and positive sentiment towards "America," and to assess their relationships to specific actions carried out by the U.S. military in these two countries.

For the country of Pakistan, I utilized a database published by the Bureau of Investigative Journalism, a nonprofit organization. Their Covert Drone War database records documented U.S. drone strikes in Pakistan, Somalia, and Yemen. For Pakistan in

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[10] "U.S. Favorability," Pew Research Center, July 11, 2014, http://www.pewglobal.org/2014/07/14/global-opposition-to-u-s-surveillance-and-drones-but-limited-harm-to-americas-image/pg-2014-07-14-balance-of-power-1-02/.

[11] Saeed, Ahsan. "Twitter Landscape Of Pakistan – First Edition." Twittistaan. Last modified February 5, 2014. http://twittistaan.com/digital-media/infographics/twitter-landscape-of-pakistan-first-edition/.

[12] "Pakistan Needs to Tweet More," *DAWN*, July 7, 2011, http://www.dawn.com/news/642962/pakistan-needs-to-tweet-more.

[13] T. Camber Warren, "Mapping the Rhetoric of Violence: Political Conflict Discourse and the Emergence of Identity Radicalization in Nigerian Social Media," Department of Defense Analysis, Naval Postgraduate School, 2015.

particular, the bureau has collected data on drone strikes since 2004 and has kept a cumulative spreadsheet of these strikes.[14] For my analysis, I chose to examine a series of 17 drone strikes, all of which are well documented by various media sources. My dataset included the date and time of the drone strikes, the location of the drone strikes, the number of total people killed, and the number of civilians killed.

To compile data for the Japanese case study, I reached out to the U.S. Pacific Command (PACOM) Headquarters, U.S. Forces Japan (USFJ), and the Mutual Defense Assistance Office (MDAO) in Tokyo, Japan. I queried these organizations for a list of all large-scale bilateral or multilateral exercises that the U.S. military had participated in with the Japanese Self-Defense Force (JSDF) during the timeframe coinciding with the Twitter archival database. With their help I compiled a list of 10 large-scale exercises that occurred on a regular basis and involved soldiers from the U.S. military and the JSDF.[15] The database I compiled for the Japanese case study included exercise location, timing, and the number of U.S. and Japanese participants for each exercise.

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[14] Bureau of Investigative Journalism, "Get the Data: Drone Wars Archives," accessed January 19, 2016, https://www.thebureauinvestigates.com/category/projects/drones/drones-graphs/.

[15] The regularity of their occurrence contributed to their notoriety in the local Japanese communities.

II.   DEFINING ANTI-AMERICANISM

A.   WORD USAGE AND HISTORY

Theories about anti-Americanism have been around since the 18th century. Even as the United States was being formed, so too was forming the sentiment that America was different, a mix of cultures, and an entity to contend with. Similarly, the research on the theory of anti-Americanism has deep roots, although a recent resurgence or interest arose in the wake of U.S. polices following 9/11. As Justin Webb writes, anti-Americanism was a state of mind that really struck deep within Europe during the 18th century. Scientists and explorers sent to the United States reported it as a dump and "struck with putrefaction."[16]Anecdotal references and opinion pieces provided evidence of this concept initially, but recently the study has given rise to extensive polling, surveying, and deep-rooted sociological studies. It has been noted that the theory of anti-Americanism changes with time in the eyes of those who harbor it. Katzenstein and Keohane define it as "a psychological tendency to hold negative views on the United States, and of American society in general."[17] Comparatively, Webb argues that the theories on anti-Americanism are torn between those who believe it is a state of mind, born by grievances and prejudices from the past, and those who interpret it as an "empirical reaction" to American policy.[18]

Paul Hollander, an American political sociologist from Princeton, does his best to sum up the current range of theories on anti-Americanism in his piece *Pride and Prejudice.* He describes the variety of works on the subject as ranging from "pure and visceral," as in Jean Baudrillard's *The Spirit of Terrorism*, to those pieces that refute these claims, such as Jean-François Revel's book *Anti-Americanism*.[19] In the middle lie theories that explain what has incited anti-Americanism in the past, such as Clyde

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[16] Justin Webb, "Those Who Hate the U.S. Actually Hate Themselves," *Times*, October 30, 2015, http://search.proquest.com/docview/1728216896?accountid=12702.

[17] Katzenstein and Keohane, *Anti-Americanisms in World Politics*, 12.

[18] Webb, "Those Who Hate the U.S.," 1.

[19] Paul Hollander, "Pride and Prejudice," *National Interest,* no. 77 (Fall 2004): 134–141, http://search.proquest.com/docview/218402821?accountid=12702.

Prestowitz's *Rogue Nation: American Unilateralism and the Failure of Good Intentions*, which discusses how the Bush administration fed this ideology, and Alan McPherson's *Yankee No! Anti-Americanism in U.S.-Latin American Relations*.[20] Although sometimes lumped into the term *anti-Westernism*, anti-Americanism has different connotations, and Ian Buruma and Avishai Margalit address these differences in *Occidentalism: The West in the Eyes of Its Enemies*.[21]

B.   HYPOTHESIZED CAUSES OF ANTI-AMERICANISM

Many authors have attempted to explain the causes of this sentiment. Andrew Kohut and Bruce Stokes set out to answer this question in their 2006 book *America against the World.* Drawing on various polls conducted in 2005 and 2006, their conclusions surrounding the roots of anti-Americanism in the world can be boiled down to five factors: American exceptionalism, American nationalism, American religiosity, unilateralism, and overwhelming optimism.[22]

American exceptionalism refers to the fact that America is the world superpower and American business and cultural exports amplify the differences in attitudes or values between the United States and other nation-states. American nationalism is evident in American flags being displayed proudly outside American houses; it is evident in the medal count of every Olympic games held to date; it is evident in the majority of Americans who will not hesitate to tell you of their American origins. As Kohut and Stokes point out, "compared with Western Europeans, average Americans are more likely to express their pride and patriotism."[23]

Religion often plays a role in anti-Americanism, and foreigners perceive religious agendas as driving American leaders. President George Bush's often moralistic rhetoric following 9/11 and the longstanding U.S. support for Israel often drive the religious

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[20] Ibid., 1.

[21] Ian Buruma and Avishai Margalit, *Occidentalism: The West in the Eyes of its Enemies* (New York: Penguin, 2005), 11.

[22] Andrew Kohut and Bruce Stokes, *America against the World: How We Are Different and Why We Are Disliked* (New York: St. Martin's Press, 2006).

[23] Kohut and Stokes, "The Problem of American Exceptionalism," Pew Research Center, May 9, 2006, http://www.pewresearch.org/2006/05/09/the-problem-of-american-exceptionalism, 2.

dagger into the side of Muslim nation-states. American unilateral tendencies further this divide. According to Pew polls, Americans feel their nation does not need international or United Nations (UN) support before taking military action to defend itself. Polls consistently point to the public disapproval of American troops serving under UN command or under trial in international courts.[24]

The final basis for anti-Americanism identified by Kohut and Stokes is American overconfidence. The Pew 1999 Millennium Survey found that many of the people surveyed expected an onslaught of gloom in the near future, to include California earthquakes, global warming, terror attacks, and energy crises. Despite the visions of gloom, these same Americans felt extremely optimistic about the future of the nation, to include a cure for cancer and AIDS, an improved environment, and men on Mars.[25] Nevertheless, in a 2005 17-nation poll done by Pew, 69% of surveyed Americans felt the United States was "generally disliked" by foreigners and 70% described their fellow Americans as greedy.[26]

C.   VARIETIES OF ANTI-AMERICANISM

According to Robert Keohane and Peter Katzenstein in their book *Anti-Americanisms in World Politics*, anti-Americanism is not a single notion, but rather a framework that includes six distinct types.[27] They offer a complete typology to the theory of anti-Americanism. They distinguish the passing sentiment of simple thoughts and reactions from the deeper ideology that brings radical anti-American supporters to conduct extreme terrorist acts.[28] The typology consists of six forms of anti-Americanism that stem from varying grievances against the United States. The first is liberal anti-Americanism, in which supporters are frustrated with American hypocrisy and failure to live up to expected ideals.[29] An example would be the U.S. intervention in Somalia but lack of intervention in Rwanda. The second form of anti-Americanism is the notion of

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[24] Ibid., 6.
[25] Ibid., 8.
[26] Ibid., 6.
[27] Gross, "The Many Stripes of Anti-Americanism," 1.
[28] Lindberg and Nossel, "Report of the Working Group on Anti-Americanism."
[29] Gross, "The Many Stripes of Anti-Americanism," 2.

"social anti-Americanism," which opposes "American economic policy because it promotes laissez-faire ideals and erodes welfare state protections."[30] The third, the sovereign-nationalist view, sees America as posing a threat to another country's fundamental interests or existence.[31] Lindberg and Nossel offer the example of how China and Germany may view U.S. action on or near their homelands as aggression.[32]

The fourth view, radical anti-Americanism, expresses the need to reform the United States completely, often for religious reasons. This is viewed as legitimizing the use of suicide bombs and other terrorist acts in attempts to physically alter the American presence abroad.[33] In the fifth view, cultural-elitist anti-American thinkers view the American culture as unrefined. They feel that America is inferior in class to their own country and often look upon Americans with disdain, as with the cultural anti-Americanism in the intellectual community of the French.[34] Finally, in the sixth view, legacy anti-Americanism, the populace is bitter over historical wrongs that have manifested themselves most recently in current events. In one example, Mexico feels the United States has taken advantage of their country regarding land governance, trade, and border restrictions.[35] Other Latin American countries harbor similar legacy anti-Americanism sentiment stemming from U.S. covert military interventions, neo-liberal economic reforms supported by the U.S. government, and political backings of politicians for U.S. interests.[36] The current unilateralism of the United States and its "hegemonic" stance on various political, economic, and immigration issues can reheat past Latin American grievances that have lain dormant for some time.[37]

The study of Long, Bunch, and Lloyd appears to draw parallels to Katzenstein and Keohane's typology of anti-Americanism. Their approach to measuring anti-

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[30] Ibid.

[31] Ibid.

[32] Lindberg and Nossel, "Report of the Working Group on Anti-Americanism," 9.

[33] Gross, "The Many Stripes of Anti-Americanism," 2.

[34] Ibid.

[35] Ibid.

[36] Justin Lance, "Populism and Anti-Americanism in Modern Latin America," *Origins* 1, no. 1 (October 1, 2007): 4, http://origins.osu.edu/article/populism-and-anti-americanism-modern-latin-america.

[37] Ibid., 5.

Americanism is unique, as they look at editorial cartoons in both English and Spanish and analyze the sentiment under a statistical lens. Long et al. groups the studies of anti-Americanism into three tracks: The first equates the sentiment to the likes of misogyny or anti-Semitism.[38] This appears similar to Katzenstein and Keohane's radical and legacy anti-Americanism. The second track maintains a disdain for U.S. policy decisions and foreign policy. This incorporates Katzenstein and Keohane's liberal, social, and sovereign-nationalist theories on anti-Americanism. Finally, the third track of anti-Americanism, according to Long, Bunch, and Lloyd, comes as a response to U.S. modernization from the 19th century onward.[39] This draws parallels to Katzenstein and Keohane's elitist and legacy anti-Americanism subsets. There exist parallels that can be seen between Long, Bunch, and Lloyd's typology and Katzenstein and Keohane's typology as depicted in Table 1. The table depicts the diversification in the semantics regarding anti-Americanism. It also helps one visualize the overlap that can exist amongst individuals with similar views on the subject such as Katzenstein and Keohane and Long, Bunch, and Lloyd.

Table 1.   Anti-Americanism Overlapping Subsets.

Forms of anti-Americanism	Misogyny / anti-Semitism	Anti-U.S. policy decisions and foreign policy	Anti-U.S. modernization
Liberal		X	
Social		X	
Sovereign-nationalist		X	
Radical	X		
Cultural elitist			X
Legacy	X		X

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[38] Mark Long, Rick L. Bunch, and Robert Earl Lloyd, "Measuring Anti-Americanism in Editorial Cartoons," *Social Science Quarterly* 90, no. 3 (2009): 652, http://search.proquest.com/docview/ 880198533?accountid=12702.

[39] Ibid.

This study by Long et al. concluded, "The most efficient way to express anti-American sentiment is to belittle a U.S. icon."[40] This is an important point as an anti-American sentiment in Twitter could take the form of hate or dislike towards an iconic American figure, place, or icon. Twitter queries may need to search for representations of America such as presidents' names or terms like *Lady Liberty* to find hidden meaning in a textual content.

Antulio Echevarria describes what he views are the four different types of wars of ideas. He breaks down the difference between intellectual debates, ideological wars, disputes over religion, and advertising campaigns. In ideological wars, large visions and notions collide around what Echevarria describes as a doctrine or formal path. He then offers the example of the Cold War, when political, economic, and military unrest fueled impassioned disputes between the United States, the Soviet Union, and each of their allies.[41] Echevarria argues that an ideology is "any organized set of political or philosophical ideas, whether secular or non-secular." It differs from a religious motive since it crosses both secular and non-secular lines.[42] Getting behind an ideology can be difficult if it is too narrow or contains specific goals and grievances that do not necessarily resonate with a future potential terrorist. On the other hand, if an ideology is so vast that multiple grievances can be contained within it, it stands a better chance of attracting more popularity and gaining traction through osmosis of ideas and collective attitudes. Samuel Huntington in his article, "The Clash of Civilizations," considers whether the fundamental sources of conflict have moved from conflicts of kings to conflicts of people, and successively, conflicts of nations-states to conflicts of ideologies.[43] Huntington goes on to suggest that one ideology that has passed the test of time is the notion of "the West against the rest."[44] He argues that, "the very phrase 'the

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40 Ibid., 670.

41 Antulio J. Echevarria, *Wars of Ideas and* the *War of Ideas* (monograph by Strategic Studies Institute, June 2008), vi.

42 Ibid., 14.

43 Samuel P. Huntington, "The Clash of Civilizations?" *Foreign affairs* (Summer 1993): 23.

44 Ibid., 39.

world community' has become the euphemistic collective noun…to give global legitimacy to actions reflecting the interest of the United States and other Western powers."[45]

When terrorist extremists get behind an anti-American ideology, it can become very dangerous. In an article for the *American Psychologist*, Fathali Moghaddam compares the act of extremist terrorism to the final step on a narrowing staircase of radical terrorist buy-in. Each floor corresponds to a different level of commitment to a terrorist ideology. The top floor is the apex where terrorists fully radicalize.[46] By looking at Keohane and Katzenstein's anti-American typology through the lens of this narrowing staircase, one can truly comprehend the danger of anti-American sentiment. On the ground floor, we find the majority of individuals and most grievances. The bottom floor is comprised of grievances of one's material condition, and Moghaddam argues that perceived deprivation and perceived fairness make up the majority of these grievances.[47] Some cultural-elitist anti-American thinkers reside on this floor, although the issue for the elitists is not so much deprivation or injustice but rather simple disdain and repulsion. Individuals located on the second floor want procedural justice. They are angry about grievances and want the system to work in their favor in spite of the fact that it seldom, if ever, does.[48] The second floor on Moghaddam's staircase also incorporates a displacement of aggression. Specifically regarding anti-Americanism, Moghaddam argues, "The displacement of aggression onto out-groups, particularly the United States, has been channeled through direct and indirect support for institutions and organizations that nurture authoritarian attitudes and extremist behavior."[49] It is within the first two floors that the majority of anti-American thinkers fall. Not everyone with an anti-American mindset commits terrorist acts. They have not all begun to alter their morality to accept terrorist acts as moral and just. Legacy anti-American sympathizers are disgruntled about past grievances, but they look to their government or relative authority

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[45] Ibid., 39.
[46] Moghaddam, "The Staircase to Terrorism," 162.
[47] Ibid.
[48] Ibid., 164.
[49] Ibid.

to right past wrongs and bring on justice. Similarly, liberal anti-Americans feel deprived, but that the United States should intervene or offer support when the need arises.

On the third floor, we begin to separate the sentiment from the ideology of anti-Americanism. Would-be terrorists disengage from morality as accepted by conventional government authorities and in turn look to the morality of their terrorist organizations as the new moral compass. They begin to justify their would-be terrorist acts as morally acceptable.[50] The sovereign nationalist has entered the third floor, since the issue at hand still involves grievances and finding the right solution, though the "us vs. them" mentality permeates the thought process, and America is viewed not just as a problem but also as an enemy. Given that America is a threat to their people and way of life, violent acts may become increasingly imaginable. On the fourth floor, the "us vs. them" view of the world strengthens to the point where there is no turning back. The would-be terrorist becomes a full-blown recruit, and there is no exit strategy at this point.[51] The dictatorial government is no longer fit to address the terrorist's concerns, and terrorists often view their dictatorial governments as pawns of the United States.[52] Radical anti-American thinkers have reached this fourth floor, and climbing to the fifth and final floor is not too difficult. The fifth floor is where the terrorist commits to conducting large violent acts against civilians, usually with the intent of mass casualties. In the mind of the terrorist, anyone who is not opposed to the government at this point is an opponent and deserves death.[53]

Moghaddam suggests that there is no turning back once terrorists have reached the third floor and they have already defined an alternate morality for their actions. As soon as an individual has targeted America as the enemy, it is too late to persuade him or her otherwise. The notion of "America, the great Satan" has already taken hold. This implies that while we will never be able to convince all individuals with anti-American tendencies of U.S. nobility, our efforts should be focused where we can do the greatest

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[50] Ibid., 165.
[51] Ibid., 166.
[52] Ibid.
[53] Ibid.

good, by attempting to reach individuals before they have progressed to the upper floors of extremist action.

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III. MEASURING ANTI-AMERICAN SENTIMENT

A. OPINION POLLING AND SURVEYS

The Pew Research Center is a nonprofit organization in Washington, DC, that "conduct(s) public opinion polling, demographic research, content analysis, and other data-driven social science research."[54] Pew Research Center's Global Attitudes Project has become the largest work on anti-Americanism since 9/11. According to their website, Pew has conducted over 450,000 interviews in 64 countries (see Figure 1) to attempt to gain a global perspective on outsider views of the United States.
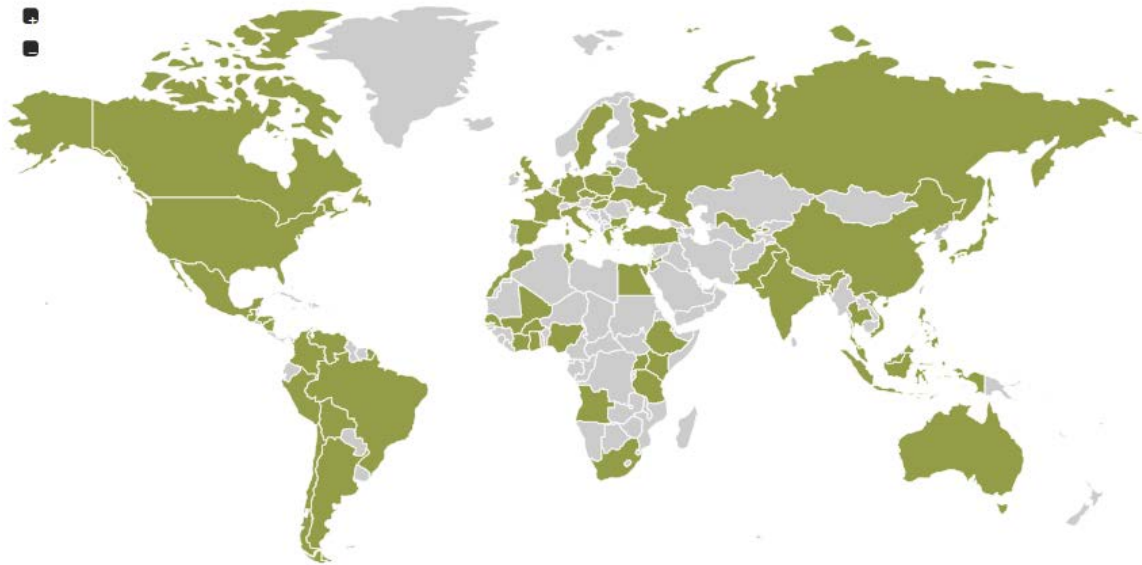
Figure 1.   Pew Research Center Interviewed Countries, 2002–2016.[55]

The goal of the Global Attitudes Project was to document America's image problem. The Pew Research Center's director, Andrew Kohut, learned that "America's image had declined around the globe," and the event of the invasion of Iraq played a big

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[54] "About," Pew Research Center, http://www.pewresearch.org/about/.

[55] Source: Global Attitudes Project, "Global Indicators Database," Pew Research Center, accessed October 4, 2016, http://www.pewglobal.org/database/.

part in this.[56] Specifically, regarding the United States, Pew asked respondents, "Please tell me if you have a very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable opinion of the United States." Figures 2, 3, and 4 present the favorability ratings of the United States through the eyes of the U.S., Pakistani, and Japanese populace over the course of the survey.[57] As can be seen in Figure 2, even some respondents within the U.S. did not have a favorable view of their country.
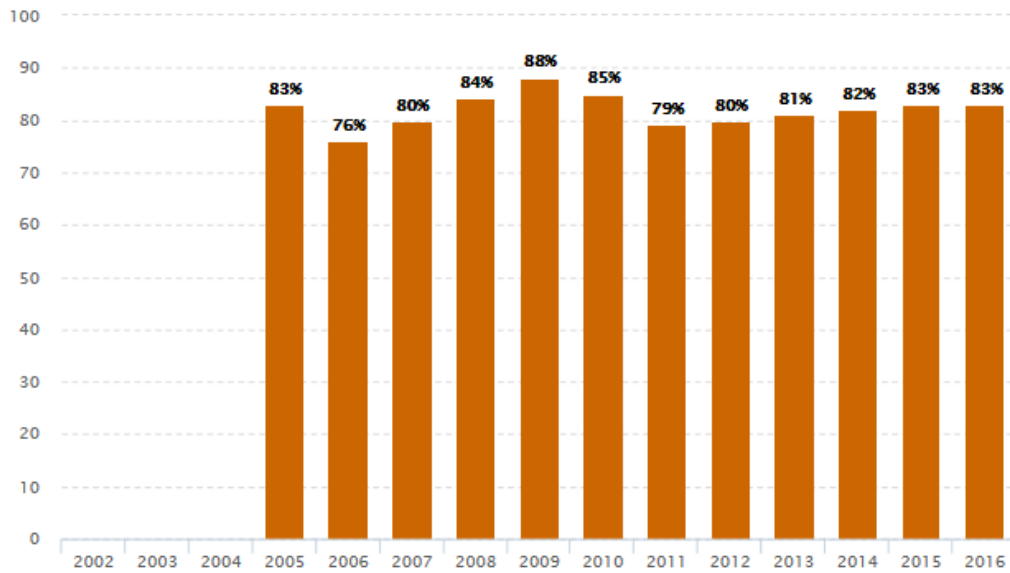
Figure 2.   Percent of United States Responding Favorable, All Years Measured.[58]

[56] Kohut and Stokes, *America against the World.*

[57] Pew notes that when interpreting their results, the charts and figures referring to a "favorable" response include "very favorable" and "somewhat favorable" responses. Similarly, an "unfavorable" response combines "very unfavorable" and "somewhat unfavorable" responses. See: Global Attitudes Project, "Global Indicators Database," Pew Research Center, accessed October 4, 2016, http://www.pewglobal.org/database/.

[58] Source: Global Attitudes Project, "United States: Opinion of the United States," Global Indicators Database, Pew Research Center, accessed August 15, 2016, http://www.pewglobal.org/database/indicator/1/country/233/.
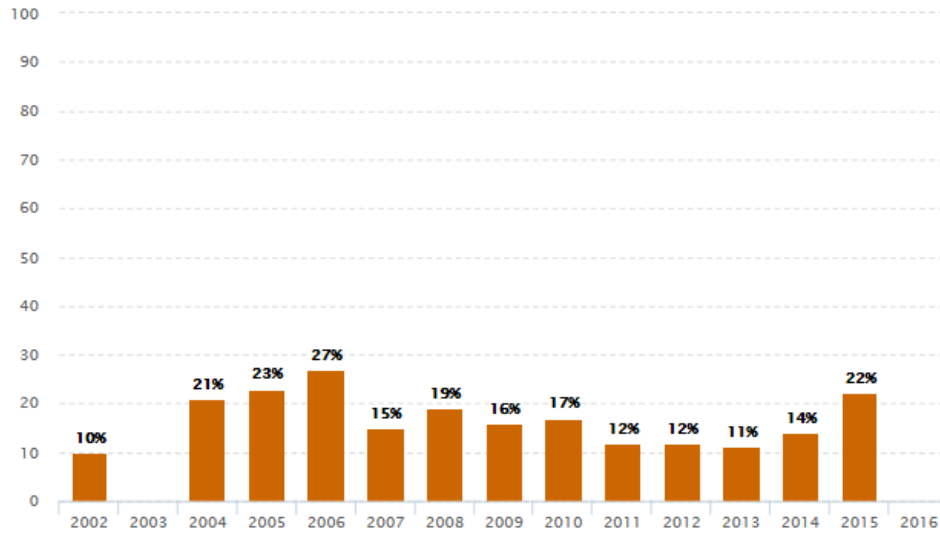
Figure 3.   Percent of Pakistan Responding Favorable, All Years Measured.[59]
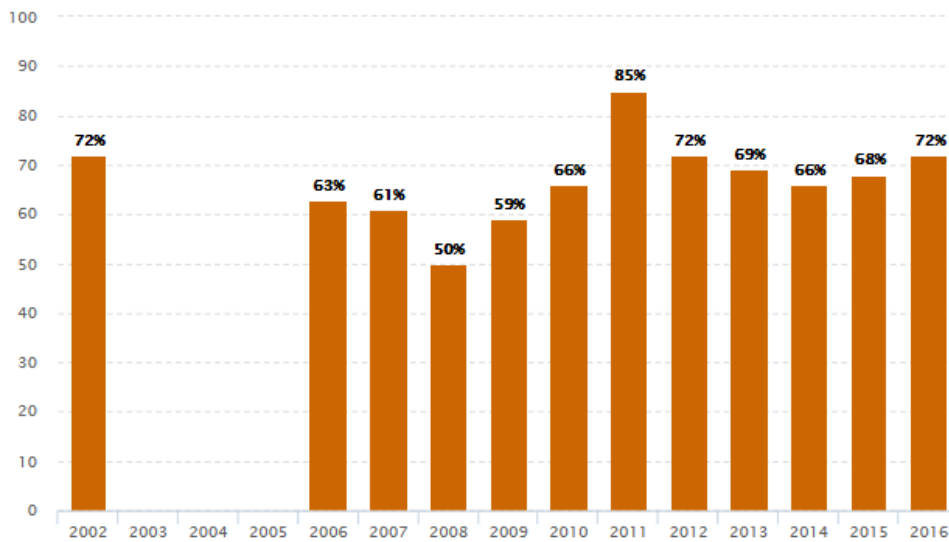
Figure 4.   Percent of Japan Responding Favorable, All Years Measured.[60]

[59] Source: Global Attitudes Project, "Pakistan: Opinion of the United States," Global Indicators Database, Pew Research Center, accessed August 15, 2016, http://www.pewglobal.org/database/indicator/1/country/166/.

[60] Source: Global Attitudes Project, "Japan: Opinion of the United States," Global Indicators Database, Pew Research Center, accessed August 15, 2016, http://www.pewglobal.org/database/indicator/1/country/109/.

Overall, the Global Attitudes survey points to the majority of surveyed nations as having a positive image of the United States. As of 2013, 28 of 38 nations had a "favorable opinion of the U.S. and across these nations a median of 63% [had] a positive view of America."[61] Overall, Global Attitudes survey opinions in Muslim nations were negative, including opinions in Pakistan, Jordan, Egypt, the Palestinian territories, and Turkey.[62]

In a similar manner to Pew's Global Attitudes project, political scientist Giacomo Chiozza analyzed data from 42 countries in 2002, with over 38,000 respondents.[63] His worldwide public opinion databases surveyed individuals from Africa, Asia, Europe, Latin America, and Islamic countries on a broad range of categories including technology, politics, and culture.[64] Chiozza concluded that the idea of broad, sweeping anti-Americanism is a misperception. His data supports the findings of the Global Attitudes project. Chiozza found that most respondents "manifested a favorable reaction whenever asked to offer an overall evaluation of their feelings towards the United States. … It shows that anti-Americanism was not a predominant orientation among foreign publics as recently as 2002."[65]

B.   WEB ANALYTICS AND SOCIAL MEDIA ANALYSIS

The website internetlivestats.com displays a ticker that records the real-time number of tweets sent through the Twitter network in a given day. The site claims that 6,000 tweets are tweeted on average per second. According to their database, Twitter use grew from 5,000 daily tweets in 2007 to nearly 500 million per day in 2013, an increase by six orders of magnitude.[66] Despite the 140-character limit per tweet, the amount of

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[61] Global Attitudes Project, "Global Image of the United States and China," Pew Research Center, last modified July 18, 2013, accessed August 15, 2016, http://www.pewglobal.org/2013/07/18/global-image-of-the-united-states-and-china/.

[62] Ibid., 1.

[63] Giacomo Chiozza, *Anti-Americanism and the American World Order*, (Baltimore, MD: Johns Hopkins University Press, 2008), http://search.proquest.com/docview/37230663?accountid=12702.

[64] Ibid., 6.

[65] Ibid., 53.

[66] "Twitter Usage Statistics," Internet Live Stats, accessed February 6, 2016, http://www.internetlivestats.com/twitter-statistics/.

data available on Twitter reflecting public opinion is impressive. In the same manner that Twitter was used as a platform for launching the violent protests of the Arab Spring, so too could a Twitter movement be launched against America by those who harbor anti-American tendencies. In fact, as we have seen with the recent rise of ISIS recruiting and propaganda on Twitter, social media may be enabling this process. For example, Camber Warren in his piece "Explosive Connections," illustrates how "social media technologies… serve to incentivize the promotion of the kinds of narrowly construed sectarian appeals and extremist ideologies which ultimately render collective violence imaginable and feasible."[67] More specifically, he argues that although mass media has reduced the "probability of large-scale civil violence,"[68] social communication technologies such as Twitter, which link individuals horizontally, tend to divide people and increase the chances of collective violence.[69] If people use social media as a news source more often than mass media, Warren's hypothesis suggests that this developing trend could lead to more violence. It also suggests harnessing this data could prove effective in predicting violent trends. Unfortunately, just like in polling, social media analysis is not without its fair share of problems and difficulties.

C.   SENTIMENT ANALYSIS

Over the last five years alone, the United States has awarded hundreds of patents for technologies that analyze social media.[70] Some of the latest technology includes programs capable of "determining sentiment from text content" or "identifying event-specific social discussion threads."[71] Political analysts have already used these programming tools to measure political sentiment. An example is the Lexicoder Sentiment Dictionary (LSD), which counts keywords from a text and compares them to a

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[67] T. Camber Warren, "Explosive Connections? Mass Media, Social Media, and the Geography of Collective Violence in African States," *Journal of Peace Research* (2015), doi: 0022343314558102, 301.

[68] T. Camber Warren, "Not by the Sword Alone: Soft Power, Mass Media, and the Production of State Sovereignty," *International Organization* 68, no. 1 (2014): 117.

[69] Warren, "Explosive Connections," 297.

[70] Andreas Goeldi, "Analytic Measurement of Online Social Media Content," U.S. Patent Application 12/352,827, filed January 13, 2009.

[71] Ibid.

coded dictionary to determine positive or negative sentiment.[72] During a joint venture between Princeton and Harvard universities, researchers used a social media analytics software called Crimson Hexagon to view Arabic reactions to major events in 2012 and 2013 on Twitter.[73] They found that "the analytics tool identified…more than 2.2 million Arabic tweets around the time of the overthrow of Morsi in 2013 that mentioned the U.S… No matter which side of the domestic dispute…he or she was likely to be opposed to the U.S." In a surprising synopsis, Arab tweeters vehemently opposed U.S. influence in Middle Eastern affairs despite action that sided with Arab motives.[74]

One critical aspect in sentiment analysis is creating a proper, tailored search query. If a query is too refined and detailed, it limits the results, making conclusions less significant. Alternatively, if the query is too broad, the results may generate false positives. Sentiment dictionaries provide an alternative to individual keyword searches when conducting sentiment analysis. Most sentiment dictionaries search for broad categories or bins of words that relate to a sentiment in general. Researchers use sentiment dictionaries such as Harvard's General Inquirer dictionary with paired categories. Categories include positive versus negative, strong versus weak, active versus passive, pleasure versus pain, virtue versus vice, overstatement versus understatement, etc.[75] The current public edition of the General Inquirer dictionary "combines the Harvard IV-4 dictionary content-analysis categories, the Lasswell dictionary content-analysis categories, and five categories based on the social cognition work of Semin and Fiedler, making for 182 categories in all."[76] Of all the 182 categories, the two largest are the valence categories of positive and negative sentiment, which take basis in Charles Osgood's theory of semantic differential and factor analysis. Osgood's theory explains

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[72] Lori Young and Stuart Soroka, "Affective News: The Automated Coding of Sentiment in Political Texts," *Political Communication* 29, no. 2 (2012): 205–231, http://search.proquest.com/docview/ 1282828618?accountid=12702.

[73] "Arabic Tweets Point to Anti-Americanism: Study." *Businessline*, September 25, 2014, http://search.proquest.com/docview/1564798753?accountid=12702.

[74] Ibid.

[75] "General Inquirer Categories," William James Hall Home Page, accessed November 7, 2015, http://www.wjh.harvard.edu/~inquirer/homecat.htm, 1.

[76] "Inquirer – Use and Comparisons," William James Hall Home Page, http://www.wjh.harvard.edu/~inquirer/3JMoreInfo.html, 1.

how semantic analyses of the past have narrowed "adjectival scales" down to three types of vectors from neutral.[77] These include evaluative factors such as positive-negative, a potency factor such as hard-soft, and an activity factor such as active-passive.[78] This study concentrated on Osgood's evaluative factor of determining positive and negative sentiment.

I opted to use Harvard's General Inquirer dictionary for my two case studies in Pakistan and Japan for two reasons. The first is that the General Inquirer dictionary has been well established in text and document sentiment analysis since the early 1960s. The second reason is that it seemed balanced, since it stood up to cross-cultural tests in semantic differentials. This would become critical later on in the follow-on case studies, since the dictionaries I selected required translation into the local case-study languages.

D.   HURDLES TO SENTIMENT ANALYSIS

Those against social media analysis argue, first, based on representivity: "Research often depends on its ability to draw more general inferences about a wider population based on the data it uses and the methods it employs."[79] Miller et al. claim that one large problem with representivity in social media is the data are very large and difficult to decipher. For example, collection methods contain non-relevant tweets that complicate analysis and may miss some messages that are very important to the search at hand.[80] Representivity in social media can also be inconsistent with the random sampling generally used in opinion polling. In addition, problems arise with translations when working on data from foreign countries. A foreign language that could have several versions of the word "happy" could prove difficult to a social media analyst. Moving past the format itself, online opinions can differ from offline opinions.[81] In other words, some

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[77] Charles E. Osgood, "Semantic Differential Technique in the Comparative Study of Cultures," *American Anthropologist* 66, no. 3 (1964): 173, http://onlinelibrary.wiley.com/doi/10.1525/aa.1964.66.3.02a00880/pdf.

[78] Ibid.

[79] Carl Miller et al. *The Road to Representivity: A Demos and Ipsos MORI Report on Sociological Research Using Twitter* (London: Demos, September 10, 2015), 3, http://www.demos.co.uk/project/the-road-to-representivity/.

[80] Ibid., 4.

[81] Ibid., 4.

users will tweet for the sociability of the experience or to feel part of the in-group. This can cause the user to use language that is not representative of his or her true feelings. Further issues arise with from the large number of tweets that are sent from a very small set of "power users."[82] Miller et al. suggest that 1% of accounts send between 14% and 33% of the total tweets.[83] Compounding this issue is the fact that some of these power users may be automated bots or part of institutions reflecting the overall views of a collective entity, not an individual.

Further issues exist in countries where the government controls the extent to which the public can access social media or the mass media. A government that censors mass media and provides a strong slant on government-sponsored social media posts could potentially utilize social media to persuade other social media users. According to one source, when Twitter was utilized in masse to incite revolt during the 2011 Arab Spring, many governments shut it down in various countries including Algeria, Tunisia, Egypt, Cameroon, and Malawi.[84] The countries of Turkey, Iran, China, and North Korea still block Twitter.[85] These Twitter bans speak to the potency of the voice of Twitter users and how powerful those messages can be.

When making inferences about the type of Twitter users in a network, geo-locating Twitter users can be difficult. Individuals can tweet from various locations on the go via cell phone applications or falsify origin information from the start, as has been seen in various instances with pro-ISIS members using Twitter as a recruiting tool. The Twittersphere represents the voice of large populated areas, such as London, but some rural areas may not have a voice at all.[86] Additionally, Twitter misrepresents some social demographics. Miller et al. found that tweets from men occurred more often than tweets from women on issues such as brands. Similar disparities in the normalization of data are visible with the categories of age and background. Miller et al. make the point that the act

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[82] Ibid.

[83] Ibid.

[84] Dana Liebelson, "MAP: Here Are the Countries that Block Facebook, Twitter, and YouTube," *Mother Jones*, March 28, 2014, http://www.motherjones.com/politics/2014/03/turkey-facebook-youtube-twitter-blocked.

[85] Ibid.

[86] Miller et al., *The Road to Representivity*, 5.

of tweeting itself is an "agent of social change" and the context of the offline environment affects the online environment broadcast.[87] As a conclusion, they come to realize that social media datasets in general are simply one form of social research, similar to surveys.[88] Analysts cannot use social media datasets in a vacuum or without understanding the overall context of their use.

E.   STRENGTHS OF SENTIMENT ANALYSIS

As Hutchison and Kumara point out in their work "Big Data Analytics," archival data from social media forums has the power to inform future decisions and give a competitive edge.[89] Take for example the use of Twitter to predict sales at the box office. Analysts gathered 2.89 million tweets on 24 different movies and ran them through binary sentiment analysis to determine how they would do in ticket sales. The results accurately predicted the high sellers and beat out the famous Hollywood Stock Exchange.[90] Even more relevantly, the company Globalpoint Research conducted sentiment analysis using Twitter on the topic of the 2012 presidential New Hampshire primary. Through their data mining, they were able to predict the winner in addition to the closeness of results for the second-, third-, and fourth-place finishers.[91] These examples shed light on the advantages of social media analysis.

In addition, through advanced language translators and multimedia integrators, analysts can examine tweet sentiment from foreign countries. Computer algorithms are constantly evolving to decipher language quirks, making it easier to sift through relevant and irrelevant messages. One example of the political and military significance of this is the way that Topsy Labs attempted to "correlate the rising and falling trends in hashtags #iran, #egypt, and #yemen" to Arab Spring events in Tunisia, Egypt, and other locations

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[87] Ibid., 5.

[88] Ibid., 6.

[89] Ken Hutchison and Soundar Kumara, "Big Data Analytics – Sentiment Analysis of Twitter Data Using Clustering Techniques," *IIE Annual Conference. Proceedings* (2013): 2495–2502, http://libproxy.nps.edu/login?url=http://search.proquest.com/docview/1471959191?accountid=12702.

[90] Ibid., 2,496.

[91] Leo Widrich, "6 Incredible Examples of How Twitter Predicts the Future," Buffer Social, last modified April 4, 2016, https://blog.bufferapp.com/6-incredible-examples-of-how-twitter-predicts-the-future.

in the Middle East.[92] Their data showed large increases in the number of tweets occurring at the same time as actual events critical to the revolution. These included "events such as the suicide of Mohamed Bouazizi…the 26-year-old Egyptian food vendor whose death crystallized for many dissidents…the need to take action."[93] In a similar manner, a German knowledge-engineering system known as PoliTwi was able to prove a high correlation between the occurrence of political events and their immediate appearance on Twitter. The firm took a sampling of four million tweets during the German parliamentary election and, by using sentiment hashtags, predicted political interests in a short time duration with capability equivalent to that of Google Trends.[94]

One further advantage of data derived from the Twitter network lies in the availability of geo-location information. Each tweet contains geographical metadata, which comes in two main forms. "Activity location" records a user's location based on a bounding box that goes to the neighborhood level.[95] This data is relatively reliable, and offers high resolution, but is only available for the small fraction of users (around 2%) who allow GPS coordinates to be recorded when they transmit messages. The second source of geographic information is the "profile location," which is filled out by the user at the time of account activation or later if desired. This can be imprecise, as a user might use their specific hometown as a location, such as San Francisco, CA, or an alias such as "the best city in the world." Analysts at Twitter have created an additional geo-location category called the GNIP location, which provides geo-locations for a Twitter user by profile location, based upon a proprietary algorithm.[96] This is the most thorough source for geo-spatial tracking of Twitter users, as it offers moderate accuracy but covers a large fraction (around 30%) of all users.

[92] Mathew Ingram, "Can Watching Twitter Trends Help Predict the Future?" Gigaom, October 19, 2011, https://gigaom.com/2011/10/19/can-watching-twitter-trends-help-predict-the-future/.

[93] Ibid.

[94] "Knowledge Engineering: Findings from Goethe-University Yields New Data on Knowledge Engineering (PoliTwi: Early Detection of Emerging Political Topics on Twitter and the Impact on Concept-Level Sentiment Analysis)," *Journal of Robotics & Machine Learning* (December 15, 2014): 37, http://libproxy.nps.edu/login?url=http://search.proquest.com/docview/1634925948?accountid=12702.

[95] Jim Moffett, "Twitter Geographical Metadata," GNIP, last modified February 12, 2014 http://support.gnip.com/articles/geo-intro.html.

[96] Jim Moffitt, "Twitter Geographical Data," GNIP, February 14, 2014, http://support.gnip.com/articles/geo-intro.html.

IV. CASE STUDY #1: ANTI-AMERICANISM IN PAKISTAN

A. BACKGROUND

The United States and Pakistan have had a political relationship dating back to Pakistan's inception in 1947.[97] Since that time, the United States has become Pakistan's largest economic partner, with bilateral trade between the two countries exceeding $5.1 billion in FY2015, and 16% of Pakistani exports going to the U.S.[98] After the attacks on the United States on September 11, 2001, the United States began to work closely with Pakistan on "security and stability in South Asia."[99] This included various counterterrorism (CT) and counterinsurgency (CI) efforts, primarily in the Federally Administered Tribal Areas (FATA) that lay on the northeast border that Pakistan shares with Afghanistan. Under these efforts, the United States promotes long-term CT and CI, with the Foreign Military Financing (FMF) unit supplying $265 million in funding in FY2015.[100] The primary U.S. goal in Pakistan is to bolster the Pakistani security forces in an effort to maintain an ally in the region and eradicate terrorism, a threat to both countries.

In 2004, the United States embarked on an effort to crush terrorism in Afghanistan and Pakistan through tactical operations including drone strikes. Drones, otherwise known as unmanned aerial vehicles (UAVs), are attractive as offensive weapons since, as the name implies, they are unmanned. This attribute, coupled with the advancement of GPS and targeting, makes drones highly maneuverable and eliminates the risk of ground troop fatalities.[101] Further, the standoff distance associated with drone strikes takes the risk of pilots' lives out of the battle and shrouds the strikes in secrecy.[102] Secrecy is an advantage for the United States, since it is difficult to place blame on an

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[97] Bureau of Public Affairs, "U.S. Relations with Pakistan," U.S. Department of State, last modified October 7, 2015, http://www.state.gov/r/pa/ei/bgn/3453.htm.

[98] Ibid.

[99] Ibid.

[100] Ibid.

[101] "Out of Sight, Out of Mind: A Visualization of Drone Strikes in Pakistan since 2004," Pitch Interactive, http://drones.pitchinteractive.com/, 1.

[102] Ibid.

unseen aggressor. Secrecy is also a curse for the United States, as Pakistanis might assume that all drone strikes are to be attributable to the United States, even when this is not necessarily the case. The drone strike effort in Pakistan targets "top al-Qaeda leaders, al-Qaeda's external operations network, and Taliban leaders and fighters who threaten both the Afghan and Pakistani states."[103]

In June of 2014, bilateral military operations between the two countries strengthened following a Tehrik-e-Taliban Pakistan (TTP) attack on the Karachi airport that killed 28 people, including all 10 attackers involved.[104] A combined offensive labeled Operation Zarb-e-Azb was initiated with the intent "to dislodge militant groups that have used the area as a base for well over a decade."[105] The majority of the drone strikes that have occurred on Pakistani soil since the start of Zarb-e-Azb take place in the province of North Waziristan, which lies within the FATA (see Figure 5).[106]

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[103] Bill Roggio, "Pakistan Strikes," *FDD's Long War Journal*, last modified June 16, 2016, http://www.longwarjournal.org/pakistan-strikes.

[104] "Taliban Claim Deadly Attack on Karachi Airport," BBC News, June 9, 2014, http://www.bbc.com/news/world-asia-27758029.

[105] "After the Dead Are Counted: U.S. and Pakistani Responsibilities to Victims of Drone Strikes," Open Society Foundations, 3, https://www.opensocietyfoundations.org/sites/default/files/after-dead-are-counted-20141120.pdf.

[106] Ibid.

Figure 5.   Map of North Waziristan.[107]

Additionally, as Figure 6 displays, the *Long War Journal* estimates that of all the drone strikes in Pakistan since 2004, "72% have hit targets in North Waziristan, and 23% have hit targets in South Waziristan."[108] Drone strikes have targeted the localities in their backyards for the last 12 years.

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[107] Source: Michael Boyle, "Pakistani Drone Strikes Should Worry Obama," *Conversation,* September 30, 2015, http://theconversation.com/pakistani-drone-strikes-should-worry-obama-47608.

[108] Roggio, "Pakistan Strikes," 5.
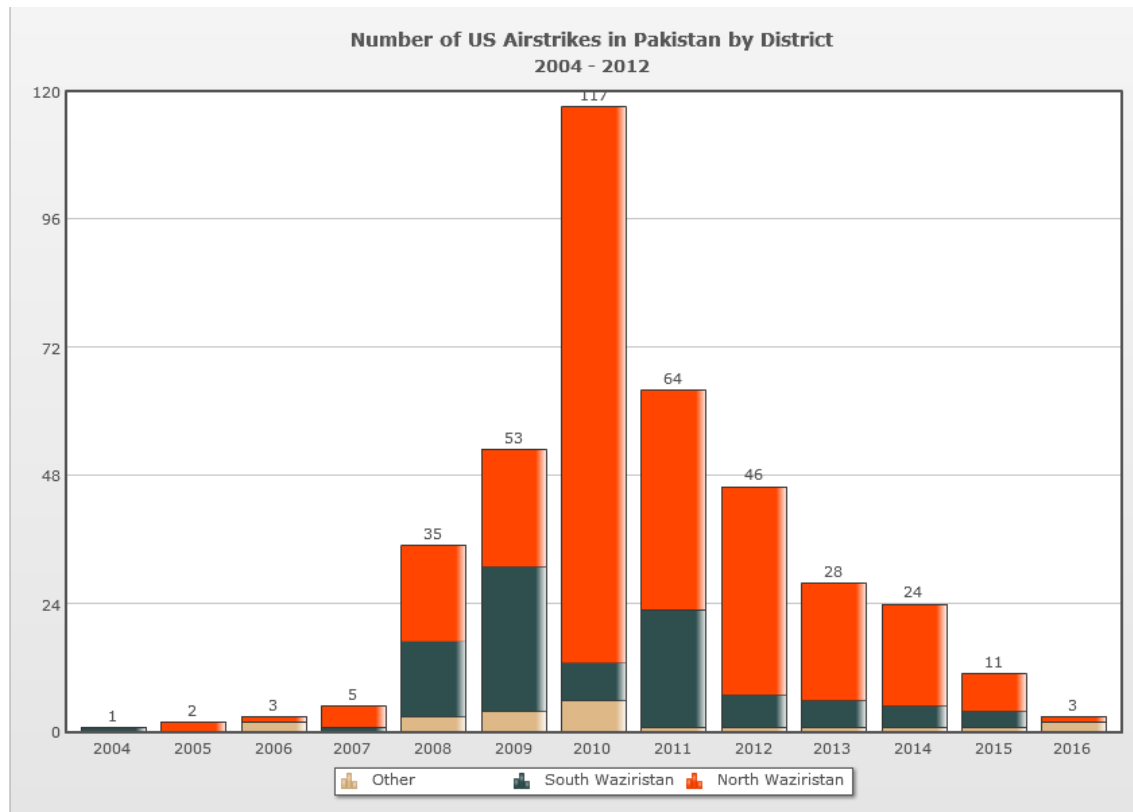
Figure 6.   U.S. Drone Strikes by District, 2004–2016.[109]

North Waziristan contains four large Taliban groups: "the Mehsuds, Mullah Nazir, Hafiz Gul Bahadur, and the Haqqanis."[110] According to the *Long War Journal*, "The Pakistani government currently considers Nazir … the Haqqanis, Bahadur, and Hekmatyar to be 'good Taliban,' as they do not carry out attacks against the Pakistani state."[111] Though there is disagreement regarding the regime's true views on the matter, one certainty is that these strikes come with collateral damage. Unfortunately, drone strikes on Pakistani soil have reduced the U.S. public image among the Pakistani populace. Figure 7 depicts the average casualty rate per strike from the years 2004 until the present as reported by the Bureau of Investigative Journalism.

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[109] Source: Roggio, "Pakistan Strikes."

[110] Roggio, "Pakistan Strikes," 6.

[111] Ibid., 8.
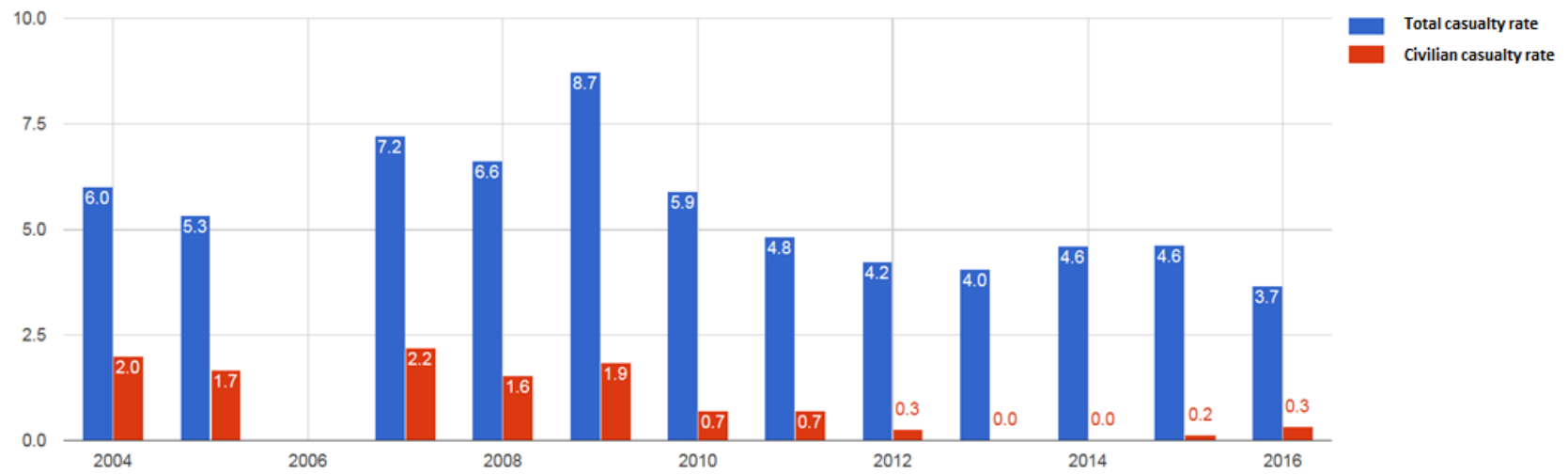
Figure 7.   Pakistan: Casualty Rates for Drone Strikes, 2004–Present.[114]

[114] Source: Bureau of Investigative Journalism, "Get the Data."

According to the bureau, during the years 2013 and 2014, there were no validated civilian casualty reports associated with U.S. drone strikes.[115] The years 2013 to 2014 coincidentally saw the passing of a U.S. agreement to cease drone strikes in Pakistan. Other sources, however, tend to disagree with the zero casualty figures during these years. In contrast to the numbers published by the bureau, Table 2 presents the cumulative tallies of open-source drone strike reports in Pakistan as reported by various sources.

Table 2.   U.S. Drone Strike Totals in Pakistan, 2004–Present.[116]

Source:	UN General Assembly Report (Sep 2013)[1]	Bureau of Investigative Journalism (present data)[2]	*Long War Journal* (Jun 2016)[3]	New American Foundation (May 2016)[4]	Pitch Interactive (Sep 2015)[5]
# Strikes	330	424	392	403	423
# Deaths	2,200	2,499–4,001	2,799	2,281–3672	3,341
# Additional Injured	600	1,161–1,744	N/A	N/A	N/A
Civilians Killed	600	424–966	158	255–315	724
Notes	Source is Pakistan Ministry of Foreign Affairs		No data for 2004–05	176–279 unknown killed	

Despite the disparity between reports, the data collected by the bureau is thorough and substantiated by various legitimate reports. The bureau uses at least two distinct sources of credible information in order to validate each case. For many of the strikes reported by the bureau, eight or more sources validate the data.[117] Although the strikes

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[115] Bureau of Investigative Journalism, "Get the Data."

[116] [1]Ben Emmerson, "Promotion and Protection of Human Rights and Fundamental Freedoms While Countering Terrorism," *Report of the Special Rapporteur, Third Annual Report,* United Nations General Assembly, A/68/389 18 (2013); [2] Bureau of Investigative Journalism, "Get the Data"; [3]Roggio, "Pakistan Strikes"; [4]"Drone Wars Pakistan: Analysis," International Security Program, accessed June 6, 2016, http://securitydata.newamerica.net/drones/pakistan-analysis.html; [5]"Out of Sight, Out of Mind."

[117] Bureau of Investigative Journalism, "CIA and U.S. Military Drone Strikes in Pakistan, 2004 to Present – Google Sheets," Google Doc, https://docs.google.com/spreadsheets/d/1NAfjFonM-Tn7fziqiv33HlGt09wgLZDSCP-BQaux51w/edit#gid=1000652376.

"have killed members of various armed groups based in Pakistan, including al-Qaeda, the Pakistan Taliban, and the Haqqani Network," it is obvious the strikes have also inflicted collateral damage.[118] As the numbers suggest, anywhere from 10%–25% of the individuals killed have been civilians, with the U.S. government source reporting the fewest civilian casualties publicly.

Given the reality of these drone strikes, it is hard to imagine the life and concerns of individuals trying to live in the FATA in Pakistan. On one side, the people see bombs exploding around them, hitting houses, markets, and areas where they live, work, and play. Any civilian casualty must intensify the gravity of the situation for those in the immediate area. On the other side is the Taliban, with their oppressive nature and deathly magnetism. The Open Society Foundation relates one perspective from a local living in Waziristan: "if you allow the Taliban to sit with you then drones target them and you are killed with them. People are caught between the devil and the deep blue sea."[119] There are those who see light at the end of the tunnel, however. One study conducted by a professor at Oklahoma University interviewed 147 individuals, and nearly 80% of them endorsed drones and the effects that they have on creating stability in the region. They link the eradication of suicide bombings to the killing of terrorist Qari Hussain, for example, but most likely do not understand the entire reasoning behind drone strikes or the war on terror. Author Rob Crilly found through his research that the closer he came to drone-strike-impacted areas, the more people tended to support CIA drone strikes.[120] Unfortunately, these are small samples and may not bear truth for all.

The people of the FATA often feel abandoned, since infrastructure programs and aid supplied by the government are nonexistent. These people hear rumors that their government is on board with these targeted assassinations in their hometowns, and then the government does very little when there are civilian casualties.[121] In some cases, the

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[118] Ibid.

[119] "After the Dead Are Counted," 13.

[120] Rob Crilly, "Why Many People in Pakistan Support American Drone Strikes," *Telegraph,* May 19, 2016, http://www.telegraph.co.uk/news/2016/05/19/why-many-people-in-pakistan-support-american-drone-strikes/.

[121] "After the Dead Are Counted," 14.

lack of structure in the FATA, caused by military operations including drone strikes, provides an opportunity for Pakistani security forces to engage in human rights violations, further adding to the chaos and murkiness of the situation. The government gives these violations very little attention compared to those in other parts of the country.[122] Drone strikes lead the people of the FATA to believe their government is helpless or a mere pawn employed at the whim of the United States. Pakistani generals feel they are constantly defending their allies, and the public often perceives America as the enemy. In the eyes of one military official, "It gives strength to the argument that this is not Pakistan's war, it's America's war."[123] The combination of collateral damage, misinformation, and lack of information from both the Pakistani and U.S. governments to the Pakistani people is driving those Pakistanis with the weapon of Twitter to take a stand. They are seeking answers to a barrage of attacks that have decimated their ways of life.

B.   PAKISTANI TWITTER ENVIRONMENT

The country of Pakistan, home to nearly 193 million people, is reported to have an Internet penetration of 17.8% with 34 million Internet users, a near 10% increase since 2015.[124] Innovation and technology are empowering the general populace in Pakistan, and the use of social media appears to be on the rise, despite an effort by the government to censor certain applications and websites it deems inappropriate. An increase in the use of Facebook, Twitter, Skype, and Instagram is collectively creating this rise. According to data published by online media forum Propakistani in January of 2016, Facebook is the leading social media site in Pakistan, with over three billion connections per day, and Twitter comes in second, with 280 million connections per day.[125] A 2014 report put out by Twittistaan reports the number of Twitter users from Pakistan at over two million,

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[122] Ibid.

[123] Ibid., 17.

[124] "Pakistan Internet Users," Internet Live Stats, last modified July 1, 2016, http://www.internetlivestats.com/internet-users/pakistan/.

[125] Amin Yusufzai, "State of Social Media in Pakistan in 2016," ProPakistani, February 2016, https://propakistani.pk/2016/01/26/state-of-social-media-in-pakistan-in-2016/.

equating to 0.03% of global tweets or a 68th ranking among tweeting countries.[126] These total numbers are far from large in comparison to worldwide Twitter use, but millions of users can still carry a big message.

Propakistani notes that the Pakistani government, regulators, and operators have all made efforts to propel Internet adoption in Pakistan. Unfortunately, laws and intrusions by the Pakistan Telecommunication Authority (PTA) have hampered the country's social media growth.[127] The government gave the PTA authority to "take remedial measures to tackle the despicable phenomenon of pornography and obscenity that has a looming role to corrupt the youth of Pakistan."[128] As recently as January of 2016, the PTA blocked 84,000 websites and made recommendations for over 400,000 more to be blocked on the local levels, as they were thought to contain "objectionable or explicit content"—what the Pakistani government referred to as "salacious."[129] YouTube was on Pakistan's blocked list for over three years after it posted a video containing "blasphemous content" and refused to take it down. It was not until early 2016 that the Pakistani government unblocked YouTube, after it released a software version allowing country-appropriate content.[130]

C.   ANALYSIS AND RESULTS

In order to examine the impact of specific events on local sentiment, I began by gathering open source data on U.S. drone strikes in Pakistan that coincided with the historical periods of Twitter data in the NPS archive, from August 1, 2013 to July 31, 2014. The drone strike data is derived from the Covert Drone War database published by the Bureau of Investigative Journalism for this endeavor. This provided data to include date-time groups (DTGs) of the drone strikes, the location of the strikes, the number of casualties, and sources of the data to elaborate on the events.

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[126] Ahsan Saeed, "Twitter Landscape of Pakistan – First Edition," Twittistaan, February 5, 2014, http://twittistaan.com/digital-media/infographics/twitter-landscape-of-pakistan-first-edition/.

[127] Yusufzai, "State of Social Media in Pakistan."

[128] Madiha Fareed, "84,000 Websites Containing 'Salacious Content' Blocked by PTA," Dunyanews.tv, March 31, 2016, http://dunyanews.tv/en/SpecialReport/321198-84000-websites-containing-salacious-content-blo.

[129] Ibid.

[130] Ibid.

To assess the sentiment of each message, I used the dictionary published by Harvard's General Inquirer. The General Inquirer dictionary spreadsheets contain rows representing a different search category in each row (see Table 3).

Table 3.   Sentiment Word Categories for Pakistan Case Study (Truncated).

NEGATIVE	ABANDON	ABANDONMENT	ABATE	ABDICATE	ABHOR	ABJECT	ABNORMAL	ABOLISH
POSITIVE	ABIDE	ABILITY	ABLE	ABOUND	ABSOLVE	ABSORBENT	ABSORPTION	ABUNDANCE
HOSTILE	ABHOR	ABOLISH	ABRASIVE	ABSCOND	ABSENTEE	ABUSE	ACCOST	ACCURSED
AMERICA	UNITED_STATES	AMERICA	USA	AMERICAN	WESTERN	OBAMA	BUSH	

For this study, I utilized three categories of the dictionary, focusing on positive, negative, and hostile sentiment. I also added one additional category of "America" terms to supplement my query, as shown in Table 3.

The original positive dictionary contained 1,915 words, the negative dictionary contained 2,291 words, and the hostile dictionary contained 833 words. To translate these terms into local languages, each term was run through the online Google Translate API, to attempt to translate each term into each of the 82 languages provided through the tool, including Urdu, Pashto, Punjabi, and Sindhi. Queries were then generated by applying the terms from the language identified in the metadata from the message, using the original English terms for any messages for which the language could not be identified.

To conduct the queries of the Twitter archive, I created a spreadsheet recording the latitude and longitude of the 20 most populated cities in Pakistan and used a search radius of 25 kilometers to define an inclusive area around each city associated with Twitter user GNIP locations. For each message found within each radius, I then recorded the presence of character strings in the messages matching any of the categories from the search dictionary described above.[131] These records were then aggregated into counts for the occurrence of each category, and the total number of messages, for each city, on an hourly basis.

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[131] Dr. Warren assisted with programming this operation in the Python language.

To assess the relationship between drone strike events and message volumes, I utilize negative binomial regression models. Table 4 lists the independent and dependent variables used in the models. For each dynamic independent variable, I include multiple versions of the variable representing lag periods of one day, seven days, and 30 days. For instance, "airstrike_1d" records the occurrence of drone strikes in the past day, while "killed_30d" records the number of deaths resulting from drone strikes over the past 30 days. All models also include controls for the total population of each city, and the total count of Twitter messages, to adjust for potential differences between larger and smaller cities.

Table 4. Pakistan Drone Strikes—Regression Model Variables.

Dependent Variables	Independent Variables
Number of American tweets	Airstrikes in previous one day
Number of negative American tweets	Airstrikes in previous seven days
Number of positive American tweets	Airstrikes in previous 30 days
	Airstrike death toll in previous one day
	Airstrike death toll in previous seven days
	Airstrike death toll in previous 30 days
	Log scale of population
	Log scale of America tweets in previous one day
	Log scale of America tweets in previous seven days
	Log scale of America tweets in previous 30 days
	Log scale of total tweets in previous one day
	Log scale of total tweets in previous seven days
	Log scale of total tweets in previous 30 days

To assess the robustness of the results, the models utilize two different units of analysis. The first three models use city-days as a unit of analysis, while the second three models use city-hours. Within each group, each model uses a different dependent variable. In the first model, the dependent variable is "America" tweets, which counts the number of messages matching the "America" category of search terms. In the second model, the dependent variable is "negative America" tweets, which records the count of messages that match search terms in both the "negative" category and the "America" category. Similarly, in the third model, the dependent variable is "positive America"

tweets. The second and third models also include controls for the total count of "America" tweets. These results are presented in Table 5.

Table 5.   U.S. Drone Strikes in Pakistan—Effects on Twitter Sentiment.

	Dependent variable:					
	america	america_negative	america_positive	america	america_negative	america_positive
	(1)	(2)	(3)	(4)	(5)	(6)
airstrike_1d	0.381***	0.182**	-0.107	0.539***	0.439***	0.187*
	(0.087)	(0.082)	(0.074)	(0.069)	(0.107)	(0.099)
airstrike_7d	0.175***	0.248***	0.172***	0.136***	0.246***	0.171***
	(0.060)	(0.064)	(0.057)	(0.038)	(0.064)	(0.058)
airstrike_30d	0.145***	0.001	0.033	0.213***	0.136**	0.155***
	(0.045)	(0.052)	(0.046)	(0.031)	(0.054)	(0.047)
killed_1d	-0.035***	-0.005	0.013*	-0.046***	-0.025**	-0.004
	(0.009)	(0.009)	(0.008)	(0.008)	(0.012)	(0.011)
killed_7d	-0.006	-0.012*	-0.016***	-0.004	-0.009	-0.014**
	(0.006)	(0.006)	(0.006)	(0.004)	(0.006)	(0.006)
killed_30d	0.014***	-0.004	-0.002	0.006**	-0.008	-0.004
	(0.004)	(0.005)	(0.004)	(0.003)	(0.005)	(0.004)
lpop	-0.020*	-0.082***	-0.057***	-0.023***	-0.105***	-0.081***
	(0.012)	(0.012)	(0.011)	(0.008)	(0.014)	(0.013)
log(america_1d + 1)		1.229***	1.344***		2.444***	2.552***
		(0.036)	(0.032)		(0.087)	(0.078)
log(america_7d + 1)		-0.007	-0.166***		-0.326*	-0.609***
		(0.070)	(0.062)		(0.180)	(0.163)
log(america_30d + 1)		-0.324***	-0.165**		-0.889***	-0.531***
		(0.080)	(0.070)		(0.215)	(0.192)
log(total_1d + 1)	0.651***	0.018	0.146	0.261***	-0.449***	-0.177
	(0.099)	(0.120)	(0.106)	(0.085)	(0.140)	(0.125)
log(total_7d + 1)	-0.293*	0.083	0.204	-0.301*	0.375	0.404*
	(0.173)	(0.216)	(0.194)	(0.165)	(0.268)	(0.242)
log(total_30d + 1)	0.685***	0.384**	0.052	1.155***	1.034***	0.696***
	(0.143)	(0.183)	(0.165)	(0.140)	(0.228)	(0.206)
Constant	-5.984***	-3.805***	-3.551***	-6.175***	-5.800***	-5.814***
	(0.151)	(0.240)	(0.211)	(0.106)	(0.206)	(0.186)
Observations	6,384	6,384	6,384	152,779	152,779	152,779
Log Likelihood	-6,876.809	-3,768.029	-3,992.446	-38,917.790	-18,799.400	-21,969.540
theta	6.864*** (0.402)	165.395 (161.595)	7,898.370 (17,265.880)	1.744*** (0.063)	1.457*** (0.108)	1.611*** (0.105)
Akaike Inf. Crit.	13,775.620	7,564.057	8,012.892	77,857.570	37,626.790	43,967.080

Note: *p<0.1; **p<0.05; ***p<0.01

1. Model 1

In this model, I attempted to measure what effect (if any) the occurrence of a drone strike in Pakistan had on the number of "America" tweets in the vicinity of the top 20 most populated cities in Pakistan. The model revealed the following results:

- The salience of "America" tweets rose immediately following a drone strike and remained elevated through a 30-day period following the strike.

- The total number of people killed in a drone strike was associated with a decrease in "America" tweets in the short term (one day) and an increase in "America" tweets in the long term (30 days).

Moreover, these coefficients were each highly statistically significant, with $p < 0.01$

2. Model 2

In this model, I attempted to measure what effect (if any) the occurrence of a drone strike in Pakistan had on the number of "negative America" tweets in the vicinity of the top 20 most populated cities in Pakistan. The model revealed the following results:

- The number of "negative America" tweets rose immediately following a drone strike and remained elevated through a seven day period following the strike, with both coefficients statistically significant at the $p < 0.01$ level.

- This rise appears to have leveled off when considering longer periods, as indicated by the insignificant coefficient for the 30 day lagged version of the airstrike variable.

3. Model 3

In this model, I attempted to measure what effect (if any) the occurrence of a drone strike in Pakistan had on the number of "positive America" tweets in the vicinity of the top 20 most populated cities in Pakistan. The model revealed the following results:

- The number of "positive America" tweets rose through a seven day period following the strike ($p < 0.01$), but then leveled off for the 30 day period.

- The total number of people killed in an airstrike had a strong negative association ($p < 0.01$) with the number of "America" tweets in the seven days following a drone strike.

These same patterns are also generally seen in the robustness checks presented in Models 4–6, which use city-hours as the unit of analysis, rather than city-days. Each model again

shows positive and statistically significant coefficients, indicating that drone strikes generate systematic increases in "America" tweets, "negative America" tweets, and "positive America" tweets across all three temporal periods.

D. SUMMARY

The evidence from this study on drone strikes in Pakistan suggests that drone strikes in general result in an overall salience of the category of "America" in tweets sent from within Pakistan. This salience continues even one month following a drone strike. Since drones do not come within visible range of the targets on the ground, this implies that any strike from the sky is assumed to be a drone strike by Americans in the eyes of the local population. As the United States carries out the majority of these drone strikes, it makes sense that in the timeframe following a drone strike, increased chatter regarding America should surface. It appears that a U.S. drone strike in Pakistan becomes an opportunity for individuals to air their issues regarding America, both in a good and a bad light. Further analysis shows that there is strong association between drone strikes in Pakistan and "negative America" tweets, even after controlling for the increased salience in the category of "America" and the total number of tweets per city. This phenomenon occurs in the day immediately following a drone strike and becomes more pronounced in the seven days following a drone strike, which may be an indication that it often takes a few days for information about a strike to make its way to the masses. Although this information is not surprising initially, the implications are that no matter how many bad terrorists are killed during a drone strike, negative sentiment towards America is still surfacing. The Pakistani government may have been fully behind a strike, but is not changing the sentiment towards America either.

Looking holistically at the data, it is not uncharacteristic for an individual of any country to feel angst, rage, or isolation from their government when drone strikes are executed on a regular basis, on their home soil, and when collateral damage has occurred frequently. Anti-American sentiment, as evidenced through the Pakistani Twittersphere, rises with the advent of a drone strike, despite the intent of the United States, despite the number of terrorists killed, despite the U.S.-Pakistani alliance, and despite the attempts of

the Pakistani government to inform the populace of the underlying U.S. motives. And herein lies the problem.

E.   MOVING FORWARD

This case study attempted to peel back the layers of the issue surrounding drone strikes and their ability to spur anti-American sentiment in Pakistan. The data demonstrate that it is possible to see a relationship between the number of tweets with a positive or negative sentiment and the coincidence of an American drone strike. Madiha Afzal points out in an op-ed for the Brookings Institution that drone strikes do not simply anger the ignorant or uninformed people of Pakistan. They are actually swaying the opinion of moderate, liberal, and educated Pakistanis who in the past have tended to support the United States.[132] According to Afzal, these educated elite are bothered by the lack of transparency regarding the U.S. government's initiatives and the results of these drone strikes. Afzal cites a 2011 Pew Global Attitudes survey that points out that 55% of those interviewed in Pakistan had heard about the occurrence of drone strikes.[133] This same survey reveals that education increases the chances that an individual in Pakistan would know about drone strikes. The crux of these facts pointed to how 95% of those with knowledge of drone strikes believe that drones were "a bad or very bad thing," and this is a bad thing for America.[134] These educated liberals to whom Afzal refers "form the heart of an active civil society in Pakistan, which the U.S. counts on to serve as a counterweight to the radical segments of Pakistani society."[135] If America cannot convince the educated elite of a country that drone strikes are good for the country, it will find it hard to sway the national perception. The educated elite typically lead the country; they gather people around a common sentiment, and when that sentiment is negative, there is little hope for the United States.

Opponents of the use of drone strikes make a two-pronged argument:

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[132] Madiha Afzal, "Drone Strikes and Anti-Americanism in Pakistan," Brookings Institution, last modified February 7, 2013, https://www.brookings.edu/opinions/ dronestrikesandantiamericanisminpakistan/, 2.

[133] Ibid., 3.

[134] Ibid.

[135] Ibid., 2.

First, drones can give radicals ammunition for recruiting those on the margin of becoming terrorists… The second argument is that drones may convert entirely non-radical individuals into joining terrorist groups since non-radical individuals could become riled up by the havoc wreaked by U.S. drone strikes.[136]

Looking back at Moghaddam's framework regarding the staircase to terrorism, the individuals mentioned above are teetering between the second floor and the third floor, a critical turning point in a terrorist's thought process. On the second floor, individuals are searching out a displacement of aggression. On the third floor, would-be terrorists disengage from morality as accepted by conventional government authorities and in turn look to the morality of a terrorist organization as the new moral compass.[137] What the United States needs to do is stop these two types of individuals from stepping further up the staircase to terrorism, especially if they are connected socially with an active Twitter account.

The data presented in this case study points to an increased salience of "America" on Twitter chatter following a drone strike. What the United States can do here is fill the vacuum that is created following a drone strike in Pakistan. The data suggests there is an immediate spike in anti-American sentiment regardless of the number of people killed in the strike. This implies that the U.S. needs to be more transparent with its intentions and assuring the people of Pakistan that drone strikes are well-researched, isolated, and intended to bolster the safety of both nations in the long run, despite occasional civilian casualties.

On July 1, 2016, the Office of the Director of National Intelligence released a long-awaited report detailing the number of drone strikes and noncombatant casualties associated with these strikes from January 20, 2009 through December 31, 2015.[138] For many, this report came as too little, too late. Afzal offers that the United States needs to "engage the Pakistani public in explaining its rationale for conducting drone strikes

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[136] Ibid., 1.

[137] Moghaddam, "The Staircase to Terrorism," 164.

[138] Micha Zenko, "Do Not Believe the U.S. Government's Official Numbers on Drone Strike Civilian Casualties," *Foreign Policy*, July 5, 2016, http://foreignpolicy.com/2016/07/05/do-not-believe-the-u-s-governments-official-numbers-on-drone-strike-civilian-casualties/.

relative to other options to eradicate militants."[139] Additionally, the United States has to point out when key targets have been taken out and has to be humble enough to accept fault when civilian casualties occur. Finally, Afzal argues that the United States should give some reasoning as to why Pakistani militaries alone cannot contain the terrorist threat on their home soil.[140] An isolated report on casualties that follows a single previous report from February 2013 is not open transparency. If the United States truly wants to assist Pakistan and eradicate terrorism for both its ally and itself, it needs to better inform the Pakistani people in hopes of gaining popular support in the nation.

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[139] Afzal, "Drone Strikes and Anti-Americanism," 4.
[140] Ibid.

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V.   CASE STUDY #2: ANTI-AMERICANISM IN JAPAN

A.   BACKGROUND

In May of 2016, President Barack Obama visited Hiroshima, the first sitting U.S. president to visit the site of the nuclear bomb which killed more than 140,000 people and led to the end of the Japanese resistance during WWII. Obama spoke to a "moral awakening" and how important it is to protect the peace and freedoms of the children of Hiroshima.[141] The occasion was both sobering for victims' families and encouraging to those who saw this as recognition by the United States of the atrocities of the bomb. Obama summarized the current U.S.-Japanese relationship as "a testament to how even the most painful divides can be bridges; how our two nations—former adversaries—cannot just become partners but become the best of friends and the strongest of allies."[142] The United States and Japan have had a love-hate relationship that dates to the late 18th century. Early explorers such as John Kendrick stopped on the Japanese islands and initially tried to claim them as U.S. territories.[143] Commodore Perry furthered the U.S. Japanese relations by attempting to expand trade, but threatened military muscle to force an agreement.[144] The turning point in the relations occurred following WWII and the dropping of the atomic bomb on the cities of Hiroshima and Nagasaki. The Treaty of San Francisco established the United States Forces Japan with the goal "to defend the country from external threats."[145] Currently, the United States has more troops in Japan than in any other country in the world, with approximately 54,000 on Japanese soil and 26,000 of

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[141] Motoko Rich, "President Obama Visits Hiroshima," *New York Times*, May 27, 2016, http://www.nytimes.com/live/president-obama-hiroshima-japan/.

[142] David Nakamura, "In Hiroshima 71 Years after First Atomic Strike, Obama Calls for End of Nuclear Weapons," *Washington Post*, May 27, 2016, https://www.washingtonpost.com/politics/obama-visits-hiroshima-more-than-seven-decades-after-the-worlds-first-atomic-strike/2016/05/27/c7d0d250-23b6-11e6-8690-f14ca9de2972_story.html.

[143] Scott Ridley, *Morning of Fire: John Kendrick's Daring American Odyssey in the Pacific*, New York, NY: Harper Collins, 2010.

[144] Francis Lister Hawks, ed, *Commodore Perry and the Opening of Japan: Narrative of the Expedition of an American Squadron to the China Seas and Japan, 1852-1854: the Official Report of the Expedition to Japan*, Nonsuch Pub, 2005.

[145] Pooja Podugu, "The U.S. Military in Japan: An Overview," *Harvard Political Review,* March 12, 2013, http://harvardpolitics.com/world/theusmilitaryinjapananoverview/.

these troops on the prefecture of Okinawa.[146] This points to the importance of the region, but it also shows the magnitude of the U.S. military occupation, which at times has led to hostilities between the two nations.

In 1947, following WWII, the United States led the allied powers in drafting a constitution for Japan with an article forbidding the country from engaging in military aggression.[147] Japan is a country with very strong military investments but a constitutional provision prohibiting an offensive force. Instead, they maintain a robust Japanese Self-Defense Force (JSDF). Current Japanese leadership, including Prime Minister Shinzō Abe, feels a change to Article 9 is needed to allow for a more "traditional military," but this change would require large muscle movements.[148] The country is divided on military issues, with some looking for sovereignty over all military operations and others accepting their dependence on the potent U.S. military. Other divisive issues also separate the prefecture of Okinawa from the rest of the country.

Despite unique cultural differences, Okinawa, which used to be called Ryukyu, was adopted into mainland Japan in the mid-1800s.[149] The island was home to one of the largest bloodsheds during WWII for the Japanese. According to Michael LaRow in his thesis on the American military presence, the fighting on Okinawa led to 14,000 American and 234,000 Japanese soldier deaths during a three-month time period toward the end of WWII. LaRow equates the massive loss of life to the loss of life from both of the bombs dropped on Hiroshima and Nagasaki.[150] Adding to the pain of this event was how the Imperial Japanese Army forced locals from Okinawa to turn and fight the allies or commit suicide before surrendering. Large masses of civilians chose the latter option of suicide and jumped off cliffs to end their lives.[151] These gruesome deaths have left a

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[146] Hannah Beech, "The Tense Relationship between Japan and the U.S. Military," *TIME*, last modified June 8, 2016, http://time.com/4360940/usmilitarynavyjapanokinawaalcoholbases/; Dan Chaison, "Protestors Demand U.S. Withdrawal from Japan," *Daily Caller*, June 20, 2016, http://dailycaller.com/2016/06/20/massive-movement-in-japan-is-calling-for-withdrawal-of-us-troops/.

[147] Chaison, "Protestors Demand U.S. Withdrawal," 2.

[148] Beech, "Tense Relationship," 1.

[149] Ibid.

[150] Michael W. LaRow, "Dilemmas in Forward Basing: Understanding the Impact of the American Military Presence in Bahrain" (master's thesis, Naval Postgraduate School, 2014), 16.

[151] Beech, "Tense Relationship," 2.

deep scar on the minds of the people of Okinawa and caused ill will aimed at the pro-U.S. government and the United States in general. In the vacuum that was created following the battle of Okinawa, the United States established the U.S. Civilian Administration of the Ryukyu Islands (USCAR), which would form the "executive, parliament, and judicial system for the indigenous people."[152] The U.S. military maintained the power to appoint the governor of the USCAR up until the year 1968. This came with the power to override judicial decisions if required to maintain military security.[153] It is estimated that nearly 14% of Okinawan land was taken over by coercion at gunpoint or bought by the U.S. military in the 1960s.[154] Many locals were displaced and promised land in the harsh farming environments of Bolivia as compensation, but only a few were actually successful in farming these areas.[155] This coercion and harsh treatment of the local populace left a bitter taste in the mouths of those families that were displaced. LaRow argues that this legacy anti-American sentiment in Okinawa runs deep due to the coercive land practices that the United States used. Despite these economic land issues, LaRow also recognizes that anti-American sentiment has additionally stemmed from military and social injustices.[156]

The military presence in Japan has been met with open arms by some who enjoy the security of the powerful U.S. military patrolling their backyard and warding off Chinese aggression. Nevertheless, for a growing number of Japanese citizens, the U.S. military has overstayed its welcome. A large thrust behind the anti-American movement directed at the military stems from events that together paint a negative picture of American soldiers. Proceedings by the Japanese House of Representatives documented over 200,000 "scandals involving rape, vehicular homicide, and other violent crimes perpetrated by U.S. service members against Japanese civilians" from the years 1954–

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[152] LaRow, "Dilemmas in Forward Basing," 16.

[153] Ibid., 15.

[154] Alexander Cooley, *Base Politics: Democracy, Change, and the U.S. Military Overseas* (Ithaca, NY: Cornell University Press, 2008), 152.

[155] Chalmers Johnson, *Blowback: The Costs and Consequences of American Empire* (New York: Henry Holt and Company, 2000), 52.

[156] LaRow, "Dilemmas in Forward Basing," 15.

2000.[157] In an infamous act adding fuel to the fire, two Marines and a U.S. sailor were found guilty of raping and murdering a 12-year-old schoolgirl in Okinawa in 1995, invigorating vehement anti-American sentiment.[158] More recently, in March of 2016, a soldier was arrested for the rape of a Japanese tourist, and in May of 2016, a U.S. Marine strangled a Japanese woman to death.[159] The 1960 Treaty of Mutual Cooperation and Security contained a clause allowing U.S. soldiers, accused of committing crimes on Japanese soil, to attend trials back in the United States under the Status of Forces Agreement (SOFA).[160] Only recently did the United States relinquish the authority to extradite soldiers in the case of criminal action. Currently, the United States will turn over soldiers to the Japanese justice system, but only in the cases of rape and murder.[161]

The American military wants to continue to expand its presence on the Japanese islands, and this has been met with deep resistance, especially considering the aforementioned events. The United States is looking to move Marines out of Futenma airbase to a new coastal base in Okinawa due to the proximity of Futenma to a populated city. Further, initiatives for a new military facility at Henoko have continued despite Okinawan protest through the Tokyo government.[162] There is much internal strife in Japan over these issues, as the governor of Okinawa is vehemently opposed to future expansion but Japan's prime minister is advocating for it.[163] Okinawans argue the issues of noise, pollution, and danger due to the proximity of the aircraft operations to residential and school areas.[164] Not only would further expansion exacerbate these issues, but also the influx of soldiers could mean more violent crimes, and this is the last thing the Japanese people desire.

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[157] Podugu, "The U.S. Military in Japan."

[158] Ibid., 2.

[159] Chaison, "Protestors Demand U.S. Withdrawal," 1.

[160] Podugu, "The U.S. Military in Japan," 1.

[161] Ibid., 2.

[162] Euan McKirdy, "U.S. Military Personnel's Movements Restricted Following Rape Accusation in Okinawa," CNN, March 17, 2016, http://www.cnn.com/2016/03/17/asia/okinawa-us-serviceman-rape-restrictions/index.html.

[163] Unify for Peace, Ryukyu Islands, "Okinawans Say: No Further Expansion of Military Presence," PR Newswire, December 2, 2015, http://libproxy.nps.edu/login?url=http://search.proquest.com/docview/1738501958?accountid=12702, 3.

[164] Ibid.

B.   JAPANESE TWITTER ENVIRONMENT

In 2008 Twitter launched a language-specific Twitter application in Japan, and it took off like wildfire in the country's media-connected society.[165] The new application allowed the use of Japanese characters and almost doubled the communication power of the English version. As an example, the word *information* can be written with only two characters in Japanese, while it would take 11 characters to transmit in its entirety in English.[166] Twitter followed up with a mobile version of the social media application in 2010, giving yet another outlet for Japanese youth to break the mold of conformity associated with their culture.[167] A recent report on the social media landscape in Japan reveals that Twitter is second only to Line, a mobile messaging app involving gaming, in Japan's social-media-rich society. Line boasts 50 million users a month, equating to 40% of Japan's population, while estimates from February of 2016 put the total number of Twitter users at 35 million.[168] This equates to 35.4% of Japanese Internet users and nearly 28% of Japan's total population.[169] This accounts for 11% of world Twitter use, putting Japan on the map as the only country where Twitter penetration has surpassed that of Facebook.[170] Surprisingly, Japanese Twitter users started tweeting more than Americans did in the year 2010.[171] Rocky Eda, corporate communications manager for Twitter operations in Japan, stated, "In finding fulfillment in expressing what's on your mind for the moment, Twitter is like haiku… It is so Japanese."[172]

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[165] Yuri Kageyama, "Twitter Takes Off in Japan–Social Network Changes Nation's Internet Culture," *Journal - Gazette*, July 4, 2010, http://libproxy.nps.edu/login?url=http://search.proquest.com/docview/578549089?accountid=12702.

[166] Ibid.

[167] Ibid.

[168] Kristie Wong, "Japan's Social Media Landscape in 2016," freshtrax by btrax, accessed August 15, 2016, http://blog.btrax.com/en/2016/01/26/japans-social-media-landscape-in-2016/.

[169] Craig Smith, "170 Twitter Statistics and Facts (November 2016)," DMR, last modified November 2, 2016, http://expandedramblings.com/index.php/march-2013-by-the-numbers-a-few-amazing-twitter-stats/6/.

[170] "Number of Monthly Active Twitter Users Worldwide from 1st Quarter 2010 to 3rd Quarter 2016 (in Millions)," Statista, accessed October 15, 2016, https://www.statista.com/statistics/282087/number-of-monthly-active-twitter-users/; Wong, "Japan's Social Media Landscape," 2.

[171] "Millions 'Mumble' in Japan," *Columbia Daily Tribune*, June 18, 2010, http://libproxy.nps.edu/login?url=http://search.proquest.com/docview/734855231?accountid=12702.

[172] Ibid., 1.

When one dissects the Twitter environment in Japan, it turns out Twitter became popular in Japan for similar reasons to its popularity in other countries such as the United States. Acar and Deguchi however, attribute existing differences between the U.S. and Japanese Twitter use to a relationship between culture and Twitter.[173] Twitter ranks highest in popularity among youth ages 15–24 for the reasons of anonymity, the 140-character availability, and its compatibility with mobile phones.[174] Younger users tweet to communicate with others, while older generations use the service primarily for news and up-to-date information feeds.[175] Twitter allows young users to communicate and express emotion without fear of reprisal, possibly something the U.S. users take for granted.[176] In Acar and Deguchi's study, 4,000 tweets from 200 college students were analyzed, with the content results revealed in Figure 8.
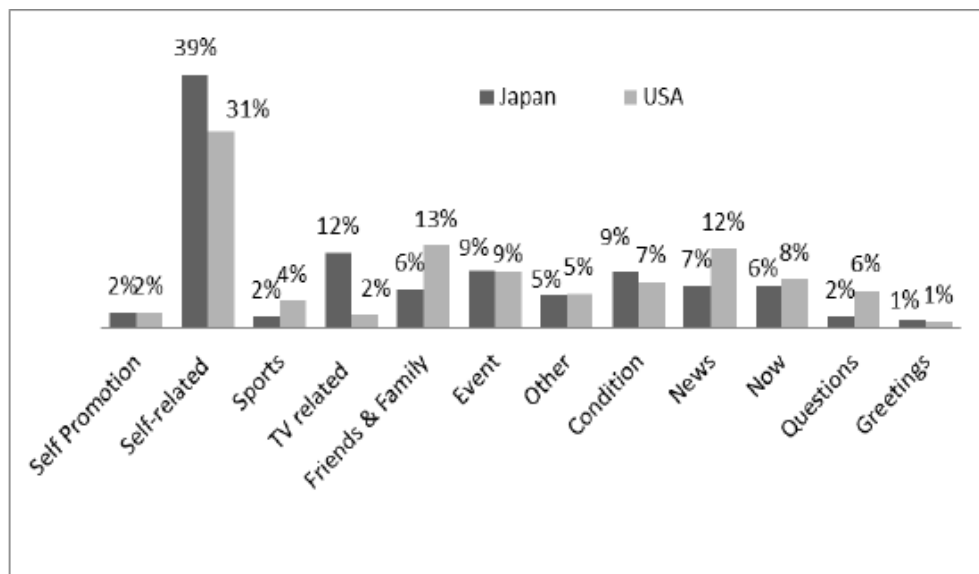
Figure 8.   Comparison of Japanese and American Tweets.[177]

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[173] Adam Acar and Ayaka Deguchi, "Culture and Social Media Usage: Analysis of Japanese Twitter Users," *International Journal of Electronic Commerce Studies* 4, no. 1 (2013): 21, http://libproxy.nps.edu/login?url=http://search.proquest.com/docview/1447164418?accountid=12702.

[174] Wong, "Japan's Social Media Landscape," 3.

[175] Acar and Deguchi, "Culture and Social Media Usage," 23.

[176] Wong, "Japan's Social Media Landscape," 4.

[177] Source: Acar and Deguchi, "Culture and Social Media Usage," 27.

Although seemingly similar in many regards, the largest disparity between the two countries as reported by Acar and Deguchi was in the number of self-related tweets. Additionally, Japanese users tweeted extensively about TV, and American users tweeted more about news, sports, and family.[178] Acar and Deguchi found that Americans tended to ask more questions and have more "friends-and-family-related messages" in their tweets. Japanese Twitter users tended to not ask as many questions and to tweet more about themselves. The authors felt this pattern was not attributed to selfish tendencies but rather was a way of showing sensitivity toward others.[179]

Although the trend is that the United States tweets more about news than Japan, following a 9.0-magnitude earthquake that occurred in March 2011 along the country's northeastern coast, the Japanese took to Twitter in droves, with Twitter becoming more reliable than phone or email services.[180] The earthquake, the subsequent aftershocks, and resulting tsunami resulted in 20,000 deaths, over 400,000 displaced individuals, and a lot of confusion.[181] Japanese locals flocked to Twitter to communicate with friends and family, to inform others of their wellbeing, and to search for up-to-date information from government agencies. Umihara points out that the psychological effects of using Twitter during this disaster were both positive and negative.[182] On a positive note, government info was provided without time delays, and this information provided the locations of available food and supplies. As a negative, first responders and locals alike had to filter through substantial misinformation, causing many to make careful selections of where they were getting their data from. Umihara suggests that this disaster prompted receivers of bad information to take the initiative and in turn become their own information sources, advising others of critical information.[183] Culturally, the study pointed out that "Japanese do not communicate just through words, but also convey their feelings

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[178] Acar and Deguchi, "Culture and Social Media Usage," 27.

[179] Ibid., 30.

[180] Steve Sternberg, "Japan Crisis Showcases Social Media's Muscle," USA Today, April 12, 2011, http://usatoday30.usatoday.com/tech/news/2011-04-11-japan-social-media_N.htm.

[181] Junko Umihara and Mariko Nishikitani, "Emergent Use of Twitter in the 2011 Tohoku Earthquake," *Prehospital and Disaster Medicine* 28, no. 5 (October 2013): 434, https://doi.org/10.1017/S1049023X13008704.

[182] Ibid., 446.

[183] Ibid.

nonverbally…by smiling, changing their speed of speech, and pausing."[184] This is similar to the realizations of Acar and Deguchi regarding sensitivity in the Japanese Twittersphere.

Given the nature of the Twitter landscape in Japan, it seems to represent a ripe medium for showcasing variations in anti-American sentiment for the following reasons: 1) the popularity of the social media application throughout the entire country, 2) the popularity of Twitter as an anonymous communication tool, allowing free flow of emotion without reprisal, and 3) the tendency of Japanese Twitter users to truly wear their feelings on their sleeves and speak their mind.

C.   ANALYSIS AND RESULTS

Given Japan's strong ties to the U.S. military, changing sentiment based on an increased U.S. military presence on the islands, and frequent use of Twitter, I set out to look for significant Twitter sentiment changes based on the occurrence of large-scale military exercises. My hypothesis was that the larger the U.S. footprint on Japanese soil became due to an exercise, the more recognizable the anti-American sentiment on Twitter would be. I also hypothesized that it would be possible to see a difference in sentiment based on the number of Japanese and U.S. troops involved in each exercise, in addition to the duration of the exercise.

In 1997, Japanese and the U.S. militaries released a joint document entitled "The Guidelines for U.S.-Japan Defense Cooperation."[185] The document strengthened military ties between the two countries and served as a war doctrine expanding the "joint military activities of the United States and Japan outside the Japanese territory."[186] The guidelines as outlined in 1997 included plans for over 10 joint military exercises each year by all branches of the U.S. and Japanese services.[187] This frequency of exercise participation has continued through the present day. Some exercises—such as Rim of the Pacific

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[184] Ibid.

[185] "North Korean Daily Attacks U.S.-Japan 'Intensified Military Collusion,'" BBC Monitoring Asia Pacific, January 25, 2005, http://libproxy.nps.edu/login?url=http://search.proquest.com/docview/460905535?accountid=12702, 1.

[186] Ibid., 3.

[187] Ibid., 4.

(RIMPAC), which is conducted in and around the Hawaiian Islands—are very large, involving as many as 25,000 soldiers.[188] Many of the exercises involving Japanese and U.S. soldiers center around a joint operational plan aimed at an "emergency on the Korean Peninsula."[189] They involve ground, sea, and air battles and simulations, but also involve command posts and more recently missile defense systems.[190] In recent news, the fourth round of nuclear test launches from North Korea spurred the United States, Japan, and South Korea to add a "joint anti-missile exercise" to RIMPAC 2016.[191] The recurring bilateral and multilateral exercises, aimed at countering both North Korean and Chinese offensives, have increased in both size and scope. U.S. and Japanese military forces have worked together to create some of the largest and most realistic exercises in the Pacific theater.

For this case study, I reached out to the U.S. Pacific Command (PACOM) Headquarters, U.S. Forces Japan (USFJ), and the Mutual Defense Assistance Office (MDAO) in Tokyo, Japan. I went to these organizations with a query for a list of all large-scale bilateral or multilateral exercises that the U.S. military had participated in with the JSDF. The timeframe for my query needed to coincide with the Twitter archival database. From my queries, I was able to compile a list of 10 large-scale exercises that occur on a regular basis, either annually or bi-annually, and involve soldiers from the U.S. military and the JSDF. The occurrence of these events on a regular basis was a benefit, as it added to the notoriety of these events in the local Japanese communities. Table 6 shows the ten large bilateral or multilateral exercises that the United States participated in with Japan within the timeframe of August 2013 to July 2014.

[188] "RIMPAC 2014," Commander, U.S. Pacific Fleet, accessed March 3, 2015, http://www.cpf.navy.mil/rimpac/2014/.

[189] "North Korean Daily Attacks," 2.

[190] Ibid., 4.

[191] Kim Gamel, "U.S., South Korea, and Japan to Hold Anti-Missile Exercise," Military.com, May 16, 2016, http://www.military.com/daily-news/2016/05/16/us-south-korea-and-japan-to-hold-anti-missile-exercise.html.

Table 6.   U.S.-Japanese Joint Military Exercises August 2013–July 2014.

Exercise	Date	# U.S. Troops	#JA Troops	Location	Description
Red Flag/Alaska	Aug 12–24 2013	1200	150	Eielson AFB / JBER, AK	Large force joint air ops ex; first time Japanese and South Korean air forces have held joint training in Alaska
Rising Thunder	Sep 3–24 2013	450	300	Yakima (JBLM), WA	Battalion/regimental FTX
AnnualEx	Nov 23–28 2013	750	600	Philippine Sea - waters surrounding Japan	Designed to increase the defensive readiness and interoperability of Japanese and U.S. Naval forces through training in air and sea operations
Yama Sakura	Dec 8–14 2013	1000	4000	Camp Higashi-Chitose in Hokkaido, Japan	Three–star level CPX, 5000 pax, largest in Army; done in Japan, rotates to each of the five regional armies
Koa Kai	Jan 22–31 2014	3300	400	Hawaiian Islands	Maritime exercise
Iron Fist	Jan 23–Feb 24 2014	500	270	Camp Pendleton, CA	JA Ground Self-Defense Force/USMC battalion FTX
Keen Edge/Sword	Jan 25–31 2014	600	1380	JBPH-H/Okinawa	Joint command post exercises (CPX)
Cope North/Guam	Feb 17–28 2014	1200	430	Anderson AFB, Guam	Trilateral aerial engagement
RIMPAC	Jun 26–Aug 1 2014	8000	800	Hawaiian Islands and Southern California	Multinational maritime exercises
Malabar	July 24–30 2014	6000	700	Sasebo Naval Base, Japan	Trilateral maritime patrol and reconnaissance exercice

In keeping with the approach used in the first case study on Pakistan, I opted to use the Harvard General Inquirer Dictionary for my sentiment analysis. I utilized the same three categories of the dictionary for standardization purposes, looking again at the categories of positive, negative, and hostile sentiment, in addition to the category of "America" terms. I also added a search category containing U.S. military service acronyms and exercise names. Excerpts from these categories can be seen in Table 7.

Table 7.   Sentiment Word Categories for Japan Case Study (Truncated).

NEGATIVE	ABANDON	ABANDONMENT	ABATE	ABDICATE	ABHOR	ABJECT	ABNORMAL	ABOLISH	ABOMINABLE	ABRASIVE	ABRUPT
POSITIVE	ABIDE	ABILITY	ABLE	ABOUND	ABSOLVE	ABSORBENT	ABSORPTION	ABUNDANCE	ABUNDANT	ACCEDE	ACCENTUATE
HOSTILE	ABHOR	ABOLISH	ABRASIVE	ABSCOND	ABSENTEE	ABUSE	ACCOST	ACCURSED	ACCUSATION	ACCUSE	ACRIMONIOUS
AMERICA	UNITED STATES	AMERICA	USA	AMERICAN	WESTERN	OBAMA	BUSH				
MILITARY	USAF	USN	USMC	USCG							
EXERCISES	KEEN EDGE	KEEN SWORD	YAMA SAKURA	RED FLAG	COPE GUAM	RISING THUNDER	IRON FIST	RIMPAC	KOA KAI	MALABAR	ANNUALEX

In keeping with the methodology of the first case study, I used the Google Translate tool to translate the categorical sentiment terms before running the Japanese tweet query. As before, I began with a spreadsheet recording the top 20 most populated cities in Japan and used a search radius of 25 kilometers to define an inclusive area around each city associated with Twitter-user location identifiers. These records were then aggregated into counts for the occurrence of each search category, for each city, on an hourly basis. Due to the quality of the models, I opted to use a city-day unit of analysis again for this case study.

As before, all models reported below are negative binomial models. Table 8 shows the independent and dependent variables used. The key independent variable, "Exercise Occurrence" records the occurrence of large-scale military exercises involving both U.S. and Japanese forces, again using lag periods of one day, seven days, and 30 days. All models also include controls for the total population of each city, and the total count of Twitter messages, to adjust for potential differences between larger and smaller cities. The results of the city-day models are presented in Table 9.

Table 8.   Japanese/U.S. Joint Exercises—Regression Model Variables

Dependent Variables	Independent Variables
Number of American tweets	Exercise occurrence in previous one day
Number of negative American tweets	Exercise occurrence in previous seven days
Number of positive American tweets	Exercises occurrence in previous 30 days
	Exercise occurrence on Japanese soil in previous one day
	Exercise occurrence on Japanese soil in previous seven days
	Exercise occurrence on Japanese soil in previous 30 days
	Log scale of population
	Log scale of America tweets in previous one day
	Log scale of America tweets in previous seven days
	Log scale of America tweets in previous 30 days
	Log scale of total tweets in previous one day
	Log scale of total tweets in previous seven days
	Log scale of total tweets in previous 30 days

Table 9.   U.S.-Japanese Joint Exercises—Effects on Twitter Sentiment.

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================================================================
                                 Dependent variable:
                    --------------------------------------------
                      America    america_negative   america_positive
                        (1)            (2)                (3)
----------------------------------------------------------------
exercise_1d            0.024        -0.070***           0.001
                      (0.017)        (0.010)           (0.007)

exercise_7d           0.079***       0.044***           0.007
                      (0.018)        (0.011)           (0.007)

exercise_30d         -0.029***       0.069***           0.014***
                      (0.011)        (0.007)           (0.004)

ja_soil_1d            0.004          0.066***           0.013
                      (0.022)        (0.014)           (0.009)

ja_soil_7d           -0.136***      -0.024*            -0.019**
                      (0.021)        (0.013)           (0.008)

ja_soil_30d           0.016         -0.033***           0.002
                      (0.012)        (0.007)           (0.004)

lpop                  0.008          0.005*             0.004**
                      (0.006)        (0.003)           (0.002)

log(america_1d + 1)                  0.993***           0.982***
                                     (0.013)           (0.008)

log(america_7d + 1)                  0.031              0.037***
                                     (0.022)           (0.014)

log(america_30d + 1)                -0.102***          -0.106***
                                     (0.021)           (0.014)

log(total_1d + 1)     0.346***      -0.016             -0.083***
                      (0.056)        (0.039)           (0.025)

log(total_7d + 1)     0.472***      -0.031              0.018
                      (0.073)        (0.056)           (0.038)

log(total_30d + 1)    0.340***       0.167***           0.199***
                      (0.043)        (0.040)           (0.029)

Constant             -8.506***      -1.939***          -1.498***
                      (0.078)        (0.113)           (0.083)

----------------------------------------------------------------
Observations          6,720          6,720              6,720
Log Likelihood      -25,026.630    -17,798.110        -17,954.850
theta             19.402*** (0.509) 250.118*** (19.959) 314,500.400 (267,700.800)
Akaike Inf. Crit.    50,075.260     35,624.230         35,937.710
================================================================
Note:                                   *p<0.1; **p<0.05; ***p<0.01
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1. Model 1

In this model I attempted to measure what effect (if any) the occurrence of a large-scale U.S.-Japanese exercise had on the number of "America" tweets in the vicinity of the top 20 most populated cities in Japan. The model revealed the following results:

- The occurrence of a U.S.-Japanese joint exercises off Japanese soil is associated with increased salience of "America" tweets in the seven-day period following the exercise ($p < 0.01$).

- The occurrence of U.S.-Japanese joint exercises on Japanese soil is associated with decreased salience of "America" tweets in the seven-day period following the exercise ($p < 0.01$).

2. Model 2

In model I attempted to measure what effect (if any) the occurrence of a large-scale U.S.-Japanese exercise had on the number of "negative America" tweets in the vicinity of the top 20 most populated cities in Japan. The model revealed the following results:

- The occurrence of U.S.-Japanese exercises is associated with decreased levels of "negative America" tweets on the day of the exercise ($p < 0.01$)

- The occurrence of U.S.-Japanese exercises is associated with increased levels of "negative America" tweets in the seven-day and 30-day period following the exercise ($p < 0.01$).

3. Model 3

In this model I attempted to measure what effect (if any) the occurrence of a large-scale U.S.-Japanese exercise had on the number of "positive America" tweets in the vicinity of the top 20 most populated cities in Japan. The model revealed the following results:

- The occurrence of U.S.-Japanese joint exercises is associated with increased levels of "positive America" tweets in the 30-day period following the exercise ($p < 0.01$).

- The occurrence of U.S.-Japanese joint exercises on Japanese soil is associated with decreased levels of "positive America" tweets in the seven-day period following the exercise ($p < 0.01$).

D.   SUMMARY

The data from this study on U.S.-Japanese joint exercises reveals that the salience of the category "America" increases in the Japanese Twittersphere in the seven days following an exercise and then drops off after 30 days. Further, there is a strong relationship between the occurrence of an exercise and the number of "negative America" tweets. This fact holds true even after controlling for total number of tweets, total "America" tweets, city population, and whether or not the exercise takes place on Japanese soil. One can see a significant decrease in "negative America" tweets on the day of the exercise, possibly while individuals are realizing who is participating in the exercise. This soon turns toward "negative America" tweets seven days following an exercise and continues up to 30 days. After 30 days, the salience of "America" tweets dies off, but more pointed tweets surface both with a negative and positive sentiment. Seemingly, 30 days following an exercise the populace has been given time to digest what has occurred and opinions are now being formulated as to whether this was beneficial or not.

When these joint exercises occur on Japanese soil, the number of "negative America" tweets increases immediately following an exercise and then significantly decreases after a 30-day period following an exercise start. One explanation might be that at first, it takes individuals time to realize that an exercise is occurring, but after many days this becomes obvious. Whether this occurs due to increased noise, increased traffic, or increased number of incidents, Japanese locals increase their "negative America" tweets the longer it has been since the exercise started. It is not until 30 days following an exercise that one sees the most significance of an exercise occurrence on the number of negative tweets. An initial decrease in "negative America" sentiment could be caused by an influx of soldiers, boosting the local economy. According to one source, the military presence in Okinawa alone "accounts for 5% of the Okinawan economy, consuming resources and engaging with local businesses."[192] This is an obvious plus, and the thrill of business could be a driver behind this decrease in "negative America" tweets initially. However, as it becomes obvious that an exercise is lasting longer than a few days, or as

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[192] Podugu, "The U.S. Military in Japan."

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rowdy troops take a toll on the community, this positive or neutral sentiment could easily turn negative. Regardless of the duration of an exercise, the initial benefit that the community might appreciate in the beginning can soon turn sour as the Japanese debate on the fact that America still has a heavy hand over them with limitations on their military power.

Contrary to my initial hypothesis, the data showed that the occurrence of a joint U.S.-Japanese exercise rarely had a strong effect on "positive America" tweets, though it did have a small effect on the number of "positive America" tweets after a 30-day period following the start of an exercise. It may be that the Japanese do not realize the benefits of these exercises until after the troops, boats, and aircraft have left the Japanese islands and the media informs the public of why these exercises are beneficial. Until this time, the goals and purposes of the exercise may be unclear.

E.   MOVING FORWARD

This case study examined the relationship between the occurrence of U.S.-Japanese bilateral or multilateral exercises and shifts in anti-American sentiment as evidenced through Twitter messages. Regarding my first hypothesis, this research has demonstrated that analysts can use sentiment in Twitter messages to gauge the overall sentiment of the Japanese nation in response to large U.S.-Japanese exercises. We saw that the data generally points to a large increase in "negative America" tweets with the advent of these exercises. Further analysis was able to show relationships between the location of these exercises and spikes in sentiment tweets. My second hypothesis was that events such as military occupations, large influxes of American troops to an area, or deaths at the hands of the American government or military would cause a large fluctuation in anti-American sentiment. Large military exercises such as the ones examined in this case study carry with them large troop movements, and bring up bitter latencies between the two nations' militaries. It is important to note that recent events such as Sino-Japanese tensions and North Korean missile testing may change the way the Japanese perceive large exercises with the big brother United States. This case study only looked at the exercises from August 2013 to July of 2014. Additionally, it is difficult to

attribute the entire increase or decrease in negative sentiment to the advent of an exercise involving the United States. In other words, there may be certain triggers within these exercises, such as an aircraft flying too low, or an incident caused by an unruly U.S. soldier, which spark anti-American sentiment. This study represents a step in the direction of determining which forms of analysis are required to scope the cause of anti-American sentiment down even further. Once we have determined that a certain exercise has a relationship to an increase in anti-American sentiment, we could then look to specific events that cast negative light on the American portion of the exercise and tighten up our unit of analysis.

Pooja Podugu with the *Harvard Political Review* argues, "The spirit of extraterritoriality is both insulting and enabling: it demeans the Japanese culture and justice system while also alerting U.S. service members to the obvious lack of punishment for heinous crimes."[193] The Japanese have been calling for U.S. military downsizing for years. The military restrictions imposed by the 1960 Treaty of Mutual Cooperation are outdated and attack at Japanese sovereignty. As Podugu suggests, modern-day pacifist Japan is nothing like the militarized nation that existed during WWII.[194] Although it is obvious Japan enjoys the military confidence associated with U.S. military backing, heinous crimes and the lack of U.S. action following such crimes hang heavy on the hearts of many Japanese. Podugu argues that the United States can either stay put with current levels of troops and U.S. intervention, can draw down troops and basing, or can remove troops completely from Japan.[195] Given the current pressure in the area from China and North Korea, it may prove disadvantageous for the United States to pull all troops out of Japan at this time. Regardless, the United States needs to start giving Japan the respect it deserves regarding the sovereignty of its country. Pulling some troops out of Japan would show a respect for the public outcry and could prove economically beneficial for a tightening U.S. defense budget.[196]

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[193] Ibid., 3.
[194] Ibid.
[195] Ibid., 2.
[196] Ibid., 3.

The analysis presented here has shown that social media can be used to measure increases and decreases in sentiment regarding a large-scale military exercises. Although a common thought might be that the Japanese welcome a strong U.S. military presence, this case study shows that this might not be the case. Public support of a strong U.S. military presence might change depending on the times and the situations. If the United States truly respects the opinion of the Japanese populace, tools such as Twitter analysis could be used to enhance efforts at analyzing the likely responses in public opinion that are generated by these large-scale exercises. Doing so would allow more effective judgments about the consequences of our force posture, and more expedient responses regarding U.S. actions when things go awry.

VI.   CONCLUSIONS

John Arquilla has written "wars have been decided in favor of the side that knew more about its enemy's dispositions and intentions."[197] Although referring primarily to intentions regarding troops and military strategy, one has to imagine that the populace can definitely influence this strategy. If Arquilla is correct, then what are the implications if we could accurately predict the escalation of political unrest and extremist activity based on an analysis of readily available, social media data and then squash it and counter the narrative? The question is not so much, "what if" anymore, as this thesis's case studies on Pakistan and Japan demonstrate. The technology is already in place. The United States can use this capability to affect the efficiency of foreign interactions, smooth the path for proposed increased troop presence, or warn of trouble once the U.S. Department of Defense (DOD) is committed to a mission. This, in turn, could result in the saving of hundreds if not thousands of lives. From an information perspective, web analytics in the form of Twitter analysis could give the United States a leg up on winning "hearts and minds" around the world, a battle that continues to take its toll on the country.[198] Social media analysis provides instantaneous data at the fingertips of the policy makers in Washington and telltale signs of danger or opportunity to come. Pratkanis argues, "Winning hearts and minds uses such devices as public diplomacy, pamphlets, Voice of America, and other means to explain U.S. policy…to create an appreciation and understanding of American culture."[199] If we can determine what generates the public outcry against America, we can possibly turn that on its head to realize what creates a favorable image.

A.   FINDINGS

The results from the case study on drone strikes in Pakistan suggest that drone strikes result in an overall increased salience of "America" tweets. This salience of

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[197] John Arquilla, "The End of War as We Knew It? Insurgency, Counterinsurgency, and Lessons from the Forgotten History of Early Terror Networks," *Third World Quarterly* 28, no. 2 (2007): 381.

[198] Pratkanis, "Winning Hearts and Minds," 56.

[199] Ibid.

"America" tweets continues even after one month following a drone strike. Further analysis demonstrated that there is strong correlation between drone strikes in Pakistan and "negative America" tweets, even after controlling for the total number of "America" tweets and the number of tweets per city. This phenomenon occurs in the day immediately following a drone strike and gets even more statistically significant seven days following a drone strike. Anti-American sentiment, as evidenced through the Pakistani Twittersphere, rises with the advent of a drone strike despite the intent of the United States, despite the number of terrorists killed, despite the U.S.-Pakistani alliance, and despite the attempts of the Pakistani government to inform the populace of the underlying motives.

The data from the case study on U.S.-Japanese joint exercises reveals that an increased salience of "America" tweets appears in the Japanese Twittersphere seven days following an exercise and then drops off after 30 days. Further, it found a strong relationship between the occurrence of an exercise and the number of "negative America" tweets. After 30 days, the salience of "America" tweets dies off, but more pointed tweets surface with heightened negative and positive sentiment. 30 days following an exercise, the populace has been given time to digest what has occurred and opinions are now being formulated as to whether this was beneficial or not.

When these joint exercises occur on Japanese soil, the number of "negative America" tweets increases immediately following an exercise and then significantly decreases after the 30-day period following the exercise start. Whether this occurs due to increased noise, increased traffic, or increased number of incidents in the local community, "negative America" tweets by Japanese locals increase the longer it has been since the exercise started. Regardless of the duration of an exercise, the initial benefit that the community might appreciate in the beginning can soon turn sour as the Japanese dwell on the fact that America still has a heavy hand over them with limitations on their military power.

B.   LESSONS LEARNED

In general, America needs to be more transparent with its goals and intentions when using military power, or at a minimum be more circumspect about the use of that power. America has to assure the people of Pakistan that drone strikes are well researched, isolated, and intended to bolster the safety of both nations in the long run, despite occasional civilian casualties. In Japan, the United States stands to gain respect by broadcasting its intentions for engaging in large military exercises that involve Japanese troops and an increased presence of U.S. military. Without this information, the Japanese could feel mistreated and walked upon by a foreign country that has chipped away at their military sovereignty for over 50 years.

This thesis explored the pros and cons of using social media as a means for gathering actionable intelligence on possible hostile social environments with the ultimate goal of winning the information game. If the U.S. government can observe signs of social unrest based on Twitter analysis than it consequently preempt harrowing situations from affecting U.S. troops around the world. I conclude that the argument in favor of web analytics and social media scraping holds more weight than not, and we are only in the nascent stages of extracting gold from the Twittersphere. Defining Twitter sentiment queries is not without its difficulties but can ultimately prove insightful into a nation's inner thoughts. In the words of John Arquilla, who has spent more than two decades of his life studying the advantages of small-unit tactics and successful counterinsurgency operations, "it is high time to develop a willingness to amend and adjust military strategies based on concerns raised by insights from information strategy."[200]

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[200] Arquilla, "The End of War as We Knew It," 383.

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